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Section 1 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS EDT THRU PAGE C00-205 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

MAR 10 1999

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT No 611448

2. To: (Receiving Organization) Distribution	3. From: (Originating Organization) Data Assessment and Interpretation	4. Related EDT No.: N/A
5. Proj./Prog./Dept./Div.: 241-C-106/Waste Management/DAI/Process Engineering	6. Design Authority/ Design Agent/Cog. Engr.: Leela M. Sasaki	7. Purchase Order No.: N/A
8. Originator Remarks: This document is being released into the supporting document system for retrievability purposes.		9. Equip./Component No.: N/A
		10. System/Bldg./Facility: 241-C-106
11. Receiver Remarks: 11A. Design Baseline Document? ☐ Yes ☒ No For release.		12. Major Assm. Dwg. No.: N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: 02/24/99

15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Approval Designator	Reason for Transmittal	Originator Disposition	Receiver Disposition
1	HNF-4073	N/A	0	Data Package of Gas and Vapor Analyses of Samples from the December 16, 1998 Tank 241-C-106 Waste Retrieval Sluicing System Process Test	N/A	2	1	1

KEY

16. Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 2. Release 3. Information 4. Review 5. Post-Review 6. Dist. (Receipt Acknow. Required)	1. Approved 2. Approved w/comment 3. Disapproved w/comment 4. Reviewed no/comment 5. Reviewed w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION
(See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
		Design Authority									
		Design Agent									
2	1	Cog. Eng. L.M. Sasaki	<i>L. Sasaki</i>	3/4/99							
2	1	Cog. Mgr. K.M. Hall	<i>K. M. Hall</i>	3/4/99							
		QA									
		Safety									
		Env.									

18. A.E. Young <i>A.E. Young</i> Signature of EDT Originator	19. N/A Authorized Representative Date for Receiving Organization	20. K.M. Hall <i>K. M. Hall</i> Design Authority/ Cognizant Manager	21. DOE APPROVAL (if required) Ctrl. No. ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments
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Data Package of Gas and Vapor Analyses of Samples from the December 16, 1998 Tank 241- C-106 Waste Retrieval Sluicing System Process Test

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U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: EDT-611448 UC: 2070
Org Code: 7AB20 CACN/COA: 101997/BA10
B&R Code: EW 3120074 Total Pages: 4731

Key Words: Tank 241-C-106, 241-C-106, C-106, C Farm, Waste Retrieval
Sluicing System, Waste Retrieval, Waste, Retrieval, WRSS, Data Package,
Gas, Vapor, December 16, 1998

Abstract: N/A

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3/9/99
Release Approval Date

Approved for Public Release

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February 23, 1999

Prepared for
Lockheed Martin Hanford Company

Work Supported by
the U.S. Department of Energy
under Contract DE-AC06-76RLO 1830

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DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	Data Assessment and Interpretation	Date 02/24/99
Project Title/Work Order		EDT No. EDT-611448
HNF-4073, Rev. 0, "Data Package of Gas and Vapor Analyses of Samples from the December 16, 1998 Tank 241-C-106 Waste Retrieval Sluicing System Process Test"		ECN No. N/A

Name	MSIN	Text With All Attach.	Text Only	Attach./Appendix Only	EDT/ECN Only
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Contents

1.0	Introduction.....	1
2.0	Sample Preparation and Collection.....	1
3.0	Analytical Method Descriptions	5
3.1	Ammonia Sorbent Trap Analysis.....	6
3.2	TST Organic Vapor Analysis.....	6
3.3	SUMMA™ Canister Permanent Gas Analysis	7
3.4	SUMMA™ Canister Organic Vapor Analysis	8
4.0	Summary Data Tables.....	8
5.0	References.....	69
Appendix A	Chain of Custody Forms.....	A00 001
Appendix B	Ammonia Analysis	B00 001
Appendix C	TST Analysis	C00 001
Appendix D	Permanent Gas Analysis.....	D00 001
Appendix E	SUMMA™ Analysis	E00 001

Tables

2.1	Sampling Devices and Analytes	1
2.2	Samples Collected from 296-C-006 Stack December 16, 1998	2
2.3	Samples Collected from 241-AY-102 Headspace December 16, 1998.....	4
2.4	Samples Collected from 241-AZ-702 Stack December 16, 1998.....	5
3.1	Table of Analytical Procedures.....	5
3.2	Data Qualifiers	6
4.1	296-C-006 Ammonia Vapor Concentrations	9
4.2	296-C-006 TST Organic Vapor Concentrations	10
4.3	296-C-006 SUMMA™ Canister Permanent Gas Concentrations.....	30
4.4	241-AY-102 SUMMA™ Canister Permanent Gas Concentrations	31
4.5	241-AZ-702 SUMMA™ Canister Permanent Gas Concentrations	32
4.6	296-C-006 SUMMA™ Canister Organic Vapor Concentrations	33
4.7	241-AY-102 SUMMA™ Canister Organic Vapor Concentrations.....	57
4.8	241-AZ-702 SUMMA™ Canister Organic Vapor Concentrations	63

1.0 Introduction

On December 16, 1998 a sluicing process test was conducted and vapor samples were collected to characterize the emissions associated with waste sluicing activities in tank 241-C-106 (Tank C-106). The sluicing process test involved transfer of waste liquids between C-106 and tank 241-AY-102 (Tank AY-102). Vapor samples were collected from the ambient air, the 296-C-006 exhaust stack of C-106, the headspace of Tank AY-102, and the 241-AZ-702 exhaust stack of AY-102. The sluicing process test is described in the test plan *Waste Retrieval Sluicing System Emissions Collection* (Powers 1998), and was performed according to *Process Test Procedure: Waste Retrieval Sluicing System Emissions Collection* (Jones 1998). Samples were collected by Characterization Project Operations (CPO) of Lockheed Martin Hanford Corporation, and Special Analytical Support (SAS) of Numatec Hanford Corporation, in accordance with *Waste Retrieval Sluicing System Vapor Sampling and Analysis Plan for Evaluation of Organic Emissions* (Sasaki 1998). Sample analysis and reporting requirements were specified in Sasaki 1998.

2.0 Sample Preparation and Collection

Three types of sampling devices were prepared by PNNL for the December sampling event: SUMMATM passivated stainless steel evacuated 6-L vessels, acidified carbon sorbent traps, and triple sorbent traps (TSTs). Table 2.1 lists the analytes associated with each device, the sampling locations, and the numbers of devices provided and used during the process test. Because the sluicing process test was not completed in its entirety, fewer samples were actually collected than had been planned. All prepared sampling media were relinquished by PNNL to CPO personnel on December 15, 1998. Completed chain-of-custody documents are provided in Appendix A.

Table 2.1 Sampling Devices and Analytes

Type	Analytes	Location	Number Provided	Number Used
Ammonia sorbent trap	Ammonia vapor	C-006 stack	15	14
		ambient air near C-006 stack	1	1
		trip blank	1	1
		field blank	1	1
Triple sorbent trap (TST)	Organic vapors	C-006 stack	17	14
		ambient air near C-006 stack	1	1
		field blank	1	1
		trip blank	1	1
SUMMA TM canister	Organic vapors and permanent gases	C-006 stack	16	9
		ambient air near C-006 stack	1	1
		AY-102 headspace	7	4
		AZ-702 stack	7	4
		ambient air near AZ-702	1	1

SUMMATM sample collection was conducted by CPO personnel. To protect SUMMATM canisters collected from the 296-C-006 and 241-AZ-702 stacks and the AY-102 headspace from incidental contamination with radiolytic particles, small glass-fiber particulate filters were placed in-line between the sampling ports and the SUMMATM canisters. Short lengths of C-FlexTM

tubing were used to connect individual SUMMATM canisters, the filter housing, and the sampling ports. Radiological analysis of the filters was performed to assess the potential for contamination of the SUMMATM canisters. Details of the sampling method, filter analyses, and exceptions are discussed in *Tank Vapor Sampling and Analysis Data Package for Tank 241-C-106 Waste Retrieval Sluicing System Process Test, Sampled December 16, 1998* (Bonfoey et al. 1998).

Ammonia sorbent trap and TST sample collection was conducted by SAS personnel. In-line glass-fiber filters were employed for radiological protection of samples exposed directly to process air, as was done for SUMMATM canister samples. Ammonia sorbent traps use an acidified sorbent medium to collect ammonia vapor from a stream of sample air passed through the trap. The TSTs use three layers of different sorbent media which sorb organic vapors of different volatilities. Both types of sorbent trap samples were collected using the Non-Electrical Vapor Sampling (NEVS) system. The NEVS system employs a high-accuracy pressure gauge and ballast tank system to measure the volume of air pulled through each trap. Samples were collected in accordance with technical procedure LO-080-400, *Vapor Sampling Using the Non-Electrical Vapor Sampling System (NEVS)*. Descriptions of the sampling method, radiological filter analyses, and exceptions are given in *Tank Vapor Sampling and Analysis Data Package for Tank 241-C-106 Waste Retrieval Sluicing System Process Test, Sampled December 16, 1998* (Bonfoey et al. 1998).

The samples collected from the 296-C-006 stack, the Tank AY-102 headspace, and the 241-AZ-702 stack are listed in Tables 2.2, 2.3, and 2.4, respectively, along with sample collection times, sample volumes, and a brief description of the process test status at time of collection. Also given in the last column of each table is the total organic carbon concentration (corrected for methane in ambient air) measured at the same sampling point by industrial hygiene personnel.

Table 2.2 Samples Collected from 296-C-006 Stack December 16, 1998

Time Sampled	Sample Number	Sample Type	Description	Sample Volume
13:00	VP006-141-1298	Ammonia	Field blank	---
22:20	VP006-136-1298	Ammonia	Trip blank	---
14:00	VP006-013-1298	Ammonia	Baseline stack sample; before startup of pumps	2.00
15:28	VP006-021-1298	Ammonia	Stack sample; during cycling of only the AY-102 submersible pump, 33 min after flow observed at C-106	1.98
16:13	VP006-028-1298	Ammonia	Stack sample; during cycling of only the AY-102 submersible pump, 1 hr 18 min after flow observed at C-106	1.98
16:47	VP006-037-1298	Ammonia	Stack sample; during cycling of only the AY-102 submersible pump, 1 hr 52 min after flow observed at C-106	1.98
17:10	VP006-045-1298	Ammonia	Stack sample; during operation of AY-102 and C-106 submersible and C-106 booster pumps	1.98
17:47	VP006-054-1298	Ammonia	Stack sample; 36 min after startup of AY-102 booster pump	1.97

18:11	VP006-062-1298	Ammonia	Stack sample; 1 hr after startup of AY-102 booster pump	2.00
18:52	VP006-071-1298	Ammonia	Stack sample; 1 hr 41 min after startup of AY-102 booster pump	1.99
19:11	VP006-078-1298	Ammonia	Stack sample; 2 hr after startup of AY-102 booster pump	1.96
20:03	VP006-086-1298	Ammonia	Stack sample; 2 hr 52 min after startup of AY-102 booster pump	1.97
20:23	VP006-093-1298	Ammonia	Stack sample; 3 hr 12 min after startup of AY-102 booster pump	1.96
21:04	VP006-101-1298	Ammonia	Stack sample; 3 hr 53 min after startup of AY-102 booster pump	1.97
21:25	VP006-108-1298	Ammonia	Stack sample; 4 hr 14 min after startup of AY-102 booster pump	1.96
22:04	VP006-116-1298	Ammonia	Stack sample; 4 hr 53 min after startup of AY-102 booster pump	1.97
13:30	VP006-005-1298	Ammonia	Baseline ambient air sample; before startup of pumps	1.98
13:38	VP006-009-C143	SUMMA™	Baseline stack sample; before startup of pumps	6.00
15:32	VP006-017-C235	SUMMA™	Stack sample; during cycling of only the AY-102 submersible pump, 37 min after flow observed at C-106	6.00
17:38	VP006-032-C227	SUMMA™	Stack sample; 27 min after startup of AY-102 booster pump	6.00
19:11	VP006-040-C135	SUMMA™	Stack sample; 2 hr after startup of AY-102 booster pump	6.00
19:37	VP006-049-C223	SUMMA™	Stack sample; 2 hr 26 min after startup of AY-102 booster pump	6.00
20:10	VP006-057-C303	SUMMA™	Stack sample; 2 hr 59 min after startup of AY-102 booster pump	6.00
20:37	VP006-066-C226	SUMMA™	Stack sample; 3 hr 26 min after startup of AY-102 booster pump	6.00
21:34	VP006-127-C295	SUMMA™	Stack sample; 4 hr 23 min after startup of AY-102 booster pump	6.00
13:17	VP006-001-C248	SUMMA™	Baseline ambient air sample; before startup of pumps	6.00
18:58	VP006-024-C277	SUMMA™	Ambient air sample; 1 hr 47 min after startup of AY-102 booster pump	6.00
13:00	VP006-139-1311	TST	Field blank	---
22:20	VP006-134-1310	TST	Trip blank	---
13:52	VP006-011-1378	TST	Baseline stack sample; before startup of pumps	0.18
15:25	VP006-019-1390	TST	Stack sample; during cycling of only the AY-102 submersible pump, 30 min after flow observed at C-106	0.19
16:05	VP006-026-1327	TST	Stack sample; during cycling of only the AY-102 submersible pump, 1 hr 10 min after flow observed at C-106	0.21
16:40	VP006-035-1389	TST	Stack sample; during cycling of only the AY-102 submersible pump, 1 hr 45 min after flow observed at C-106	0.20

17:04	VP006-043-1316	TST	Stack sample; during operation of AY-102 and C-106 submersible and C-106 booster pumps	0.20
17:41	VP006-052-1396	TST	Stack sample; 30 min after startup of AY-102 booster pump	0.20
18:08	VP006-060-1398	TST	Stack sample; 57 min after startup of AY-102 booster pump	0.20
18:43	VP006-069-1347	TST	Stack sample; 1 hr 32 min after startup of AY-102 booster pump	0.18
19:06	VP006-076-1395	TST	Stack sample; 1 hr 55 min after startup of AY-102 booster pump	0.21
19:57	VP006-084-1394	TST	Stack sample; 2 hr 46 min after startup of AY-102 booster pump	0.22
20:19	VP006-091-1330	TST	Stack sample; 3 hr 8 min after startup of AY-102 booster pump	0.22
20:57	VP006-099-1115	TST	Stack sample; 3 hr 46 min after startup of AY-102 booster pump	0.20
21:21	VP006-106-1314	TST	Stack sample; 4 hr 10 min after startup of AY-102 booster pump	0.20
21:59	VP006-114-1308	TST	Stack sample; 4 hr 48 min after startup of AY-102 booster pump	0.20
13:25	VP006-003-1381	TST	Baseline ambient air sample; before startup of pumps	0.20

Table 2.3 Samples Collected from 241-AY-102 Headspace December 16, 1998

Time Sampled	Sample Number	Sample Type	Description	Sample Volume
13:25	VP102-002-C050	SUMMA™	Baseline tank vapor sample; before startup of pumps	6.00
18:08	VP102-005-C042	SUMMA™	Tank vapor sample; 57 min after startup of AY-102 booster pump	6.00
19:08	VP102-008-C134	SUMMA™	Tank vapor sample; 1 hr 57 min after startup of AY-102 booster pump	6.00
20:08	VP102-011-C298	SUMMA™	Tank vapor sample; 2 hr 57 min after startup of AY-102 booster pump	6.00

Table 2.4 Samples Collected from 241-AZ-702 Stack December 16, 1998

Time Sampled	Sample Number	Sample Type	Description	Sample Volume
13:21	VP702-002-C428	SUMMA™	Baseline stack sample; before startup of pumps	6.00
17:07	VP702-004-C429	SUMMA™	Ambient air sample; during operation of AY-102 and C-106 submersible and C-106 booster pumps	6.00
18:08	VP702-007-C301	SUMMA™	Stack sample; 57 min after startup of AY-102 booster pump	6.00
19:07	VP702-010-C160	SUMMA™	Stack sample; 1 hr 56 min after startup of AY-102 booster pump	6.00
20:08	VP702-013-C020	SUMMA™	Stack sample; 2 hr 57 min after startup of AY-102 booster pump	6.00

3.0 Analytical Method Descriptions

Sample analyses were generally conducted according to methods, procedures, and quality guidelines developed for the PNNL Vapor Project. The PNNL Vapor Project had participated in the characterization of numerous Hanford Site high-level waste tank headspaces before being shut down in September, 1997. Instrumentation associated with the project had been maintained through its application to other projects, and most was available for the analyses presented in this data package. An exception to this was the analytical system used by the PNNL Vapor Project to analyze permanent gases, which could not be restored in time for application to the December 16, 1998 samples. Table 3.1 lists the procedures employed for the different sample device types and analytes.

Table 3.1 Table of Analytical Procedures

Procedure	Sampling Device	Analyte(s)
PNL-TVP-03	SUMMA™ canisters	organic vapors
PNL-TVP-10	TSTs	organic vapors
PNL-ALO-226	Ammonia sorbent traps	ammonia
PNL-ALO-284	SUMMA™ canisters	permanent gases

Results of the analyses will be made available in electronic form for inclusion into the Tank Characterization Database (TCD). Data qualifier flags placed on the data in this data package are consistent with those used in the TCD, and are summarized in Table 3.2.

Table 3.2 Data Qualifiers

Flag	Explanation
B	Compound found in associated laboratory blank as well as sample
D	Target analyte reported is the result of a secondary dilution
E	Reported concentration was above the instrumental calibration range
J	Reported concentration was estimated, either because instrument was not calibrated for that compound, or because indicated concentration was below quantitation limits
N	Compound was tentatively identified
S	Result suspect
U	Compound was analyzed for but not detected above reporting value

3.1 Ammonia Sorbent Trap Analysis

All ammonia sorbent trap samples were received by PNNL on December 28, 1998, and analyses were performed on December 29, 1998. Completed chain-of-custody documentation is provided in Appendix A. Appendix B contains the raw analytical data and quality assurance and quality control measures conducted.

The ammonia traps were commercially prepared glass tubes packed with two sections of acidified sorbent media separated by a small plug of glass wool (SKC 226-29). The front sections are intended to collect all the ammonia vapor passed through the trap, and the back sections are used to measure the amount of ammonia that passed through (broke through) the front section. Proper operation and performance of the ammonia trap results in an insignificant amount of ammonia accumulating on the back section, attesting that essentially all ammonia vapor has been trapped in the front section.

Analysis of the ammonia traps involved removing and separating the front and back sections of sorbent media, followed by water extraction of the ammonia. The aqueous ammonia extract was then analyzed by an ion-selective electrode method as prescribed by technical procedure PNL-ALO-226. Appendix B provides detailed results of analyses of all front and selected back sections of the samples. The ammonia content of the front and back sections of both the field blank and trip blanks were subtracted from quantities of ammonia found in actual sample front and back sections to yield a net amount of ammonia attributable to the vapor sampled. Additionally, sample results were corrected for one atmosphere and 25°C temperature. The front and back sections of each sample were added together to produce the total vapor concentration. Table 4.1 summarizes measured ammonia concentrations found in the samples, trip and field blanks collected from the C-006 stack.

3.2 TST Organic Vapor Analysis

All TST samples were received by PNNL on December 28, 1998, and analyses were performed between January 19 and January 28, 1999. Completed chain-of-custody documentation is provided in Appendix A. Appendix C contains the raw analytical data, analysis case narratives, and quality assurance and quality control measures conducted.

The TSTs were commercially prepared ground glass tubes packed with three sections of deactivated carbon sorbent media separated by a small plug of glass wool (Supelco Carbotrap™

300 tubes). The traps are ground-glass tubes (11.5-cm long and 6-mm outside diameter) containing three sorbents arranged in order of increasing retentivity. Each trap contains 300 mg of Carbotrap™ C, 200 mg of Carbotrap™ B, and 125 mg of Carbosieve™ S-III. The first and second sorbents are deactivated graphite with limited sorption power for less volatile compounds. The third sorbent is a graphitized molecular sieve used to collect the most volatile compounds.

TSTs were analyzed according to PNNL technical method PNL-TVP-10. Some modifications were made to the method to reflect changes in available standards and instrumentation, and these are documented in detail in Appendix C.

A gas mixture containing four internal standards was injected into each TST, and then the collected vapors and internal standards were thermally desorbed using a Dynatherm Model 900 Thermal Desorber Unit (TDU). The TDU provides a sample splitting system capable of diverting a part of the sample to an archive trap; in this work a 6:1 split of the sample was used (roughly six-sevenths of each sample was archived for possible reanalysis). Desorbed compounds were chemically separated on a HP-5890 (Hewlett Packard) gas chromatograph (GC) equipped with a 60-m long, 0.32- μ m diameter DB-1 capillary GC column. Mass spectral detection was conducted with an HP-5971 mass spectrometer (MS).

The instrument calibration mixture included all constituents of two gas standards provided by SAS (Scott-Marrin CC105483 and CC105523), a commercially prepared and certified mixture of the 39 analytes of the EPA TO-14 method (Air Liquide CS53004), and an additional gas standard containing methanol and 1,3-butadiene (Air Liquide FF13295). Quantitation of the target compounds was based on the established linear response of the gas standard constituents. Some target compounds were present in more than one of the gas standards. The quantitation of compounds for which this occurred was based on the TO-14 standard calibration if the compound was present in that standard, and on the SAS standards calibration if the compound was not present in the TO-14 standard. Most detected target compounds were quantitated using the SAS standards.

Constituents detected in the samples for which no gas standard applied were tentatively identified by matching the observed mass spectral pattern with the EPA NIST and WILEY mass spectra libraries. Sample concentrations of tentatively identified compounds (TICs) were estimated by assigning a response factor equal to that of the nearest internal standard. This method of estimating concentrations is inherently approximate, and should be assumed to be uncertain by up to a factor of three. Table 4.2 contains the results from the analyses of TST samples from the C-006 stack.

3.3 SUMMA™ Canister Permanent Gas Analysis

PNNL received the 296-C-006 and 241-AZ-702 stack SUMMA™ samples on December 23, 1998 and the AY-102 headspace SUMMA™ samples on January 5, 1999. Completed chain-of-custody documentation is provided in Appendix A. Permanent gas analyses were conducted with a high-sensitivity MS (Finnigan MAT-271) according to technical method PNL-ALO-284 Rev 1. The MS was equipped with both a Faraday cup detector (operated in the current mode) and a secondary electron multiplier used for ion counting. In this method, which was applicable to all ideal gases, all gas species were scanned, their relative amounts determined, and the results normalized to 100%.

Appendix D contains the raw analytical data for permanent gas analyses, and quality assurance and quality control measures conducted. After receipt, the SUMMA™ canister samples were each pressurized with ultra-high purity nitrogen to exactly double their initial pressure. This was done to facilitate sample transfer during analysis of organic vapors, and to ensure that any transfer system leaks would not result in sample dilution. However, the raw permanent gas data in Appendix D must be adjusted to account for the nitrogen addition. To obtain the nitrogen concentration of the sample, 50 mol% is subtracted from the raw data nitrogen concentration, and that result doubled. All non-nitrogen concentrations are simply doubled. Tables 4.3, 4.4, and 4.5 summarize measured permanent gas concentrations in the C-006 stack, AY-102 headspace, and AZ-702 stack samples, respectively.

3.4 SUMMA™ Canister Organic Vapor Analysis

PNL received the 296-C-006 and 241-AZ-702 stack SUMMA™ samples on December 23, 1998 and the AY-102 headspace SUMMA™ samples on January 5, 1999. Analyses were performed between December 23, 1998 and January 8, 1999. Completed chain-of-custody documentation is provided in Appendix A. Appendix E contains the raw analytical data, analysis case narratives, and quality assurance and quality control measures conducted.

Organic vapors in SUMMA™ samples were analyzed by technical method PNL-TVP-03, which is a modified version of EPA Task Order 14 (TO-14). The method uses an EnTech 7000 cryoconcentration system interfaced with an HP-5972 benchtop GC/MS. The EnTech concentrator is used to pull a metered volume of sample air from the SUMMA™ canister, cryogenically concentrate the condensable organic vapors, then transfer the vapor to the GC/MS for analysis. The GC is equipped with a DB-1 column, 60-m long with a 0.32- μ m inside diameter. The column and chromatographic conditions are essentially the same as used in the TST procedure.

The instrument was calibrated using a commercially prepared and certified gas standard containing the 39 EPA TO-14 analytes (Air Liquide CS53004) blended with a gas mixture created with a Kin-Tek™ permeation-tube standard generation system. In addition, the EnTech/GC/MS system was also calibrated with 2 certified gas standards provided by SAS (Scott-Marrin CC105483 and CC105523). Quantitation of the target compounds was based on average response factors for the gas standard constituents. Some target compounds were present in more than one of the gas standards. The quantitation of compounds for which this occurred was based on the TO-14 standard calibration if the compound was present in that standard, and on the SAS standards calibration if the compound was not present in the TO-14 standard. Most detected target compounds were quantitated using the SAS standards. Tables 4.6, 4.7, and 4.8 summarize the results of the SUMMA™ organic vapor concentration analysis in the C-006 stack, AY-102 headspace, and AZ-702 stack samples, respectively.

4.0 Summary Data Tables

The tables in this section summarize the ammonia, permanent gas, and organic vapor analytical results. Table 4.1 contains the ammonia results from C-006 stack. Table 4.2 contains the organic vapor results from TST samples from C-006 stack. Tables 4.3, 4.4, and 4.5 contain the permanent gas results from SUMMA™ canister samples from C-006 stack, AY-102 headspace, and AZ-702 stack, respectively. Tables 4.6, 4.7, and 4.8 contain the organic vapor results from SUMMA™ canister samples from C-006 stack, AY-102 headspace, and AZ-702 stack, respectively.

Table 4.1 296-C-006 Ammonia Vapor Concentrations

Sample Identification Number	CAS	MW	NH ₃ Vapor Concentration (ppmv)	Flag
VP006-005-1298	7664-41-7	17	0.8	
VP006-013-1298	7664-41-7	17	2.2	
VP006-021-1298	7664-41-7	17	3.0	
VP006-028-1298	7664-41-7	17	4.6	
VP006-037-1298	7664-41-7	17	4.9	
VP006-045-1298	7664-41-7	17	5.4	
VP006-054-1298	7664-41-7	17	6.8	
VP006-062-1298	7664-41-7	17	6.5	
VP006-071-1298	7664-41-7	17	7.5	
VP006-078-1298	7664-41-7	17	7.8	
VP006-086-1298	7664-41-7	17	7.6	
VP006-093-1298	7664-41-7	17	7.1	
VP006-101-1298	7664-41-7	17	7.3	
VP006-108-1298	7664-41-7	17	7.8	
VP006-116-1298	7664-41-7	17	7.0	

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Target Compounds			CAS	MW	Ret Time	Gas Std	VP006-011-1378		VP006-019-1390		VP006-043-1316	
							(mg/m3)	(ppbv)	(mg/m3)	(ppbv)	(mg/m3)	(ppbv)
Flag							Flag		Flag		Flag	
1	Methanol	67-56-1	32.04	10.5	PNL	0.3817	S	407	S	0.2318	162	S
2	1,3-Butadiene	106-99-0	54	10.7	PNL	<0.0039	<1.6	U	<0.0037	<1.5	U	<0.0035
3	Propene	115-07-1	42.08	7.7	SAS	0.0499	26.6	J	0.1941	103		0.4439
4	Propane	74-98-6	44.1	7.8	SAS	0.0366	18.6	J	0.2188	111		0.4528
5	Acetaldehyde	75-07-0	44.05	9.8	SAS	0.3146	160		0.2365	120		0.4839
6	Butane	106-97-8	58.12	11.0	SAS	0.0621	23.9		0.5944	229		1.2238
7	Ethanol	64-17-5	46.07	12.7	SAS	<0.0048	<2.4	U	0.1498	72.8		0.4148
8	Acetonitrile	75-05-8	41.05	13.2	SAS	<0.0047	<2.6	U	0.0203	11.1	J	0.0717
9	Acetone	67-64-1	58.08	13.8	SAS	0.036	13.9		0.0704	27.2		0.1947
10	Isopropyl Alcohol	67-63-0	60.1	14.4	SAS	<0.0068	<2.6	U	0.0142	5.3	J	0.0162
11	Furan	110-00-9	68.08	14.7	SAS	<0.0031	<1.0	U	<0.0029	<0.9	U	<0.0027
12	Pentane	109-66-0	72	15.1	SAS	0.0384	11.9		0.1787	55.6		0.3719
13	Propanenitrile	107-12-0	55.08	17.2	SAS	<0.0025	<1.0	U	0.0283	11.5		0.0894
14	Propanol	71-23-8	60.1	17.2	SAS	<0.0064	<2.4	U	0.0498	18.6	J	0.0828
15	2-Methylpentane	107-83-5	86.18	18.4	SAS	<0.0038	<1.0	U	0.0294	7.6	J	0.0513
16	Burol	123-72-8	72.11	18.5	SAS	0.0405	12.6	J	0.0542	16.9	J	0.1323
17	2-Butanone	78-93-3	72.11	18.7	SAS	0.0031	1.0	J	0.0208	6.5	J	0.0361
18	1-Hexene	592-41-6	84.16	19.4	SAS	0.0174	4.6	J	0.2778	73.9		0.6735
19	Hexane	110-54-3	86.18	19.9	SAS	0.0725	18.9		0.1791	46.6		0.3628
20	Tetrahydrofuran	109-99-9	72.11	20.9	SAS	0.0076	2.4	J	0.0093	2.9	J	<0.0029
21	Butanenitrile	109-74-0	69.11	21.9	SAS	0.0149	4.8	J	0.049	13.9		0.1377
22	1-Butanol	71-36-3	74.12	22.4	SAS	0.0019	0.6	J	0.1074	32.5	J	0.2237
23	2-Pentanone	107-87-9	86.13	23.4	SAS	0.0036	0.9	J	0.0194	5.1	J	0.0449
24	3-Methylhexane	589-34-4	100.2	24.0	SAS	<0.0043	<1.0	U	0.0104	2.3	J	0.0286
25	1,4-Dioxane	123-91-1	88.11	24.7	SAS	<0.01	<2.5	U	<0.0094	<2.4	U	<0.009
26	Heptane	142-82-5	100.2	25.2	SAS	0.0327	7.3	J	0.5389	120		1.3699
27	4-Methyl-2-pentanone	108-10-1	100.16	26.4	SAS	0.0058	1.3	J	0.0057	1.3	J	0.0143
28	Pyridine	110-86-1	79.1	26.6	SAS	<0.111	<31.4	U	<0.104	<29.5	U	<0.1
29	2-Hexanone	591-78-6	100.16	28.8	SAS	<0.0042	<0.9	U	0.0536	12.0		0.1542
30	Octane	111-65-9	114.23	30.4	SAS	0.0223	4.4	J	0.095	18.6		0.2315
31	3-Heptanone	106-35-4	114.19	33.8	SAS	<0.0048	<0.9	U	0.2432	322		5.422
32	2-Heptanone	110-43-0	114.19	34.0	SAS	<0.0048	<0.9	U	0.2432	47.7		0.8197
33	Cyclohexanone	108-94-1	98.14	34.3	SAS	<0.0104	<2.4	U	<0.0097	<2.2	U	<0.0094
34	Nonane	111-84-2	128.26	35.4	SAS	0.013	2.3	J	0.0876	15.3		0.1918
35	2-Octanone	111-13-7	128.21	38.8	SAS	<0.0053	<0.9	U	<0.005	<0.9	U	0.0408
36	Decane	124-18-5	142.2	40.0	SAS	0.1025	16.2		0.3572	56.3		0.7521
37	Dichlorodifluoromethane	75-71-8	120.91	8.2	TO-14	<0.0055	<1.0	U	0.0091	1.7	J	0.0018
38	Chloromethane	74-87-3	50.49	9.1	TO-14	<0.0023	<1.0	U	<0.0021	<1.0	U	0.0036
39	1,2-dichloro-1,1,2,2-tetrafluoroethane	76-14-2	170.92	9.7	TO-14	<0.0078	<1.0	U	<0.0073	<1.0	U	<0.007
40	Vinyl Chloride	75-01-4	62.5	10.2	TO-14	<0.0028	<1.0	U	<0.0027	<1.0	U	<0.0025
41	Chloroethane	75-00-3	64.51	12.3	TO-14	<0.0029	<1.0	U	<0.0028	<1.0	U	<0.0027
42	Trichlorofluoromethane	75-69-4	137.37	14.3	TO-14	0.0252	4.1	J	0.0832	13.6		0.1027
43	1,1-Dichloroethene	75-35-4	96.94	15.6	TO-14	<0.0044	<1.0	U	<0.0041	<1.0	U	<0.004

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Target Compounds		CAS	MW	Ret Time	Gas Std	VP006-011-1378		VP006-019-1390		VP006-043-1316	
						(mg/m ³)	Flag	(mg/m ³)	Flag	(mg/m ³)	Flag
44	Methylene Chloride	75-09-2	84.93	15.9	TO-14	<0.0039	<1.0	U	0.0073	1.9	J
45	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	187.38	16.4	TO-14	<0.0085	<1.0	U	0.0038	0.5	J
46	1,1-Dichloroethane	75-34-3	98.96	18.0	TO-14	<0.0045	<1.0	U	<0.0042	<1.0	U
47	cis-1,2-Dichloroethene	136-59-2	96.94	19.5	TO-14	<0.0044	<1.0	U	<0.0041	<1.0	U
48	Chloroform	67-66-3	119.38	20.1	TO-14	<0.0054	<1.0	U	<0.0051	<1.0	U
49	1,2-Dichloroethane	107-06-2	98.96	21.4	TO-14	<0.0045	<1.0	U	<0.0042	<1.0	U
50	1,1,1-Trichloroethane	71-55-6	133.4	21.9	TO-14	<0.0061	<1.0	U	<0.0057	<1.0	U
51	Benzene	71-43-2	78.11	22.9	TO-14	0.0067	1.9	J	0.0097	2.8	BJ
52	Carbon Tetrachloride	56-23-5	153.82	23.1	TO-14	<0.0069	<1.0	U	<0.0065	<1.0	U
53	1,2-Dichloropropane	78-87-5	112.99	24.3	TO-14	<0.0051	<1.0	U	<0.0048	<1.0	U
54	Trichloroethene	79-01-6	131.39	24.7	TO-14	0.0111	1.9	J	0.0081	1.4	J
55	cis-1,3-Dichloropropene	10061-01-5	110.97	26.3	TO-14	<0.0111	<2.2	U	<0.0104	<2.1	U
56	trans-1,3-Dichloropropene	10061-02-6	110.97	27.3	TO-14	<0.0111	<2.2	U	<0.0104	<2.1	U
57	1,1,2-Trichloroethane	79-00-5	133.4	27.9	TO-14	<0.0042	<0.7	U	<0.0039	<0.7	U
58	Toluene	108-88-3	92.14	28.5	TO-14	0.0087	2.1	J	0.0355	8.6	J
59	1,2-Dibromoethane	106-93-4	187.86	29.9	TO-14	<0.0086	<1.0	U	<0.008	<1.0	U
60	Tetrachloroethylene	127-18-4	165.83	31.0	TO-14	<0.0086	<1.2	U	<0.008	<1.1	U
61	Chlorobenzene	108-90-7	112.56	32.6	TO-14	<0.0051	<1.0	U	<0.0048	<1.0	U
62	Ethylbenzene	100-41-4	106.17	33.4	TO-14	0.001	0.2	J	0.0017	0.4	J
63	p/m-Xylene	106-42-3	106.17	33.8	TO-14	0.0046	1.0	J	0.0052	1.1	J
64	Styrene	100-42-5	104.15	34.7	TO-14	<0.0047	<1.0	U	<0.0044	<1.0	U
65	1,1,2,2-Tetrachloroethane	79-34-5	167.85	35.0	TO-14	<0.0076	<1.0	U	<0.0071	<1.0	U
66	o-Xylene	95-47-6	106.17	35.0	TO-14	<0.0048	<1.0	U	<0.0045	<1.0	U
67	1,3,5-Trimethylbenzene	108-67-8	120.19	38.5	TO-14	<0.0054	<1.0	U	<0.0051	<1.0	U
68	1,2,4-Trimethylbenzene	95-63-6	120.19	39.9	TO-14	<0.0051	<1.0	U	<0.0051	<1.0	U
69	1,3-Dichlorobenzene	541-73-1	147	40.3	TO-14	<0.0667	<10.2	U	<0.0625	<9.5	U
70	1,4-Dichlorobenzene	146-46-7	147	40.5	TO-14	<0.0667	<1.0	U	<0.0663	<1.0	U
71	1,2-Dichlorobenzene	95-50-1	147	41.7	TO-14	<0.0667	<1.0	U	<0.0663	<1.0	U
72	1,2,4-Trichlorobenzene	120-82-1	181.45	47.9	TO-14	<0.0083	<1.0	U	<0.0078	<1.0	U
73	Hexachloro-1,3-butadiene	87-68-3	260.76	49.7	TO-14	<0.0117	<1.0	U	<0.0109	<0.9	U
Sum of Targets						1.7			5.9		
										16.8	

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Target Compounds		CAS	VP006-060-1398			VP006-060-1398 REP			VP006-069-1347			VP006-076-1395		
			(mg/m ³)	Flag	(ppbv)	(mg/m ³)	Flag	(ppbv)	(mg/m ³)	Flag	(ppbv)	(mg/m ³)	Flag	(ppbv)
1	Methanol	67-56-1	0.674	S	471	0.5381	S	376	151.2003	SE	4.4007	3080	SE	
2	1,3-Butadiene	106-99-0	<0.0035	U	<1.5	<0.0035	U	<1.6	<0.0039	U	<0.0034	<1.4	U	
3	Propene	115-07-1	0.5312		283	0.5697		303	0.0771		41.1	0.9809	522	
4	Propane	74-98-6	0.5345		271	0.6002		305	0.0895		45.4	0.9508	483	
5	Acrolein	75-07-0	1.1234	B	571	0.6097	B	310	0.7671		390	1.2351	628	
6	Butane	106-97-8	1.4967		577	1.7729		683	0.1787		68.9	3.5335	1360	E
7	Ethanol	64-17-5	1.7199		836	1.7061		830	4.2376		2060	0.7211	351	
8	Acetonitrile	75-05-8	0.0719		393	0.0683		373	0.0329		17.9	0.1573	85.8	
9	Acetone	67-64-1	0.3848		148	0.4446		171	0.1497		57.7	0.4047	156	
10	Isopropyl Alcohol	67-53-0	0.039		14.5	0.0425		15.8	0.0769		28.7	0.0238	8.9	J
11	Furan	110-00-9	<0.0027	U	<0.9	<0.0027	U	<0.9	<0.0031	U	<1.0	<0.0026	<0.9	U
12	Pentane	109-66-0	0.6129		191	0.732		228	0.077		23.9	1.2908	402	
13	Propanenitrile	107-12-0	0.0859		34.9	0.0939		38.2	0.011		4.5	0.1838	74.8	
14	Propanol	71-23-8	0.0797		29.7	0.0928		34.6	0.2491		92.8	0.1088	40.5	
15	2-Methylpentane	107-83-5	0.09		23.4	0.106		27.6	<0.0038		<1.0	0.1773	46.1	
16	Butanal	123-72-8	0.2812		87.3	0.151		46.9	0.0235		7.3	0.2238	69.5	
17	2-Butanone	78-93-3	0.0645		20.1	0.0523		16.3	0.013		4.0	0.0618	19.2	J
18	1-Hexene	592-41-6	1.3005		346	1.5378		409	0.1718		45.7	2.6344	701	
19	Hexane	109-99-9	0.0116		3.6	0.0135		4.2	0.0021		0.7	0.0265	8.2	J
20	Tetrahydrofuran	109-74-0	0.1778		57.6	0.1864		60.4	0.0178		5.8	0.1924	62.4	
21	Butanenitrile	71-36-3	0.2007		60.7	0.1528		46.2	0.0241		7.3	0.1286	38.9	J
22	1-Butanol	107-87-9	0.0726		18.9	0.0759		19.7	0.0159		4.1	0.0681	17.7	
23	2-Pentanone	589-34-4	0.0533		11.9	0.0559		12.5	0.0168		3.7	0.0456	10.2	
24	3-Methylhexane	123-91-1	<0.0089	<2.3	U	<0.009	<2.3	U	<0.01	<2.5	U	<0.0085	<2.2	U
25	1,4-Dioxane	142-82-5	2.7325		611	2.6922		602	0.3015		67.4	2.6829	600	
26	Heptane	108-10-1	0.2929		6.5	0.0296		6.6	0.0052		1.2	0.0328	7.3	J
27	4-Methyl-2-pentanone	110-86-1	<0.099	<28	U	<0.1	<28.3	U	<0.111	<31.4	U	<0.0943	<26.7	U
28	Pyridine	110-86-1	<0.099	<28	U	<0.1	<28.3	U	<0.111	<31.4	U	<0.0943	<26.7	U
29	Pyridine	110-86-1	<0.099	<28	U	<0.1	<28.3	U	<0.111	<31.4	U	<0.0943	<26.7	U
30	Octane	591-78-6	0.2698		60.3	0.2854		63.8	0.0217		4.9	0.25	55.9	
31	Hexanone	111-65-9	0.5131		101	0.5162		101	0.1139		22.3	0.4614	90.5	
32	2-Heptanone	106-35-4	0.6517	E	2090	0.3659	E	2130	1.208		237	11.6825	2290	E
33	3-Heptanone	110-43-0	1.5038		295	1.4933		293	0.1937		38.0	1.5831	311	
34	Cyclohexanone	108-94-1	<0.0093	<2.1	U	<0.0094	<2.1	U	<0.0104	<2.4	U	<0.0088	<2.0	U
35	Cyclohexanone	108-94-1	<0.0093	<2.1	U	<0.0094	<2.1	U	<0.0104	<2.4	U	<0.0088	<2.0	U
36	Nonane	111-84-2	0.3285		57.4	0.3316		57.9	0.0502		8.8	0.3236	56.5	
37	Decane	111-13-7	0.0938		16.4	0.1001		17.5	0.1105		19.3	0.1067	18.6	
38	Dichlorodifluoromethane	75-71-8	0.0048		0.9	0.0046		0.9	0.0162		3.0	<0.0047	<0.9	U
39	Chloromethane	74-87-3	0.0039		1.7	0.005		2.2	<0.0023		<1.0	<0.0019	<0.9	U
40	1,2-dichloro-1,1,2,2-tetrafluoroethane	76-14-2	<0.0069	<0.9	U	<0.0069	<0.9	U	<0.0078	<1.0	U	<0.0067	<0.9	U
41	Vinyl Chloride	75-01-4	<0.0025	<0.9	U	<0.0025	<0.9	U	<0.0028	<1.0	U	<0.0024	<0.9	U
42	Chloroethane	75-00-3	<0.0026	<0.9	U	<0.0026	<0.9	U	<0.0029	<1.0	U	<0.0025	<0.9	U
43	Trichlorofluoromethane	75-69-4	0.0192		3.1	0.0214		3.5	3.8358		625	0.1267	20.7	
44	1,1-Dichloroethene	75-35-4	<0.0039	<0.9	U	<0.0039	<0.9	U	0.0124		2.9	<0.0038	<0.9	U

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Target Compounds		CAS		VP006-060-1398		VP006-060-1398 REP		VP006-069-1347		VP006-076-1395	
		(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)
44	Methylene Chloride	75-09-2	<0.0035	<0.9	U	<0.0035	<0.9	U	0.0548	14.5	U
45	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	<0.0076	<0.9	U	<0.0076	<0.9	U	0.0132	1.6	J
46	1,1-Dichloroethane	75-34-3	<0.004	<0.9	U	<0.004	<0.9	U	<0.0045	<1.0	U
47	cis-1,2-Dichloroethene	156-59-2	<0.0039	<0.9	U	<0.0039	<0.9	U	<0.0044	<1.0	U
48	Chloroform	67-66-3	<0.0049	<0.9	U	0.0045	0.9	J	0.0148	2.8	J
49	1,2-Dichloroethane	107-06-2	<0.004	<0.9	U	<0.004	<0.9	U	<0.0045	<1.0	U
50	1,1,1-Trichloroethane	71-55-6	<0.0054	<0.9	U	<0.0054	<0.9	U	0.0357	6.0	J
51	Benzene	71-43-2	0.0354	10.2	U	0.0392	11.3	U	0.0173	5.0	J
52	Carbon Tetrachloride	56-23-5	<0.0062	<0.9	U	<0.0062	<0.9	U	0.0098	1.4	J
53	1,2-Dichloropropane	78-87-5	<0.0046	<0.9	U	<0.0046	<0.9	U	<0.0051	<1.0	U
54	Trichloroethene	79-01-6	0.1554	26.5	U	0.1539	26.2	U	0.3475	59.2	U
55	cis-1,3-Dichloropropene	10061-01-5	<0.0099	<2.0	U	<0.0099	<2.0	U	<0.0111	<2.2	U
56	trans-1,3-Dichloropropene	10061-02-6	<0.0099	<2.0	U	<0.0099	<2.0	U	<0.0111	<2.2	U
57	1,1,2-Trichloroethane	79-00-3	<0.0037	<0.6	U	<0.0037	<0.6	U	<0.0042	<0.7	U
58	Toluene	108-88-3	0.2167	52.7	U	0.2181	53.0	U	0.0723	17.6	U
59	1,2-Dibromoethane	106-93-4	<0.0076	<0.9	U	<0.0076	<0.9	U	<0.0086	<1.0	U
60	Tetrachloroethylene	127-18-4	<0.0076	<1.0	U	<0.0076	<1.0	U	<0.0086	<1.2	U
61	Chlorobenzene	108-90-7	<0.0046	<0.9	U	<0.0046	<0.9	U	<0.0051	<1.0	U
62	Ethylbenzene	100-41-4	0.0079	1.7	J	0.0085	1.8	J	0.0048	1.0	J
63	p/m-Xylene	106-42-3	0.0137	2.9	J	0.0152	3.2	J	0.0143	3.0	J
64	Styrene	100-42-5	<0.0042	<0.9	U	0.003	0.7	J	<0.0047	<1.0	U
65	1,1,2,2-Tetrachloroethane	79-34-5	0.032	4.3	J	<0.0068	<0.9	U	<0.0076	<1.0	U
66	o-Xylene	95-47-6	<0.0043	<0.9	U	0.0042	0.9	J	0.0039	0.8	J
67	1,3,5-Trimethylbenzene	108-67-8	0.0036	0.7	J	0.0042	0.8	J	<0.0054	<1.0	U
68	1,2,4-Trimethylbenzene	95-63-6	0.004	0.8	J	0.0041	0.8	J	<0.0054	<1.0	U
69	1,3-Dichlorobenzene	541-73-1	<0.0594	<9.1	U	<0.0594	<9.1	U	<0.0667	<10.2	U
70	1,4-Dichlorobenzene	106-46-7	<0.0059	<0.9	U	<0.0059	<0.9	U	<0.0067	<1.0	U
71	1,2-Dichlorobenzene	95-50-1	<0.0059	<0.9	U	<0.0059	<0.9	U	<0.0067	<1.0	U
72	1,2,4-Trichlorobenzene	120-82-1	<0.0074	<0.9	U	<0.0074	<0.9	U	<0.0083	<1.0	U
73	Hexachloro-1,3-butadiene	87-68-3	<0.0104	<0.9	U	<0.0104	<0.9	U	<0.0117	<1.0	U
Sum of Targets		28.5				28.9			164.6		37.9

Table 4.2. 296-C-006 TST Organic Vapor Concentrations

Target Compounds	CAS	VP006-084-1394			VP006-084-1394 REP			VP006-091-1330			VP006-099-1115		
		(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag
1 Methanol	67-56-1	0.157	110	S	0.1693	118	S	0.1693	3820	SE	<0.01	<7	U
2 1,3-Butadiene	106-99-0	<0.0032	<1.3	U	<0.0032	<1.3	U	<0.0032	<1.3	U	<0.0035	<1.5	U
3 Propene	115-07-1	0.7316	389		0.6427	342		0.082	43.7		0.5383	287	
4 Propane	74-98-6	0.7316	378		0.7136	362		0.0857	43.5		0.4837	246	
5 Acetaldehyde	75-07-0	0.8731	444		0.7154	364		0.5271	268		0.3812	194	
6 Butane	106-97-8	2.6338	1020	E	2.5987	1000	E	0.1568	52.7		1.6571	639	
7 Ethanol	64-17-5	0.1166	56.7		0.1108	53.9		2.4347	1180		0.3815	185	
8 Acetonitrile	75-05-3	0.0934	51.0		0.0891	48.6		0.0113	6.2	J	0.0572	31.2	B
9 Acetone	67-64-1	0.3715	143		0.3644	141		0.1835	70.8		0.5012	193	J
10 Isopropyl Alcohol	67-63-0	<0.0055	<2.1	U	<0.0055	<2.1	U	<0.0056	<2.1	U	0.0132	4.9	J
11 Puran	110-00-9	<0.0025	<0.8	U	<0.0025	<0.8	U	<0.0025	<0.8	U	<0.0027	<0.9	U
12 Pentane	109-66-0	0.9737	303		0.9675	301		0.0435	13.5		0.5433	169	
13 Propanenitrile	107-12-0	0.1493	60.7		0.1434	58.3		0.0024	1.0	J	0.111	45.1	
14 Propanol	71-23-8	0.0836	31.2		0.084	31.3		0.0536	20.0		0.0808	30.1	
15 2-Methylpentane	107-83-5	0.1319	34.3		0.1309	34.0		<0.0031	<0.8	U	0.0686	17.8	
16 Butanal	123-72-8	0.5333	166		0.2091	65.0		<0.0053	<1.7	U	0.4056	126	
17 2-Butanone	78-93-3	0.0667	20.7		0.0667	20.7		0.023	7.1	J	0.1054	32.7	
18 1-Hexene	592-41-6	1.9013	50.6		1.9023	50.6		0.1184	31.5		1.0242	273	
19 Hexane	110-54-3	0.869	226		0.8645	225		0.7788	202		0.5053	131	
20 Tetrahydrofuran	109-99-9	0.0222	6.9	J	0.0221	6.9	J	<0.0027	<0.8	U	0.026	8.1	J
21 Butanenitrile	109-74-0	0.2018	65.4		0.1951	63.3		0.0086	2.8	J	0.2063	66.9	
22 1-Butanol	71-36-3	0.1418	42.8	J	0.1141	34.5	J	<0.0245	<7.4	U	0.2092	63.2	J
23 2-Pentanol	107-87-9	0.0971	18.5		0.0686	17.8		0.0111	2.9	U	0.0833	21.7	
24 3-Methylhexane	589-34-4	0.0387	8.7		0.043	9.6		0.002	0.5	J	0.0291	6.5	J
25 1,4-Dioxane	123-91-1	<0.0081	<2.1	U	<0.0081	<2.1	U	<0.0082	<2.1	U	<0.009	<2.3	U
26 Heptane	142-82-5	2.3819	532		2.3577	527		0.1676	37.5		2.0882	467	
27 4-Methyl-2-pentanol	108-10-1	0.0315	7.1	J	0.0271	6.1	J	0.003	0.7	J	0.0314	7.0	J
28 Pyridine	110-86-1	<0.0901	<25.5	U	<0.0901	<25.5	U	<0.0909	<25.7	U	<0.1	<28.3	U
29 2-Hexanol	591-78-6	0.3218	72.0		0.2793	62.5		0.0129	2.9	J	0.3338	74.7	
30 Octane	111-65-9	0.4004	78.5		0.4022	78.9		0.1072	21.0		0.3524	69.1	
31 3-Heptanol	106-35-4	12.0504	2360	E	11.2816	2210	E	1.0578	208		12.1699	2390	E
32 2-Heptanone	110-43-0	1.7109	336		1.5727	309		0.3554	69.7		1.7692	347	
33 Cyclohexanone	108-94-1	<0.0084	<1.9	U	<0.0084	<1.9	U	<0.0085	<1.9	U	<0.0094	<2.1	U
34 Nonane	111-84-2	0.2891	50.5		0.2841	49.6		0.0324	5.7	J	0.2668	46.6	
35 2-Octanol	111-13-7	0.1086	19.0		0.0986	17.2		0.0324	5.7	J	0.0933	16.3	
36 Decane	124-18-5	1.1208	177		1.0775	170		0.1256	19.8		1.122	177	
37 Dichlorodifluoromethane	75-71-8	<0.0045	<0.8	U	<0.0045	<0.8	U	0.0068	1.3	J	<0.005	<0.9	U
38 Chloromethane	74-87-3	<0.0018	<0.8	U	<0.0019	<0.8	U	0.0158	7.0	J	<0.0021	<0.9	U
39 1,2-dichloro-1,1,2,2-tetrafluoroethane	76-14-2	<0.0063	<0.8	U	<0.0064	<0.8	U	<0.0064	<0.8	U	<0.007	<0.9	U
40 Vinyl Chloride	75-01-4	<0.0023	<0.8	U	<0.0023	<0.8	U	<0.0023	<0.8	U	<0.0025	<0.9	U
41 Chloroethane	75-00-3	<0.0024	<0.8	U	<0.0024	<0.8	U	<0.0024	<0.8	U	<0.0027	<0.9	U
42 Trichlorofluoromethane	75-69-4	0.0218	3.6		0.0237	3.9	J	0.0221	3.6	J	0.0264	4.3	J
43 1,1-Dichloroethene	75-35-4	<0.0036	<0.8	U	<0.0036	<0.8	U	<0.0036	<0.8	U	<0.004	<0.9	U

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Target Compounds		CAS	VP006-084-1394		VP006-084-1394 REP		VP006-091-1330		VP006-099-1115		
			(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag
44	Methylene Chloride	75-09-2	0.0105	2.8	J	<0.0032	<0.8	U	0.0177	4.7	J
45	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0086	1.0	J	<0.007	<0.8	U	0.0108	1.3	J
46	1,1-Dichloroethane	75-34-3	<0.0036	<0.8	U	<0.0037	<0.8	U	<0.0037	<0.8	U
47	cis-1,2-Dichloroethene	156-59-2	<0.0036	<0.8	U	<0.0036	<0.8	U	<0.0036	<0.8	U
48	Chloroform	67-66-3	<0.0044	<0.8	U	<0.0044	<0.8	U	0.0112	2.0	J
49	1,2-Dichloroethane	107-06-2	<0.0036	<0.8	U	<0.0037	<0.8	U	<0.0037	<0.8	U
50	1,1,1-Trichloroethane	71-55-6	<0.0049	<0.8	U	<0.005	<0.8	U	<0.005	<0.8	U
51	Benzene	71-43-2	0.033	9.5	B	0.0375	10.8	U	0.0233	6.7	J
52	Carbon Tetrachloride	56-23-5	<0.0036	<0.8	U	<0.0037	<0.8	U	<0.0037	<0.8	U
53	1,2-Dichloropropane	78-07-5	<0.0041	<0.8	U	<0.0042	<0.8	U	<0.0042	<0.8	U
54	Trichloroethene	79-01-6	<0.0049	<0.8	U	<0.0049	<0.8	U	0.5066	86.4	U
55	cis-1,3-Dichloropropene	10061-01-5	<0.009	<1.8	U	<0.0091	<1.8	U	<0.0091	<1.8	U
56	trans-1,3-Dichloropropene	10061-02-6	<0.009	<1.8	U	<0.0091	<1.8	U	<0.0091	<1.8	U
57	1,1,2-Trichloroethane	79-00-5	<0.0034	<0.6	U	<0.0034	<0.6	U	<0.0034	<0.6	U
58	Toluene	108-88-3	0.1772	43.1	U	0.1774	43.1	U	0.0576	14.0	U
59	1,2-Dibromoethane	106-93-4	<0.0069	<0.8	U	<0.007	<0.8	U	<0.007	<0.8	U
60	Tetrachloroethylene	127-18-4	<0.0069	<0.9	U	<0.007	<1.0	U	<0.0077	<1.0	U
61	Chlorobenzene	108-90-7	<0.0041	<0.8	U	<0.0042	<0.8	U	<0.0042	<0.8	U
62	Ethylbenzene	100-41-4	0.0065	1.4	J	0.0066	1.4	J	0.0033	0.7	J
63	p/m-Xylene	106-42-3	0.0088	1.9	J	0.0156	3.3	J	0.0151	3.2	J
64	Styrene	100-42-5	<0.0038	<0.8	U	<0.0039	<0.8	U	<0.0039	<0.8	U
65	1,1,2,2-Tetrachloroethane	79-34-5	<0.0062	<0.8	U	<0.0062	<0.8	U	<0.0062	<0.8	U
66	o-Xylene	95-47-6	0.0035	0.8	J	0.0032	0.7	J	0.0024	0.5	J
67	1,3,5-Trimethylbenzene	108-67-8	<0.0044	<0.8	U	<0.0044	<0.8	U	<0.0044	<0.8	U
68	1,2,4-Trimethylbenzene	95-63-6	0.0031	0.6	J	0.0032	0.6	J	0.0027	0.5	J
69	1,3-Dichlorobenzene	541-73-1	<0.054	<8.2	U	<0.0545	<8.3	U	<0.0545	<8.3	U
70	1,4-Dichlorobenzene	106-46-7	<0.0034	<0.8	U	<0.0034	<0.8	U	<0.0034	<0.8	U
71	1,2-Dichlorobenzene	95-50-1	<0.0054	<0.8	U	<0.0054	<0.8	U	<0.0054	<0.8	U
72	1,2,4-Trichlorobenzene	120-82-1	<0.0068	<0.8	U	<0.0068	<0.8	U	<0.0068	<0.8	U
73	Hexachloro-1,3-butadiene	87-68-3	<0.0095	<0.8	U	<0.0095	<0.8	U	<0.0095	<0.8	U
Sum of Targets			29.6			27.9			12.6		
									25.9		

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Target Compounds		CAS		VP006-106-1314		VP006-114-1308		VP006-003-1378		VP006-134-1310 (blank)	
				(mg/m ³)	Flag	(mg/m ³)	Flag	(mg/m ³)	Flag	(mg/m ³)	Flag
1	Methanol	67-56-1		2.0841	1460	SE	SE	22.6875	15900	SE	SE
2	1,3-Butadiene	106-99-0		<0.0035	<1.5	U	<0.0035	<1.5	U	<0.0035	<1.5
3	Propene	115-07-1		1.2064	642		0.0632	33.7		0.012	6.4
4	Propane	74-98-6		1.1866	603		<0.0044	<2.3	U	<0.0044	<2.3
5	Acetaldehyde	75-07-0		2.1109	1070	BE	0.5699	290		0.7847	399
6	Butane	106-97-8		3.6693	1410	E	0.1326	58.8		0.0137	5.3
7	Ethanol	64-17-5		3.4918	1700		3.1226	1520		2.5122	1220
8	Acetonitrile	75-05-8		0.3686	201		0.01	5.5	J	0.0062	3.4
9	Acetone	67-64-1		1.4165	546		0.9245	357	B	0.2392	92.3
10	Isopropyl Alcohol	67-63-0		0.1196	44.6		0.0933	34.8		0.0971	36.2
11	Furan	110-00-9		<0.0027	<0.9	U	<0.0027	<0.9	U	<0.0027	<0.9
12	Pentane	109-66-0		1.4026	436		0.072	22.4		0.1013	3.2
13	Propanenitrile	107-12-0		0.4291	175		0.0139	5.7	J	<0.0023	<0.9
14	Propanol	71-23-8		0.3766	140		0.0509	19	J	0.1375	51.3
15	2-Methylpentane	107-83-5		0.1981	51.5		0.0329	8.6	J	<0.0034	<0.9
16	Butanal	123-72-8		0.6648	207		0.0496	15.4	J	0.0368	11.4
17	2-Butanone	78-93-3		0.2577	80.0		0.0181	5.6	J	0.0085	2.7
18	1-Hexene	592-41-6		2.7773	739		0.1492	39.7		0.0377	10.1
19	Hexane	110-54-3		1.6806	437		0.6638	173		0.5645	147
20	Tetrahydrofuran	109-99-9		0.0602	18.7		0.0037	1.1	J	<0.0029	<0.9
21	Butanenitrile	109-74-0		0.5282	171		0.0292	9.5		<0.0027	<0.9
22	1-Butanol	71-36-3		1.03	311		0.0462	14	J	<0.027	<8.2
23	2-Pentanol	107-87-9		0.2296	59.7		0.0136	3.5	J	0.0056	1.5
24	3-Methylhexane	589-34-4		0.0871	19.5		0.0197	4.4	J	0.0122	2.7
25	1,4-Dioxane	123-91-1		<0.0089	<2.3	U	<0.009	<2.3	U	<0.009	<2.3
26	Heptane	142-82-5		5.587	1250	E	0.2975	66.5		0.0181	4.0
27	4-Methyl-2-pentanone	108-10-1		0.0674	15.1		0.0057	1.3	J	0.0018	0.4
28	Pyridine	110-86-1		<0.0099	<28	U	<0.1	<28.3	U	<0.1	<28.3
29	2-Hexanone	591-78-6		0.9142	204		0.0372	8.3	J	0.055	12.3
30	Octane	111-65-9		0.9638	189		0.1289	25.3		0.0617	12.1
31	3-Heptanone	106-35-4		27.5179	5400	E	1.9748	387		<0.0044	<0.9
32	2-Heptanone	110-43-0		2.9948	587		0.3159	62.0		<0.0043	<0.9
33	Cyclohexanone	108-94-1		<0.0093	<2.1	U	<0.0094	<2.1	U	<0.0094	<2.1
34	Nonane	111-84-2		0.5043	88.1		0.0451	7.9	J	<0.0046	<0.8
35	2-Octanone	111-13-7		0.173	30.2		<0.0047	<0.8	U	<0.0047	<0.8
36	Decane	124-18-5		1.9154	302		0.2333	36.8		<0.0061	<1.0
37	Dichlorodifluoromethane	75-71-8		0.0842	15.6		0.1032	1.9	J	0.0066	1.2
38	Chloromethane	74-87-3		0.0247	11.0		<0.0021	<0.9	U	<0.0021	<0.9
39	1,2-dichloro-1,1,2,2-tetrafluoroethane	76-14-2		<0.0069	<0.9	U	<0.007	<0.9	U	<0.007	<0.9
40	Vinyl Chloride	75-01-4		<0.0025	<0.9	U	<0.0025	<0.9	U	<0.0025	<0.9
41	Chloroethane	75-00-3		<0.0026	<0.9	U	0.0086	3.0	J	<0.0027	<0.9
42	Trichlorofluoromethane	75-69-4		0.1206	19.7		0.0211	3.4	J	0.0149	2.4
43	1,1-Dichloroethene	75-35-4		<0.0039	<0.9	U	<0.004	<0.9	U	<0.004	<0.9

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Target Compounds		CAS	VP006-106-1314		VP006-114-1308		VP006-003-1378		VP006-134-1310 (blank)		
			(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag
44	Methylene Chloride	75-09-2	0.045	11.9		0.0413	10.9		0.0175	4.6	J
45	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0255	3.1	J	0.0079	1.0	J	0.0082	1.0	J
46	1,1-Dichloroethane	75-34-3	<0.004	<0.9	U	<0.004	<0.9	U	<0.004	<0.9	U
47	cis-1,2-Dichloroethene	156-59-2	<0.0039	<0.9	J	<0.004	<0.9	U	<0.004	<0.9	U
48	Chloroform	67-66-3	<0.0049	<0.9	U	0.0106	2.0	J	0.0035	0.7	J
49	1,2-Dichloroethane	107-06-2	<0.004	<0.9	U	<0.004	<0.9	U	<0.004	<0.9	U
50	1,1,1-Trichloroethane	71-55-6	<0.0054	<0.9	U	<0.0054	<0.9	U	<0.0054	<0.9	U
51	Benzene	71-43-2	0.1592	45.7		0.0114	3.3	BJ	0.007	2.0	J
52	Carbon Tetrachloride	56-23-5	<0.0062	<0.9	U	<0.0063	<0.9	U	<0.0063	<0.9	U
53	1,2-Dichloropropane	78-87-5	<0.0046	<0.9	U	<0.0046	<0.9	U	<0.0046	<0.9	U
54	Trichloroethene	79-01-6	0.0969	16.5		0.517	88.2		0.1761	30.0	
55	cis-1,3-Dichloropropene	10061-01-5	<0.0099	<2.0	U	<0.01	<2.0	U	<0.01	<2.0	U
56	trans-1,3-Dichloropropene	10061-02-6	<0.0099	<2.0	U	<0.01	<2.0	U	<0.01	<2.0	U
57	1,1,2-Trichloroethane	79-00-3	<0.0037	<0.6	U	<0.0037	<0.6	U	<0.0037	<0.6	U
58	Toluene	108-88-3	0.4438	108		0.0597	14.5		0.0315	7.7	J
59	1,2-Dibromoethane	106-93-4	<0.0076	<0.9	U	<0.0077	<0.9	U	<0.0077	<0.9	U
60	Tetrachloroethylene	127-18-4	<0.0076	<1.0	U	<0.0077	<1.0	U	<0.0077	<1.0	U
61	Chlorobenzene	108-90-7	<0.0046	<0.9	U	<0.0046	<0.9	U	<0.0046	<0.9	U
62	Ethylbenzene	100-41-4	0.0237	5.0	J	0.0032	0.7	J	0.0014	0.3	J
63	p/m-Xylene	106-42-3	0.053	11.2	J	0.0067	1.4	J	0.0046	1.0	J
64	Styrene	100-42-5	0.0163	3.5	J	0.0017	0.4	J	0.0012	0.3	J
65	1,1,2,2-Tetrachloroethane	79-34-5	<0.0068	<0.9	U	<0.0069	<0.9	U	<0.0069	<0.9	U
66	o-Xylene	95-47-6	0.0159	3.4	J	0.0021	0.5	J	<0.0043	<0.9	U
67	1,3,5-Trimethylbenzene	108-67-8	<0.0049	<0.9	U	<0.0049	<0.9	U	<0.0049	<0.9	U
68	1,2,4-Trimethylbenzene	95-63-6	0.0144	2.7	J	<0.0049	<0.9	U	<0.0049	<0.9	U
69	1,3-Dichlorobenzene	541-73-1	<0.0594	<9.1	U	<0.06	<9.1	U	<0.06	<9.1	U
70	1,4-Dichlorobenzene	106-46-7	<0.0059	<0.9	U	<0.006	<0.9	U	<0.006	<0.9	U
71	1,2-Dichlorobenzene	95-50-1	<0.0059	<0.9	U	<0.006	<0.9	U	<0.006	<0.9	U
72	1,2,4-Trichlorobenzene	120-82-1	<0.0074	<0.9	U	<0.0075	<0.9	U	<0.0075	<0.9	U
73	Hexachloro-1,3-butadiene	87-68-3	<0.0104	<0.9	U	<0.0105	<0.9	U	<0.0105	<0.9	U
Sum of Targets			67.1			14.0			27.6		1.3

Table 4.2. 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	MW	Ret Time	Gas Std	VP006-011-1378 (mg/m3)	Flag	VP006-019-1390 (mg/m3)	Flag	VP006-043-1316 (mg/m3)	Flag
1	1-Propene, 2-methyl-	115-11-7	56	10.7				0.8230	NJ	1.2590	NJ
2	1-Butene	106-98-9	56	11.4						0.1427	NJ
3	Methyl formate	107-31-3	60	11.5							
4	2-Butene, (Z)-	590-18-1	56	11.9							
5	1-Fluoro-1,1-dichloroethane		116	14.6							
6	1-Butene, 2-methyl-	563-46-2	70	14.9						0.0660	NJ
7	3-Buten-2-one	78-94-4	70	18.3							
8	2-Hexene	592-43-8	84	20.1							
9	2-Hexene, (Z)-	7688-21-3	84	20.6							
10	Cyclopentane, methyl-	96-37-7	84	21.5							
11	Butanenitrile, 2-methylene-	1647-11-6	81	23.6				0.1296	NJ	0.3359	NJ
12	1-Heptene	592-76-7	98	24.6				0.8607	NJ		
13	3-Heptene, (E)-	14686-14-7	98	25.0							
14	(Z)-3-Heptene		98	25.1							
15	3-Heptene	592-78-9	98	25.1						2.1716	NJ
16	2-Heptene	592-77-8	98	25.4				1.0724	NJ	2.6442	NJ
17	2-Heptene, (E)-	14686-13-6	98	26.0				0.6514	NJ		
18	Cyclopropane, butyl-	930-57-4	98	26.3				0.0899	NJ		
19	Pentanenitrile	110-59-8	83	27.4						0.1246	NJ
20	3,4-Heptadiene	2454-31-1	96	27.6						0.5144	NJ
21	Heptane, 4-methyl-	589-53-7	114	28.1							
22	Pentane, 3-ethyl-	617-78-7	100	28.1							
23	Pentane, 2,3,4-trimethyl-	565-75-3	114	28.2				0.1730	NJ	0.4955	NJ
24	2-Heptyne	1119-65-9	96	28.7						0.2359	NJ
25	4-Octene, (E)-	14850-23-8	112	28.9				0.4475	NJ	1.1273	NJ
26	Heptane, 3-methyl-	589-81-1	114	29.1							
27	Hexane, 2,2,5-trimethyl-	3522-94-9	128	29.7							
28	Heptane, 3-methylene-	1632-16-2	112	29.8				0.5364	NJ	1.3068	NJ
29	Unknown C8 Alkane		114	29.8							
30	1-Octene	111-66-0	112	29.9							
31	2-Octene, (E)-	13389-42-9	112	30.1							
32	2-Octene, (Z)-		112	30.2						0.0633	NJ
33	3-Heptene, 3-methyl-	7300-03-0	112	30.3				0.1233	NJ	0.3051	NJ
34	2-Octene	111-67-1	112	30.6						0.1218	NJ
35	2-Heptene, 3-Methyl-		112	30.8				0.1079	NJ	0.2586	NJ
36	trans-1-Butyl-2-methylcyclopropane	38851-70-6	112	31.0							
37	1-Butyl-2-Methylcyclopropane (isomer)		112	31.0							
38	Cyclotrisiloxane, hexamethyl-	541-05-9	222	31.1							
39	Unknown C8 Alkene/Cycloalkane		112	31.2				0.0919	NJ		
40	3-Hexanone, 5-methyl-	623-56-3	114	31.4						0.0574	NJ
41	Hexane, 2,3,5-trimethyl-	1069-53-0	128	31.5							
42	Hexanenitrile	628-73-9	97	32.8							
43	4-Heptanone	123-19-3	114	33.2				0.2504	NJ	0.7889	NJ

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	MW	Ret Time	Gas Std	VP006-011-1378		VP006-019-1390		VP006-043-1316	
						(mg/m ³)	(ppbv)	(mg/m ³)	(ppbv)	(mg/m ³)	(ppbv)
44	n-Butyl ether	142-96-1	130	34.1						0.2434	41.9
45	3-Heptanol	589-82-2	116	34.5						0.4496	86.8
46	1-Nonene	124-11-8	126	34.9						0.1090	19.4
47	1,3-Diethyl-1,4-epoxybutane (isomer)		128	36.7				0.2701	47.3	0.5941	104
48	Unknown		126	36.8				0.4510	80.2	0.3158	42.1
49	1,3-Diethyl-1,4-epoxybutane (isomer)		128	36.9							
50	1,3-Diethyl-1,4-epoxybutane (isomer)		128	36.9							
51	3-Octen-2-one	1669-44-9	126	37.2							
52	3-Octen-2-one, (E)-	18402-82-9	126	37.2				0.3488	62	0.8001	142
53	Unknown C9 Alkene/Cycloalkane		126	37.3							
54	Heptanenitrile	629-08-3	111	37.7						0.1524	30.8
55	4-Octanone	589-63-9	128	38.1						0.1491	26.1
56	Cyclotetrasiloxane, octamethyl-	556-67-2	296	39.4							
57	Unknown C11 Alkene/Cycloalkane		154	40.1							
58	Unknown C10 Alkene/Cycloalkane		140	40.1						0.0955	15.3
59	1-Hexanol, 2-ethyl-	104-76-7	130	40.7						1.1769	203
60	Nonane, 2,6-dimethyl-	17302-28-2	156	41.1				0.1239	17.8	0.2139	30.7
61	Decane, 3-methyl-	13151-34-3	156	41.9						0.0889	12.8
62	Cyclohexane, butyl-	1678-93-9	140	42.0						0.1584	25.4
63	Octanenitrile	124-12-9	125	42.4							
64	Naphthalene, decahydro-, trans-	493-02-7	138	43.6						0.1150	18.7
65	Undecane	1120-21-4	156	44.3		0.629219	90.3	1.2582	181	1.8803	270
66	2,6-Dimethyldecane	13150-81-7	170	45.1							
67	Decane, 3,6-dimethyl-	17312-53-7	170	45.1							
68	Unknown C11 Alkane		156	45.6							
69	Naphthalene, decahydro-2-methyl-	2958-76-1	152	46.0				0.1034	14.9		
70	Cyclohexane, pentyl-	4292-92-6	154	46.4				0.1693	25	0.3670	54.1
71	Heptane, 4-propyl-	3178-29-8	142	46.5				0.1297	18.9	0.2446	35.6
72	Heptane, 3-ethyl-2-methyl-	14676-29-0	142	46.6				0.0870	13.7		
73	Undecane, 2-methyl-	7045-71-8	170	46.9						0.1748	27.6
74	Undecane, 3-methyl-	1002-43-3	170	47.3						0.1934	25.5
75	5-Dodecene, (E)-	7206-16-8	168	47.8						0.1338	17.6
76	3-Dodecene, (Z)-	7239-23-8	168	47.9							
77	6-Dodecene, (E)-	7206-17-9	168	47.9							
78	Unknown C12 Alkene/Cycloalkane		168	48.1							
79	Dodecane	112-40-3	170	48.3		0.627499	82.7	2.4418	322	0.1197	16
80	Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	166	48.8						0.0897	12
81	Undecane, 2,6-dimethyl-	17301-23-4	184	49.0				0.5345	65.1	1.1367	138
82	Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	182	50.3							
83	Cyclododecane	294-62-2	168	50.4						0.1898	25.3
84	Unknown C12 Alkane		170	51.2						0.2651	34.9
85	Unknown C13 Alkene/Cycloalkane		182	51.7				0.0857	10.6	0.3528	43.4
86	Tridecane	629-50-5	184	52.1		0.5454	66.4	2.1016	256	8.3162	1010

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	MW	Ret Time	Gas Std	VP006-011-1378		VP006-019-1390		VP006-043-1316	
						(mg/m3)	Flag	(mg/m3)	Flag	(mg/m3)	Flag
87	Unknown C13 Alkane		184	54.9							
88	Unknown C15 Alkane		212	54.9						0.3478	36.7 NJ
89	Unknown C14 Alkane		198	55.0							
90	Tetradecane	629-59-4	198	55.6		0.1039	11.8 NJ	0.175763	19.9 NJ	2.3559	267 NJ
Sum of TICs						2.0		14.1		38.2	
Sum of Targets and TICs						3.7		20.0		54.9	

Table 4.2. 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	VP006-060-1398		VP006-060-1398 (Dup)		VP006-069-1347		VP006-076-1395		
			(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
1	1-Propene, 2-methyl-	115-11-7	0.6085	243	NJ	0.5606	224	NJ	1.0227	409	NJ
2	1-Butene	106-98-9	0.0772	30.9	NJ	0.0735	29.4	NJ	0.0731	29.2	NJ
3	Methyl formate	107-31-3									
4	2-Butene, (Z)-	590-18-1									
5	1-Fluoro-1,1-dichloroethane	563-46-2									
6	1-Butene, 2-methyl-	78-94-4									
7	3-Buten-2-one	592-43-8									
8	2-Hexene	7688-21-3									
9	2-Hexene, (Z)-	96-37-7									
10	Cyclopentane, methyl-	96-37-7									
11	Butanenitrile, 2-methylene-	1647-11-6	0.1312	36.3	NJ	0.0951	26.3	NJ	0.0878	24.3	NJ
12	1-Heptene	592-76-7	0.5766	132	NJ	0.5883	134	NJ	0.6062	139	NJ
13	3-Heptene, (E)-	14686-14-7				0.1268	29	NJ	0.385	88	NJ
14	(Z)-3-Heptene		3.9567	904	NJ	4.0311	921	NJ	3.7002	846	NJ
15	3-Heptene	592-78-9									
16	2-Heptene	592-77-8	4.8443	1110	NJ	4.9231	1130	NJ	4.4607	1020	NJ
17	2-Heptene, (E)-	14686-13-6					0.3044	69.6			
18	Cyclopropane, butyl-	930-57-4									
19	Pentanenitrile	110-59-8	0.2146	57.9	NJ	0.2022	54.6	NJ	0.1928	52	NJ
20	3,4-Heptadiene	2454-31-1	1.14	266	NJ	1.0506	245	NJ	1.0562	246	NJ
21	Heptane, 4-methyl-	589-53-7							0.104	20.4	NJ
22	Pentane, 3-ethyl-	617-78-7									
23	Pentane, 2,3,4-trimethyl-	565-75-3									
24	2-Heptyne	1119-65-9	0.9958	232	NJ	0.9101	212	NJ	1.0857	253	NJ
25	4-Octene, (E)-	14850-23-8	0.4135	82.7	NJ	0.3914	78.3	NJ	0.4373	87.5	NJ
26	Heptane, 3-methyl-	589-81-1	2.1376	420	NJ	1.9913	391	NJ	2.2154	435	NJ
27	Hexane, 2,2,5-trimethyl-	3522-94-9									
28	Heptane, 3-methylene-	1632-16-2	3.1796	636	NJ	2.9945	599	NJ	2.812	562	NJ
29	Unknown C8 Alkane										
30	1-Octene	111-66-0									
31	2-Octene, (E)-	13389-42-9	0.1598	32	NJ	0.1528	30.6	NJ	0.1584	31.7	NJ
32	2-Octene, (Z)-								0.3684	73.7	NJ
33	3-Heptene, 3-methyl-	7300-03-0	0.6673	133	NJ	0.6661	133	NJ	0.6424	128	NJ
34	2-Octene	111-67-1	0.2892	57.9	NJ	0.2957	59.1	NJ	0.1344	26.9	NJ
35	2-Heptene, 3-Methyl-		0.567	113	NJ	0.554	111	NJ	0.1482	29.7	NJ
36	trans-1-Butyl-2-methylcyclopropane	38851-70-6									
37	1-Butyl-2-Methylcyclopropane (isomer)					0.3327	66.6	NJ			
38	Cyclotrisiloxane, hexamethyl-	541-05-9									
39	Unknown C8 Alkene/Cycloalkane										
40	3-Hexanone, 5-methyl-	623-56-3							0.1257	24.7	NJ
41	Hexane, 2,3,5-trimethyl-	1069-53-0									
42	Hexanenitrile	628-73-9	0.1101	25.4	NJ	0.1118	25.8	NJ	0.1217	28.1	NJ
43	4-Heptanone	123-19-3	1.6404	322	NJ	1.4952	294	NJ	1.8567	365	NJ

Table 4.2. 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds	CAS	VP006-060-1398			VP006-060-1398 (Dup)			VP006-069-1347			VP006-076-1395		
		(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag
44 n-Butyl ether	142-96-1	0.4888	84.2	NJ							0.559115	108	NJ
45 3-Heptanol	589-82-2				0.677963	131	NJ						
46 1-Nonanol	124-11-8												
47 1,3-Diethyl-1,4-epoxybutane (isomer)		0.680973	119	NJ	1.001676	175	NJ	0.2466	43.2	NJ	0.9817	172	NJ
48 Unknown		0.179204	23.9	NJ	0.17691	23.6	NJ	0.1640	29.6	NJ	0.4285	57.1	NJ
49 1,3-Diethyl-1,4-epoxybutane (isomer)		0.966696	169	NJ									
50 1,3-Diethyl-1,4-epoxybutane (isomer)													
51 3-Octen-2-one	1669-44-9				1.1826	210	NJ	0.2272	40.4	NJ			
52 3-Octen-2-one, (E)-	18402-82-9	1.178259	209	NJ				0.1098	19.5	NJ			
53 Unknown C9 Alkene/Cycloalkane											0.2464	49.7	NJ
54 Heptanenitrile	629-08-3	0.247444	49.9	NJ	0.246584	49.7	NJ				0.2268	39.7	NJ
55 4-Octanone	589-63-9	0.234112	41	NJ	0.236405	41.4	NJ						
56 Cyclooctasiloxane, octamethyl-	556-67-2												
57 Unknown C11 Alkene/Cycloalkane		0.141499						0.0952	15.2	NJ	0.2846	45.5	NJ
58 Unknown C10 Alkene/Cycloalkane		1.7224	297	NJ	1.1612	200	NJ	0.4103	70.7	NJ	1.5882	274	NJ
59 1-Hexanol, 2-ethyl-	104-76-7	0.4375	62.8	NJ	0.3183	45.7	NJ						
60 Nonane, 2,6-dimethyl-	17302-28-2	0.4375	62.8	NJ	0.3183	45.7	NJ						
61 Decane, 3-methyl-	13151-34-3	0.1183	17	NJ	0.1147	16.5	NJ						
62 Cyclohexane, butyl-	1678-93-9	0.2019	32.3	NJ	0.2010	32.1	NJ				0.1895	30.3	NJ
63 Octanenitrile	124-12-9	0.1444	25.9	NJ	0.1368	24.5	NJ				0.1563	28	NJ
64 Naphthalene, decahydro-, trans-	493-02-7	0.1404	22.8	NJ	0.1452	23.6	NJ				0.1293	21	NJ
65 Undecane	1120-21-4	2.3708	340	NJ	2.4479	351	NJ	0.5562	79.9	NJ	2.2357	321	NJ
66 2,6-Dimethyldecane	13150-81-7												
67 Decane, 3,6-dimethyl-	17312-53-7	0.1287	17	NJ	0.1318	17.4	NJ						
68 Unknown C11 Alkene		0.2417	34.7	NJ							0.2176	31.2	NJ
69 Naphthalene, decahydro-2-methyl-	2958-76-1	0.4701	69.3	NJ	0.4876	71.8	NJ	0.0902	13.3	NJ	0.4066	59.9	NJ
70 Cyclohexane, pentyl-	4292-92-6	0.2993	43.5	NJ	0.3056	44.5	NJ				0.2665	38.8	NJ
71 Heptane, 4-propyl-	3178-29-8										0.1631	25.7	NJ
72 Heptane, 3-ethyl-2-methyl-	14676-29-0	0.2146	33.8	NJ	0.2255	35.6	NJ						
73 Undecane, 2-methyl-	7045-71-8	0.2496	32.9	NJ	0.2549	33.6	NJ				0.2136	28.2	NJ
74 Undecane, 3-methyl-	1002-43-3	0.1765	23.3	NJ	0.1623	21.4	NJ						
75 5-Dodecene, (E)-	7206-16-8	0.2133	28.4	NJ									
76 3-Dodecene, (Z)-	7239-23-8												
77 6-Dodecene, (E)-	7206-17-9				0.1825	24.3	NJ				0.1891	25.2	NJ
78 Unknown C12 Alkene/Cycloalkane					0.2545	33.9	NJ						
79 Dodecane	112-40-3	6.0716	800	NJ	6.3070	831	NJ	1.8664	246	NJ	5.5573	732	NJ
80 Naphthalene, decahydro-2,6-dimethyl-	1618-22-0												
81 Undecane, 2,6-dimethyl-	17301-23-4	1.3796	168	NJ	1.4303	174	NJ	0.3779	46	NJ	1.1891	145	NJ
82 Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0										0.4605	56.7	NJ
83 Cyclooctadecane	294-62-2	0.5142	68.6	NJ	0.5256	70.1	NJ	0.1490	19.9	NJ			
84 Unknown C12 Alkene					0.0885	11.7	NJ	0.3915	51.6	NJ			
85 Unknown C13 Alkene/Cycloalkane					0.4788	58.9	NJ	0.1755	21.6	NJ	0.4417	54.4	NJ
86 Tridecane	629-50-5	9.5186	1160	NJ	10.1280	1230	NJ	5.2218	636	NJ	9.2749	1130	NJ

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds	CAS	VP006-060-1398			VP006-060-1398 (Dup)			VP006-069-1347			VP006-076-1395		
		(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
87 Unknown C13 Alkane								0.1316	16	NJ			
88 Unknown C15 Alkane													
89 Unknown C14 Alkane		1.0031	113	NJ	1.0262	116	NJ				0.8471		NJ
90 Tetradecane	629-59-4	1.6791	190	NJ	1.6115	182	NJ	0.7805	88.3	NJ	2.6253	297	NJ
Sum of TICs		53.1			53.6			14.2			50.7		
Sum of Targets and TICs		81.7			82.5			178.8			88.6		

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	VP006-084-1394			VP006-084-1394 (Dup)			VP006-091-1330			VP006-099-1115		
			(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag
1	1-Propene, 2-methyl-	115-11-7	1.1270	451	NJ	1.1139	446	NJ				1.1800	472	NJ
2	1-Butene	106-98-9	0.0686	27.4	NJ	0.0759	30.4	NJ				0.0675	27	NJ
3	Methyl formate	107-31-3												
4	2-Butene, (Z)-	590-18-1	0.1503	60.1	NJ									
5	1-Fluoro-1,1-dichloroethane	563-46-2	0.0759	24.3	NJ	0.0784	25.1	NJ				0.0614	19.7	NJ
6	1-Butene, 2-methyl-	78-94-4												
7	3-Butene-2-one	592-43-8	0.0661	17.6	NJ									
8	2-Hexene	7688-21-3	0.0701	18.7	NJ									
9	2-Hexene, (Z)-	96-37-7												
10	Cyclopentane, methyl-	1647-11-6				0.1170	32.4	NJ				0.0810	22.4	NJ
11	Butanenitrile, 2-methylene-	592-76-7	0.5743	131	NJ	0.5507	126	NJ				0.4749	109	NJ
12	1-Heptene	14686-14-7												
13	3-Heptene, (E)-	3.7072	847		NJ	3.6002	823	NJ	0.2079	47.5	NJ	3.1949	730	NJ
14	(Z)-3-Heptene	592-78-9	0.1122	25.6	NJ									
15	3-Heptene	592-77-8	4.4122	1010	NJ	4.4159	1010	NJ	0.255	58.3	NJ	3.8145	872	NJ
16	2-Heptene	14686-13-6							0.1685	38.5	NJ			
17	2-Heptene, (E)-	930-57-4												
18	Cyclopropane, butyl-	110-59-8	0.2235	60.3	NJ	0.2065	55.7	NJ				0.1912	51.6	NJ
19	Pentanenitrile	2454-31-1	0.9899	231	NJ	0.9633	225	NJ				0.8323	194	NJ
20	3,4-Heptadiene	589-53-7												
21	Heptane, 4-methyl-	617-78-7												
22	Pentane, 3-ethyl-	565-75-3							0.1333	26.2	NJ			
23	Pentane, 2,3,4-trimethyl-	1119-65-9	0.903	211	NJ	0.9694	226	NJ	0.0524	12.2	NJ	0.7967	186	NJ
24	2-Heptyne	14850-23-8	0.363	72.6	NJ	0.4175	83.5	NJ				0.3223	64.5	NJ
25	4-Octene, (E)-	589-81-1	1.8231	358	NJ	2.0302	399	NJ	0.1809	35.5	NJ	1.6788	330	NJ
26	Heptane, 3-methyl-	3529-94-9												
27	Hexane, 2,2,5-trimethyl-	1632-16-2	2.2025	440	NJ	2.315	463	NJ				2.1201	424	NJ
28	Heptane, 3-methyl-ene-								0.4584	90.1	NJ			
29	Unknown C8 Alkane								0.5246	105	NJ			
30	1-Octene	111-66-0												
31	2-Octene, (E)-	13389-42-9	0.1103	22.1	NJ	0.1119	22.4	NJ				0.1173	23.5	NJ
32	2-Octene, (Z)-													
33	3-Heptene, 3-methyl-	7300-03-0	0.497	99.4	NJ	0.5658	113	NJ	0.1687	33.7	NJ	0.4738	94.8	NJ
34	2-Octene	111-67-1	0.1901	38	NJ	0.2172	43.4	NJ	0.1026	20.5	NJ	0.212	42.4	NJ
35	2-Heptene, 3-Methyl-	0.4188	83.8		NJ	0.4735	94.7	NJ	0.1655	33.1	NJ	0.3885	77.7	NJ
36	trans-1-Butyl-2-methylcyclopropane	38851-70-6	0.2513	50.3	NJ									
37	1-Butyl-2-Methylcyclopropane (isomer)					0.2848	57	NJ						
38	Cyclotrisiloxane, hexamethyl-	541-05-9												
39	Unknown C8 Alkene/Cycloalkane								0.1635	32.7	NJ			
40	3-Hexanone, 5-methyl-	623-56-3	0.0885	17.4	NJ	0.0876	17.2	NJ				0.0824	16.2	NJ
41	Hexane, 2,3,5-trimethyl-	1069-53-0							0.0922	16.1	NJ			
42	Hexanenitrile	628-73-9	0.1181	27.3	NJ	0.1243	28.7	NJ				0.1003	23.2	NJ
43	4-Heptanone	123-19-3	1.7073	335	NJ	1.7742	349	NJ	0.1754	34.5	NJ	1.7559	345	NJ

Table 4.2. 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds	CAS	VP006-084-1394				VP006-084-1394 (Dup)				VP006-091-1330				VP006-099-1115			
		(mg/m ³)	(ppbv)	Flag		(mg/m ³)	(ppbv)	Flag		(mg/m ³)	(ppbv)	Flag		(mg/m ³)	(ppbv)	Flag	
44 n-Butyl ether	142-96-1	0.4700	81	NJ										0.4467	77	NJ	
45 3-Heptanol	589-82-2	0.5799	112	NJ		0.5355	103	NJ									
46 1-Nonene	124-11-8	0.1262	22.4	NJ													
47 1,3-Diethyl-1,4-epoxybutane (isomer)		0.9276	162	NJ		0.6866	120	NJ		0.1558	27.3	NJ		1.0111	229	NJ	
48 Unknown		0.1561	20.8	NJ		0.3951	52.7	NJ		0.1111	22.6	NJ		0.4102	54.7	NJ	
49 1,3-Diethyl-1,4-epoxybutane (isomer)																	
50 1,3-Diethyl-1,4-epoxybutane (isomer)						0.9119	160	NJ									
51 3-Octen-2-one	1669-44-9					1.0246	182	NJ									
52 3-Octen-2-one, (E)-	18402-82-9	1.0655	189	NJ										1.1148	198	NJ	
53 Unknown C9 Alkene/Cycloalkane																	
54 Heptanenitrile	629-08-3	0.2456	49.6	NJ		0.2285	46.1	NJ						0.2433	49.1	NJ	
55 4-Octanone	589-63-9	0.2172	38	NJ		0.2047	35.8	NJ						0.2017	35.3	NJ	
56 Cyclooctasiloxane, octamethyl-	536-67-2									0.1051	7.9	NJ					
57 Unknown C11 Alkene/Cycloalkane		0.3565	51.9	NJ		0.1951	28.4	NJ						0.1052	16.8	NJ	
58 Unknown C10 Alkene/Cycloalkane		0.1101		NJ		0.1154	18.5	NJ						2.0293	350	NJ	
59 1-Hexanol, 2-ethyl-	104-76-7	1.9297	332	NJ		1.6563	282	NJ		0.1818	31.3	NJ		0.2431	34.9	NJ	
60 Nonane, 2,6-dimethyl-	17302-28-2					0.2334	33.5	NJ						0.0879	12.6	NJ	
61 Decane, 3-methyl-	13151-34-3	0.0930	13.4	NJ										0.1644	26.3	NJ	
62 Cyclohexane, butyl-	1678-93-9	0.1706	27.3	NJ		0.1697	27.2	NJ						0.1537	27.6	NJ	
63 Octanenitrile	124-12-9	0.1646	29.5	NJ		0.1395	25	NJ						0.1037	16.8	NJ	
64 Naphthalene, decahydro-, trans-	493-02-7	0.1078	17.5	NJ		0.1131	18.4	NJ						0.1037	16.8	NJ	
65 Undecane	1120-21-4	2.0758	298	NJ		2.0554	295	NJ		0.4413	63.4	NJ		2.2527	323	NJ	
66 2,6-Dimethyldecane	13150-81-7					0.1092	14.4	NJ									
67 Decane, 3,6-dimethyl-	17312-53-7	0.1976	28.4	NJ										0.1085	14.3	NJ	
68 Unknown C11 Alkene		0.1976	28.4	NJ										0.2037	29.2	NJ	
69 Naphthalene, decahydro-2-methyl-	2958-76-1	0.3846	56.7	NJ		0.3587	52.9	NJ						0.3749	55.3	NJ	
70 Cyclohexane, pentyl-	4292-92-6	0.2429	35.3	NJ		0.2388	34.8	NJ						0.2427	35.3	NJ	
71 Heptane, 4-propyl-	3178-29-8					0.1353	21.3	NJ									
72 Heptane, 3-ethyl-2-methyl-	14676-29-0	0.1591	25.1	NJ										0.1620	25.5	NJ	
73 Undecane, 2-methyl-	7045-71-8	0.1968	25.9	NJ		0.1940	25.6	NJ						0.2000	26.4	NJ	
74 Undecane, 3-methyl-	1002-43-3	0.1494	19.7	NJ		0.1633	21.5	NJ						0.1356	17.9	NJ	
75 5-Dodecene, (E)-	7206-16-8																
76 3-Dodecene, (Z)-	7239-23-8																
77 6-Dodecene, (E)-	7206-17-9	0.1855	24.7	NJ		0.1759	23.5	NJ						0.1659	22.1	NJ	
78 Unknown C12 Alkene/Cycloalkane																	
79 Dodecane	112-40-3	5.3676	707	NJ		5.3404	704	NJ		2.0098	265	NJ		5.5180	727	NJ	
80 Naphthalene, decahydro-2,6-dimethyl-	1618-22-0																
81 Undecane, 2,6-dimethyl-	17301-23-4	1.1225	137	NJ		1.1016	134	NJ		0.3409	41.5	NJ		1.0550	128	NJ	
82 Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0					0.4321	53.2	NJ						0.1468	19.6	NJ	
83 Cyclohexane	294-62-2	0.4327	60.4	NJ										0.4043	53.3	NJ	
84 Unknown C12 Alkene		0.8577		NJ										0.8629	114	NJ	
85 Unknown C13 Alkene/Cycloalkane		0.1164	14.3	NJ		0.4374	53.8	NJ		0.1944	23.9	NJ		0.4622	56.9	NJ	
86 Tridecane	629-50-5	9.4635	1150	NJ		9.5868	1170	NJ		6.2754	764	NJ		10.1422	1230	NJ	

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds	CAS	VP006-084-1394			VP006-084-1394 (Dup)			VP006-091-1330			VP006-099-1115		
		(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag
87 Unknown C13 Alkane													
88 Unknown C15 Alkane													
89 Unknown C14 Alkane													
90 Tetradecane	629-59-4	2.8982	328	NJ	0.8316	94.1	NJ	0.1875	21.2	NJ	2.2657	256	NJ
Sum of TICs		51.0			51.0			15.0			48.8		
Sum of Targets and TICs		80.5			78.9			27.6			74.7		

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	VP006-106-1314			VP006-114-1308			VP006-003-1378			VP006-134-1310 (blank)		
			(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag
1	1-Propene, 2-methyl-	115-11-7	1.1694	468	NJ	0.2499	100	NJ						
2	1-Butene	106-98-9	0.1508	60.3	NJ									
3	Methyl formate	107-31-3												
4	2-Butene, (Z)-	590-18-1												
5	1-Fluoro-1,1-dichloroethane													
6	1-Butene, 2-methyl-	563-46-2	0.0787	25.1	NJ									
7	3-Buten-2-one	78-94-4												
8	2-Hexene	592-43-8												
9	2-Hexene, (Z)-	7688-21-3												
10	Cyclopentane, methyl-	96-37-7				0.0608	16.2	NJ						
11	Butanenitrile, 2-methylene-	1647-11-6	0.2999	83	NJ									
12	1-Heptene	592-76-7	1.1981	274	NJ	0.0699	16	NJ						
13	3-Heptene, (E)-	14686-14-7	0.2601	59.5	NJ									
14	(Z)-3-Heptene		7.6458	1750	NJ	0.4033	92.2	NJ						
15	3-Heptene	592-78-9												
16	2-Heptene	592-77-8	9.1824	2100	NJ	0.5029	115	NJ						
17	2-Heptene, (E)-	14686-13-6												
18	Cyclopropane, butyl-	930-57-4												
19	Pentanenitrile	110-59-8	0.5322	144	NJ									
20	3,4-Heptadiene	2454-31-1	2.0475	478	NJ	0.0978	22.8	NJ						
21	Heptane, 4-methyl-	589-53-7												
22	Pentane, 3-ethyl-	617-78-7				0.1242	27.8	NJ						
23	Pentane, 2,3,4-trimethyl-	565-75-3							0.1086	21.3	NJ			
24	2-Heptyne	1119-65-9	1.8507	432	NJ	0.1275	29.8	NJ						
25	4-Octene, (E)-	14850-23-8	0.7396	148	NJ									
26	Heptane, 3-methyl-	589-81-1	3.7223	731	NJ	0.3023	59.4	NJ						
27	Hexane, 2,2,5-trimethyl-	3522-94-9							0.2739	47.9	NJ			
28	Heptane, 3-methylene-	1632-16-2	4.6775	936	NJ	0.9996	200	NJ						
29	Unknown C8 Alkane													
30	1-Octene	111-66-0							0.3374	67.5	NJ			
31	2-Octene, (E)-	13389-42-9	0.2508	50.2	NJ									
32	2-Octene, (Z)-													
33	3-Heptene, 3-methyl-	7300-03-0	1.1800	236	NJ	0.1788	35.8	NJ	0.0781	15.6	NJ			
34	2-Octene	111-67-1	0.4056	81.1	NJ									
35	2-Heptene, 3-Methyl-		1.0806	216	NJ	0.1625	32.5	NJ	0.085	17	NJ			
36	trans-1-Butyl-2-methylcyclopropane	38851-70-6												
37	1-Butyl-2-Methylcyclopropane (isomer)													
38	Cyclotrisiloxane, hexamethyl-	541-05-9												
39	Unknown C8 Alkane/Cycloalkane													
40	3-Hexanone, 5-methyl-	623-56-3	0.2256	44.3	NJ									
41	Hexane, 2,3,5-trimethyl-	1069-53-0												
42	Hexanenitrile	628-73-9	0.3387	78.2	NJ				0.0739	12.9	NJ			
43	4-Heptanone	123-19-3	3.7077	729	NJ	0.2825	55.5	NJ						

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds	CAS	VP006-106-1314		VP006-114-1308		VP006-003-1378		VP006-134-1310 (blank)	
		(mg/m3)	(ppbv)	(mg/m3)	(ppbv)	(mg/m3)	(ppbv)	(mg/m3)	(ppbv)
44 n-Butyl ether	142-96-1	0.8929	154	NJ					
45 3-Heptanol	589-82-2				60.2				
46 1-Nonene	124-11-8								
47 1,3-Diethyl-1,4-epoxybutane (isomer)		1.3912	243			0.3554	62.2		
48 Unknown		0.5750	76.7	NJ		0.1980	35.8		
49 1,3-Diethyl-1,4-epoxybutane (isomer)									
50 1,3-Diethyl-1,4-epoxybutane (isomer)									
51 3-Octen-2-one	1669-44-9								
52 3-Octen-2-one, (E)-	18402-82-9	1.5318	272	NJ		0.2619	46.6		
53 Unknown C9 Alkene/Cycloalkane									
54 Heptanenitrile									
55 4-Octanone	629-08-3	0.3393	68.5	NJ					
56 Cyclooctasiloxane, octamethyl-	589-63-9	0.2787	48.8	NJ					
57 Unknown C11 Alkene/Cycloalkane	556-67-2								
58 Unknown C10 Alkene/Cycloalkane									
59 1-Hexanol, 2-ethyl-	104-76-7	2.4138	416	NJ		0.1111	17.8		
60 Nonane, 2,6-dimethyl-	17302-28-2					0.5356	92.3		
61 Decane, 3-methyl-	13151-34-3	0.1246	17.9	NJ					
62 Cyclohexane, butyl-	1678-93-9	0.2795	36.7	NJ					
63 Octanenitrile	124-12-9	0.2133	38.2	NJ					
64 Naphthalene, decahydro-, trans-	493-02-7	0.1593	25.9	NJ					
65 Undecane	1120-21-4	3.2129	461	NJ		0.6986	100		
66 2,6-Dimethyldecane	13150-81-7								
67 Decane, 3,6-dimethyl-	17312-53-7	0.1611	21.2	NJ					
68 Unknown C11 Alkene		0.2827	40.6	NJ					
69 Naphthalene, decahydro-2-methyl-	2958-76-1	0.5722	84.3	NJ					
70 Cyclohexane, pentyl-	4292-92-6	0.3416	49.7	NJ					
71 Heptane, 4-propyl-	3178-29-8								
72 Heptane, 3-ethyl-2-methyl-	14676-29-0	0.2619	41.3	NJ					
73 Undecane, 2-methyl-	7045-71-8	0.2965	39.1	NJ					
74 Undecane, 3-methyl-	1002-43-3	0.1922	25.3	NJ					
75 5-Dodecene, (E)-	7206-16-8								
76 3-Dodecene, (Z)-	7239-23-8								
77 6-Dodecene, (E)-	7206-17-9	0.2327	31	NJ					
78 Unknown C12 Alkene/Cycloalkane									
79 Dodecane	112-40-3	8.1040	1070	NJ		1.8653	246		
80 Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	0.1755	23.7	NJ					
81 Undecane, 2,6-dimethyl-	17301-23-4	1.3241	161	NJ		0.2578	31.4		
82 Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0								
83 Cyclododecane	294-62-2	0.6107	81.4	NJ					
84 Unknown C12 Alkene		1.2313	162	NJ		0.2172	28.6		
85 Unknown C13 Alkene/Cycloalkane		0.6375	78.5	NJ					
86 Tridecane	629-30-5	15.5183	1890	NJ		4.6769	569		

Table 4.2 296-C-006 TST Organic Vapor Concentrations

Tentatively Identified Compounds	CAS	VP006-106-1314			VP006-114-1308			VP006-403-1378			VP006-134-1310 (blank)		
		(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
87 Unknown C13 Alkane													
88 Unknown C15 Alkane													
89 Unknown C14 Alkane													
90 Tetradecane	629-59-4	4.8015	543	NJ	1.2635	143	NJ						
Sum of TICs		87.0			14.4			1.0			0.1		
Sum of Targets and TICs		154.1			28.4			28.5			1.4		

Table 4.3 296-C-006 SUMMA™ Canister Permanent Gas Concentrations

	CAS	VP006-001-C248		VP006-009-C143		VP006-017-C235		VP006-024-C277		VP006-032-C227	
		Concentration	Flag	Concentration	Flag	Concentration	Flag	Concentration	Flag	Concentration	Flag
Nitrogen (mole percent)	7727-37-9	77.6		77.6		77.6		77.4		77.6	
Oxygen (mole percent)	7782-44-7	21.4		21.4		21.4		21.4		21.4	
Argon (ppmv)	7440-37-1	9600		9600		9600		9600		9600	
Carbon dioxide (ppmv)	124-38-9	440		360		300		420		280	
Hydrogen (ppmv)	1333-74-0	<10	U	12		22		<10	U	32	
Carbon monoxide (ppmv)	630-08-0	<200	U	<100	U	<200	U	<200	U	<200	U
Carbon monoxide (ppmv)	1333-74-0	<100	U	<100	U	<100	U	<100	U	<100	U
Helium (ppmv)	7440-59-7	<20	U	<20	U	<20	U	<20	U	<20	U
Methane (ppmv)	74-82-8	<20	U	<20	U	80		<20	U	120	
Nitrous oxide (ppmv)	10024-97-2	<20	U	<20	U	<20	U	<20	U	<20	U
C2Hx (ppmv)		<20	U	<20	U	<20	U	<20	U	<20	U

	CAS	VP006-040-C135		VP006-049-C223		VP006-057-C303		VP006-066-C226		VP006-127-C295	
		Concentration	Flag	Concentration	Flag	Concentration	Flag	Concentration	Flag	Concentration	Flag
Nitrogen (mole percent)	7727-37-9	77.6		77.4		77.8		77.8		78.2	
Oxygen (mole percent)	7782-44-7	21.4		21.6		21.2		21.2		20.8	
Argon (ppmv)	7440-37-1	9600		9600		9600		9600		9400	
Carbon dioxide (ppmv)	124-38-9	300		240		240		240		220	
Hydrogen (ppmv)	1333-74-0	<10	U	30		28		28		32	
Carbon monoxide (ppmv)	630-08-0	<200	U	<200	U	<200	U	<200	U	<200	U
Carbon monoxide (ppmv)	1333-74-0	<100	U	<100	U	<100	U	<100	U	<100	U
Helium (ppmv)	7440-59-7	<20	U	<20	U	<20	U	<20	U	<20	U
Methane (ppmv)	74-82-8	<20	U	<20	U	<20	U	<20	U	<20	U
Nitrous oxide (ppmv)	10024-97-2	80		100		100		100		80	
C2Hx (ppmv)		<20	U	<20	U	<20	U	<20	U	<20	U

Table 4.4 241-AY-102 SUMMA™ Canister Permanent Gas Concentrations

	CAS	VP102-002-C030		VP102-006-C042		VP102-010-C134		VP102-014-C298	
		Concentration	Flag	Concentration	Flag	Concentration	Flag	Concentration	Flag
Nitrogen (mole percent)	7727-37-9	78.2		77.6		77.8		77.8	
Oxygen (mole percent)	7782-44-7	20.8		21.4		21.2		21.2	
Argon (ppmv)	7440-37-1	9600		9600		9600		9600	
Carbon dioxide (ppmv)	124-38-9	200		160		160		200	
Hydrogen (ppmv)	1333-74-0	56		78		72		68	
Carbon monoxide (ppmv)	630-08-0	<200	U	<200	U	<200	U	<200	U
Helium (ppmv)	7440-59-7	<100	U	<100	U	<100	U	<100	U
Methane (ppmv)	74-82-8	<20	U	<20	U	<20	U	<20	U
Nitrous oxide (ppmv)	10024-97-2	<20	U	<20	U	<20	U	<20	U
C2Hx (ppmv)		<20	U	<20	U	<20	U	<20	U

Table 4.5 241-AZ-702 SUMMA™ Canister Permanent Gas Concentrations

	CAS	VP702-002-C428		VP702-004-C429		VP702-007-C301		VP702-010-C160		VP702-013-C020	
		Concentration	Flag	Concentration	Flag	Concentration	Flag	Concentration	Flag	Concentration	Flag
Nitrogen (mole percent)	7727-37-9	78		78		77.6		78		78	
Oxygen (mole percent)	7782-44-7	21		21		21.4		21		21	
Argon (ppmv)	7440-37-1	9600		9600		9600		9400		9400	
Carbon dioxide (ppmv)	124-38-9	280		740		360		420		400	
Hydrogen (ppmv)	1333-74-0	52		<10	U	44		38		28	
Carbon monoxide (ppmv)	630-08-0	<200	U	<200	U	<200	U	<200	U	<200	U
Helium (ppmv)	7440-59-7	<100	U	<100	U	<100	U	<100	U	<100	U
Methane (ppmv)	74-82-8	<20	U	<20	U	<20	U	<20	U	<20	U
Nitrous oxide (ppmv)	10024-97-2	<20	U	<20	U	<20	U	<20	U	<20	U
C2Hx (ppmv)		<20	U	<20	U	<20	U	<20	U	<20	U

Table 4.6 296-C-006 SUN/MA™ Canister Organic Vapor Concentrations

Target Compounds			CAS	MW	Ret Time	Gas Std	VP006-001-C248		VP006-009-C143	
							(mg/m ³)	(ppbv)	(mg/m ³)	(ppbv)
1	Propene		115-07-1	42.1	4.5	SAS	0.0016	0.9	J	0.0605
2	Propane		74-98-6	44.1	4.5	SAS	0.0036	1.9	J	0.0593
3	Dichlorodifluoromethane		75-71-8	120.9	4.6	TO-14	0.0031	0.6	J	0.0041
4	Chloromethane		74-87-3	50.5	5.0	TO-14	0.0008	0.4	J	0.0026
5	1,1,2-dichloro-1,1,2,2-tetrafluoroethane		74-14-2	170.9	5.2	TO-14	<0.0005	<0.9	J	<0.0065
6	Methanol		67-56-1	32.0	5.4	PNNL	<0.0063	<4.4	U	0.1351
7	Vinyl Chloride		75-01-4	62.5	5.5	TO-14	<0.0008	<0.3	U	<0.0008
8	Butane		106-97-8	58.1	5.9	SAS	0.0019	0.7	J	0.058
9	Bromomethane		74-83-9	94.9	6.4	TO-14	<0.0026	<0.6	U	<0.0026
10	Chloroethane		75-00-3	64.5	6.8	TO-14	<0.0027	<0.9	U	<0.0027
11	Ethanol		64-17-5	46.1	7.0	SAS	0.0032	1.5	J	0.235
12	Acetonitrile		75-05-8	41.1	7.4	PNNL	<0.002	<1.1	U	<0.002
13	Acetone		67-64-1	58.1	7.9	SAS	0.0212	8.2	B	0.1623
14	Trichlorofluoromethane		75-69-4	137.4	8.3	TO-14	0.0016	0.3	J	0.0288
15	Isopropyl Alcohol		67-63-0	60.1	8.4	SAS	0.0021	0.8	J	0.0034
16	Furan		110-00-9	68.1	8.6	SAS	<0.0036	<1.2	U	<0.0036
17	Pentane		109-66-0	72.0	9.0	SAS	0.0009	0.3	J	0.0321
18	1,1-Dichloroethane		75-35-4	96.9	9.5	TO-14	<0.0019	<0.4	U	<0.0019
19	Methylene Chloride		75-09-2	84.9	9.7	TO-14	<0.001	<0.3	U	0.0047
20	1,1,2-trichloro-1,2,2-trifluoroethane		76-13-1	187.4	10.2	TO-14	<0.002	<0.2	U	0.0035
21	Propanenitrile		107-12-0	55.1	10.9	SAS	<0.0019	<0.8	J	0.0118
22	Propanol		71-23-8	60.1	11.0	SAS	0.0014	0.5	J	0.026
23	1,1-Dichloroethane		75-34-3	99.0	11.8	TO-14	<0.001	<0.2	U	<0.001
24	2-Methylpentane		107-83-5	86.2	12.1	SAS	0.0289	7.5	J	0.002
25	Butanal		123-72-8	72.1	12.3	SAS	0.0015	0.5	J	0.033
26	2-Butanone		78-93-3	72.1	12.5	SAS	0.0655	20.3	J	0.0358
27	1-Hexene		592-41-6	84.2	13.1	SAS	<0.0023	<0.6	U	0.0093
28	cis-1,2-Dichloroethene		156-59-2	96.9	13.4	TO-14	<0.0017	<0.4	U	<0.0017
29	Hexane		110-54-3	86.2	13.7	SAS	<0.0016	<0.4	U	0.0236
30	Chloroform		67-66-3	119.4	13.9	TO-14	<0.0013	<0.2	U	<0.0013
31	Tetrahydrofuran		109-99-9	72.1	14.6	SAS	<0.0008	<0.3	U	0.0099
32	1,2-Dichloroethane		107-06-2	99.0	15.3	TO-14	<0.0011	<0.3	U	<0.0011
33	Butanenitrile		109-74-0	69.1	15.8	SAS	<0.0017	<0.6	U	0.0175
34	1,1,1-Trichloroethane		71-55-6	133.4	15.8	TO-14	<0.0016	<0.3	U	<0.0016
35	1-Butanol		71-36-3	74.1	16.3	SAS	0.0057	1.7	J	0.1682
36	Benzene		71-43-2	78.1	16.7	TO-14	0.0008	0.2	J	0.0017
37	Carbon Tetrachloride		56-23-5	153.8	17.0	TO-14	<0.0017	<0.3	U	<0.0017
38	Cyclohexane		110-82-7	84.2	17.3	PNNL	<0.0018	<0.5	U	<0.0018
39	2-Pentanone		107-87-9	86.1	17.3	SAS	<0.0044	<1.1	U	0.0085
40	3-Methylhexane		589-34-4	100.2	17.9	SAS	<0.0027	<0.6	J	0.0077
41	1,2-Dichloropropane		78-87-5	113.0	18.3	TO-14	<0.0015	<0.3	U	<0.0015
42	1,4-Dioxane		123-91-1	88.1	18.6	SAS	<0.0047	<1.2	U	<0.0047
43	Trichloroethene		79-01-6	131.4	18.7	TO-14	<0.0012	<0.2	U	<0.0012

Table 4.6 296-C-006 SUNMA™ Canister Organic Vapor Concentrations

Target Compounds		CAS	MW	Ref Time	Gas Std	VP006-001-C248		VP006-009-C143	
						(mg/m3)	(ppbv)	(mg/m3)	(ppbv)
						Flag	Flag		Flag
44	Heptane	142-82-5	100.2	19.2	SAS	<0.0009	<0.2	<0.0039	5.8
45	cis-1,3-Dichloropropene	10061-01-5	111.0	20.4	TO-14	<0.0012	<0.2	<0.0012	<0.2
46	4-Methyl-2-Pentanone	108-10-1	100.2	20.4	SAS	0.0013	0.3	0.001	0.2
47	Pyridine	110-86-1	79.1	20.6	PNNL	0.0187	5.3	0.0093	<2.6
48	trans-1,3-Dichloropropene	10061-02-6	111.0	21.5	TO-14	<0.0009	<0.2	<0.0009	<0.2
49	Pentanenitrile	110-59-8	83.1	21.5	PNNL	<0.0021	<0.6	0.0104	2.8
50	1,1,2-Trichloroethane	79-00-5	133.4	21.9	TO-14	<0.0014	<0.2	<0.0014	<0.2
51	Toluene	108-88-3	92.1	22.5	TO-14	0.0025	0.6	0.0153	3.7
52	2-Hexanone	591-78-6	100.2	22.9	SAS	<0.0049	<1.1	<0.0142	3.2
53	1,2-Dibromoethane	106-93-4	187.9	24.1	TO-14	<0.0026	<0.3	<0.0026	<0.3
54	Octane	111-65-9	114.2	24.6	SAS	<0.0012	<0.2	0.0142	2.8
55	Tetrachloroethylene	127-18-4	165.8	25.1	TO-14	<0.0021	<0.3	0.0024	0.3
56	Chlorobenzene	108-90-7	112.6	26.7	TO-14	<0.0013	<0.3	<0.0013	<0.3
57	Hexanenitrile	628-73-9	97.1	27.0	PNNL	<0.0026	<0.6	0.0033	0.8
58	Ethylbenzene	100-41-4	106.2	27.6	TO-14	<0.0014	<0.3	<0.0014	<0.3
59	p/m-Xylene	106-42-3	106.2	28.0	TO-14	<0.0065	<1.4	<0.0065	<1.4
60	3-Heptanone	106-35-4	114.2	28.1	SAS	0.0024	0.5	0.2943	57.7
61	2-Heptanone	110-43-0	114.2	28.2	SAS	<0.0056	<1.1	0.039	7.7
62	Bromoform	75-25-2	175.0	28.3	TO-14	<0.0059	<0.8	<0.0059	<0.8
63	Cyclohexanone	108-94-1	98.1	28.4	SAS	<0.0029	<0.7	0.0158	3.6
64	Styrene	100-42-5	104.2	28.9	TO-14	<0.0011	<0.2	<0.0011	<0.2
65	1,1,2,2-Tetrachloroethane	79-34-5	167.9	29.1	TO-14	<0.0021	<0.3	<0.0021	<0.3
66	o-Xylene	95-47-6	106.2	29.2	TO-14	<0.0014	<0.3	<0.0014	<0.3
67	Nonane	111-84-2	128.3	29.6	SAS	0.0007	0.1	0.0103	1.8
68	1-Ethyl-2-Methyl-Benzene	611-14-3	120.2	32.6	TO-14	<0.0009	<0.2	<0.0009	<0.2
69	1,3,5-Trimethylbenzene	108-67-8	120.2	32.9	TO-14	<0.0009	<0.2	<0.0009	<0.2
70	2-Octanone	111-13-7	128.2	33.1	SAS	<0.0072	<13.5	<0.0072	<13.5
71	1,2,4-Trimethylbenzene	95-63-6	120.2	34.1	TO-14	<0.0013	<0.2	<0.0013	<0.2
72	Decane	124-18-5	142.2	34.3	SAS	0.0032	0.5	0.0867	13.7
73	1,3-Dichlorobenzene	541-73-1	147.0	34.6	TO-14	<0.0009	<0.1	<0.0009	<0.1
74	1,4-Dichlorobenzene	106-46-7	147.0	34.8	TO-14	<0.0009	<0.1	<0.0009	<0.1
75	1,2-Dichlorobenzene	95-50-1	147.0	36.0	TO-14	<0.0009	<0.1	<0.0009	<0.1
76	Undecane	1120-21-4	156.3	38.7	PNNL	<0.0141	<2.0	0.3092	44.3
77	1,2,4-Trichlorobenzene	120-82-1	181.5	42.2	TO-14	<0.0014	<0.2	<0.0014	<0.2
78	Dodecane	112-40-3	170.3	42.7	PNNL	<0.0049	<0.6	0.1327	17.5
79	Hexachloro-1,3-butadiene	87-68-3	260.8	44.0	TO-14	0.0114	1.0	0.0040	0.4
80	Tridecane	629-50-5	184.4	46.5	PNNL	<0.003	<0.4	0.1004	12.2
81	Tetradecane	629-59-4	198.3	50.2	PNNL	<0.0021	<0.2	<0.0021	<0.2
Sum of Targets						0.2		2.4	

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds		VP006-017-C235		VP006-032-C227		VP006-032-C227 (Dup)		VP006-040-C135	
	CAS	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)
1 Propene	115-07-1	0.4506	240		0.9365	499		0.8633	428
2 Propane	74-98-6	0.3861	196		0.7725	392		0.4865	259
3 Dichlorodifluoromethane	75-71-8	0.0036	0.7	J	0.0045	0.8	J	0.0036	0.7
4 Chloromethane	74-87-3	0.0014	0.6	J	0.0016	0.7	J	0.0013	0.6
5 1,2-dichloro-1,1,2,2-tetrafluoroethane	76-14-2	<0.0065	<0.9	U	<0.0065	<0.9	U	0.0084	1.1
6 Methanol	67-56-1	0.1755	123		0.3383	237		0.2995	209
7 Vinyl Chloride	75-01-4	<0.0008	<0.3	U	<0.0008	<0.3	U	0.0020	0.7
8 Butane	106-97-8	0.8922	344		2.4361	947	E	2.1668	835
9 Bromomethane	74-83-9	<0.0026	<0.6	U	<0.0026	<0.6	U	<0.0026	<0.6
10 Chloroethane	75-00-3	<0.0027	<0.9	U	<0.0027	<0.9	U	<0.0027	<0.9
11 Ethanol	64-17-5	0.4089	199		1.067	489		0.9312	433
12 Acetonitrile	75-05-8	0.0272	14.8		0.0581	31.7		0.0536	29.2
13 Acetone	67-64-1	0.3054	118		1.05	405		0.9412	363
14 Trichlorofluoromethane	75-69-4	0.0277	4.5		0.0354	5.8		0.0300	4.9
15 Isopropyl Alcohol	67-63-0	0.0048	1.8	J	0.0188	7.0	J	0.0166	6.2
16 Furan	110-00-9	0.0008	0.3	J	<0.0036	<1.2	U	<0.0036	<1.2
17 Pentane	109-66-0	0.2599	80.9		0.8572	267		0.7613	237
18 1,1-Dichloroethene	75-35-4	<0.0019	<0.4	U	<0.0019	<0.4	U	<0.0019	<0.4
19 Methylene Chloride	75-09-2	0.0043	1.1	BJ	0.0049	1.3	BJ	0.0044	1.2
20 1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	0.0035	0.4	J	<0.002	<0.2	U	0.0034	0.4
21 Propanenitrile	107-12-0	0.0464	18.9		0.2031	82.6		0.1927	78.4
22 Propanol	71-23-8	0.0229	8.6		0.0381	21.7		0.0525	19.6
23 1,1-Dichloroethane	75-34-3	<0.001	<0.2	U	<0.001	<0.2	U	<0.001	<0.2
24 2-Methylpentane	107-83-5	0.0307	8.0		0.1308	34.0		0.1143	29.7
25 Butanal	123-72-8	0.0482	15		0.1302	40.5		0.1033	40.5
26 2-Butanone	78-93-3	0.0781	24.3		0.2368	73.6		0.2176	67.6
27 1-Hexene	592-41-6	0.4336	115		1.4348	382		1.2906	344
28 cis-1,2-Dichloroethene	156-59-2	<0.0017	<0.4	U	<0.0017	<0.4	U	<0.0017	<0.4
29 Hexane	110-54-3	0.2182	56.7		0.7389	192		0.643	167
30 Chloroform	67-66-3	0.0022	0.4	J	<0.0013	<0.2	U	0.0024	0.5
31 Tetrahydrofuran	109-99-9	0.0167	5.2		0.0318	9.9		0.0301	9.4
32 1,2-Dichloroethane	107-06-2	<0.0011	<0.3	U	<0.0011	<0.3	U	<0.0011	<0.3
33 Butanenitrile	109-74-0	0.0664	21.5		0.2322	75.3		0.2117	68.6
34 1,1,1-Trichloroethane	71-55-6	<0.0016	<0.3	U	<0.0016	<0.3	U	<0.0016	<0.3
35 1-Butanol	71-36-3	0.1821	55		0.4573	138		0.3921	119
36 Benzene	76-23-5	<0.0017	<0.3	J	0.0283	8.1		0.0242	6.9
37 Carbon Tetrachloride	56-23-5	<0.0017	<0.3	U	<0.0017	<0.3	U	<0.0017	<0.3
38 Cyclohexane	110-82-7	0.0090	2.4	J	0.0391	10.4		0.0296	7.9
39 2-Pentanone	107-87-9	0.0392	10.2	J	0.143	37.2		0.1265	32.9
40 3-Methylhexane	589-34-4	0.0173	3.9	J	0.0549	12.3		0.0546	12.2
41 1,2-Dichloropropane	78-87-5	<0.0015	<0.3	U	<0.0015	<0.3	U	<0.0015	<0.3
42 1,4-Dioxane	123-91-1	<0.0047	<1.2	U	<0.0047	<1.2	U	<0.0047	<1.2
43 Trichloroethene	79-01-6	<0.0012	<0.2	U	<0.0012	<0.2	U	<0.0012	<0.2

Table 4.6 296-C-006 SUNMMA™ Canister Organic Vapor Concentrations

Target Compounds		CAS		VP006-017-C235		VP006-032-C227		VP006-032-C227 (Dup)		VP006-040-Cf35	
				(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)
44	Heptane	142-82-5	0.7649	<0.0012	171		1.6202	362		1.2676	283
45	cis-1,3-Dichloropropene	10061-01-5	<0.0012	<0.0012	<0.2	U	<0.0012	<0.2	U	0.0029	0.6
46	4-Methyl-2-Pentanone	108-10-1	0.0121	2.7	J	0.0402	9.0			0.0357	8.0
47	Pyridine	110-86-1	0.0182	5.2	J	0.0820	23.2	J	0.0371	10.5	J
48	trans-1,3-Dichloropropene	10061-02-6	<0.0009	<0.2	U	<0.0009	<0.2	U	0.0025	0.5	J
49	Pentanenitrile	110-59-8	0.0846	22.8	J	0.0336	81.8		0.2793	75.3	
50	1,1,2-Trichloroethane	79-00-5	0.0073	1.2	J	0.0226	3.8		0.0196	3.3	
51	Toluene	108-88-3	0.0631	15.3		0.2570	62.5		0.2689	65.4	
52	2-Hexanone	591-78-6	0.1321	29.6	J	0.4678	105		0.4576	102	
53	1,2-Dibromooethane	106-93-4	<0.0026	<0.3	U	<0.0026	<0.3	U	<0.0026	<0.3	U
54	Octane	111-65-9	0.1482	29.1	J	0.4463	87.5		0.4426	86.8	
55	Tetrachloroethylene	127-18-4	0.0025	0.3	J	<0.0021	<0.3	U	0.0027	0.4	J
56	Chlorobenzene	108-90-7	<0.0013	<0.3	U	0.0091	1.8	J	0.0080	1.6	J
57	Hexanenitrile	628-73-9	0.0428	9.9	J	0.2389	59.7		0.2256	52.0	
58	Ethylbenzene	100-41-4	0.0022	0.5	J	0.0072	1.5	J	0.0070	1.5	J
59	p/m-Xylene	106-42-3	<0.0065	<1.4	U	0.0105	2.2	J	0.0100	2.1	J
60	3-Heptanone	106-35-4	3.3175	651		8.6687	1700	E	8.2712	1620	E
61	2-Heptanone	110-43-0	0.387	115		1.8164	356		1.2763	250	
62	Bromoform	75-25-2	<0.0059	<0.8	U	<0.0059	<0.8	U	<0.0059	<0.8	U
63	Cyclohexanone	108-94-1	0.3214	73.4		0.925	211		0.7938	181	
64	Styrene	100-42-5	<0.0011	<0.2	U	<0.0011	<0.2	U	<0.0011	<0.2	U
65	1,1,2,2-Tetrachloroethane	79-34-5	0.0104	1.4	J	0.0355	4.7		0.0302	4.0	
66	o-Xylene	95-47-6	<0.0014	<0.3	U	0.0037	0.8	J	0.0037	0.8	J
67	Nonane	111-84-2	0.1608	28.1		0.4912	83.8		0.4779	83.5	
68	1-Ethyl-2-Methyl-Benzene	611-14-3	<0.0009	<0.2	U	0.0033	0.6	J	0.0019	0.4	J
69	1,3,5-Trimethylbenzene	108-67-8	<0.0009	<0.2	U	0.0030	0.6	J	0.0012	0.2	J
70	2-Octanone	111-13-7	0.0388	6.8	J	0.166	29	J	0.1598	27.9	J
71	1,2,4-Trimethylbenzene	95-63-6	<0.0013	<0.2	U	0.0050	0.9	J	0.0027	0.5	J
72	Decane	124-18-5	0.3059	79.7		1.5299	241		1.3938	220	
73	1,3-Dichlorobenzene	541-73-1	<0.0009	<0.1	U	0.0039	0.6	J	<0.0009	<0.1	U
74	1,4-Dichlorobenzene	106-46-7	<0.0009	<0.1	U	0.0047	0.7	J	<0.0009	<0.1	U
75	1,2-Dichlorobenzene	95-50-1	<0.0009	<0.1	U	0.0054	0.8	J	<0.0009	<0.1	U
76	Undecane	1120-21-4	1.0527	151		2.4223	347		2.3138	332	
77	1,2,4-Trichlorobenzene	120-82-1	<0.0014	<0.2	U	0.0397	4.9		0.0081	1.0	J
78	Dodecane	112-40-3	1.1523	152		3.1460	414		3.3295	438	
79	Hexachloro-1,3-butadiene	87-68-3	0.0051	4	BJ	0.0943	8.1	B	0.0086	0.7	BJ
80	Tridecane	629-50-5	1.3390	163		2.9758	362		6.3535	772	
81	Tetradecane	629-59-4	0.3828	65.8		0.0981	11.1		0.8542	96.5	
Sum of Targets			15.4				40.0		40.8		28.6

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds		VP006-049-C223		VP006-057-C303		VP006-066-C226		VP006-127-C295	
	CAS	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	Flag
1 Propene	115-07-1	0.5084	271		0.5836	311		0.4725	
2 Propane	74-98-6	0.4223	214		0.471	239		0.3847	195
3 Dichlorodifluoromethane	75-71-8	0.0028	0.5	J	0.0034	0.6	J	0.0037	0.7
4 Chloromethane	74-87-3	0.0011	0.5	J	0.0013	0.6	J	0.0014	0.6
5 1,2-dichloro-1,1,2,2-tetrafluoroethane	76-14-2	<0.0065	<0.9	U	<0.0065	<0.9	U	<0.0065	<0.9
6 Methanol	67-56-1	0.2526	177		0.2607	182		0.2339	178
7 Vinyl Chloride	75-01-4	<0.0008	<0.3	U	<0.0008	<0.3	U	<0.0008	<0.3
8 Butane	106-97-8	1.431	359		1.4598	363		1.1348	437
9 Bromomethane	74-83-9	<0.0026	<0.6	U	<0.0027	<0.6	U	<0.0026	<0.6
10 Chloroethane	75-00-3	<0.0027	<0.9	U	<0.0027	<0.9	U	<0.0027	<0.9
11 Ethanol	64-17-5	0.8191	398		0.7973	388		0.713	347
12 Acetonitrile	75-05-8	0.0438	23.9		0.0448	24.4		0.0654	35.7
13 Acetone	67-64-1	0.7258	280		0.7912	305		0.6475	250
14 Trichlorofluoromethane	75-69-4	0.0234	3.8	J	0.0262	4.3		0.0291	4.8
15 Isopropyl Alcohol	67-63-0	0.0146	5.4	J	0.0145	5.4	J	0.0126	4.7
16 Furan	110-00-9	0.0012	0.4	J	0.0012	0.4	J	0.0024	0.8
17 Pentane	109-66-0	0.5719	178		0.5674	177		0.4213	131
18 1,1-Dichloroethene	75-35-4	<0.0019	<0.4	U	<0.0019	<0.4	U	<0.0019	<0.4
19 Methylene Chloride	75-09-2	0.0043	1.1	BJ	0.0037	1	BJ	0.0044	1.2
20 1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	0.0029	0.4	J	<0.0002	<0.2	U	0.1305	53.1
21 Propanenitrile	107-12-0	0.1424	57.9		0.1515	61.6		0.1305	53.1
22 Propanol	71-23-8	0.0401	15.0		0.0383	14.3		0.0323	12.1
23 1,1-Dichloroethane	75-34-3	<0.001	<0.2	U	<0.001	<0.2	U	<0.001	<0.2
24 2-Methylpentane	107-83-5	0.0798	20.5		0.079	20.5		0.0486	12.4
25 Butanal	123-72-8	0.1084	33.7		0.12	37.3		0.1066	33.1
26 2-Butanone	78-93-3	0.1796	55.8		0.1812	56.3		0.157	48.8
27 1-Hexene	592-41-6	1.0423	277		1.0201	272		0.7915	211
28 cis-1,2-Dichloroethene	156-59-2	<0.0017	0.4	U	<0.0017	<0.4	U	<0.0017	<0.4
29 Hexane	110-54-3	0.5177	135		0.5118	133		0.3822	99.3
30 Chloroform	67-66-3	0.0024	0.4	J	<0.0013	<0.2	U	0.0029	0.5
31 Tetrahydrofuran	109-99-9	0.026	8.1		0.0289	9.0		0.0256	8.8
32 1,2-Dichloroethane	107-06-2	<0.0011	<0.3	U	<0.0011	<0.3	U	<0.0011	<0.3
33 Butanenitrile	109-74-0	0.1983	64.3		0.2085	67.6		0.1773	57.5
34 1,1,1-Trichloroethane	71-55-6	<0.0016	<0.3	U	<0.0016	<0.3	U	<0.0016	<0.3
35 1-Butanol	71-36-3	0.3717	112		0.3788	114		0.3429	104
36 Benzene	71-43-2	0.0191	5.5		0.0189	5.4		0.0150	4.3
37 Carbon Tetrachloride	56-23-5	<0.0017	<0.3	U	<0.0017	<0.3	U	0.0008	0.1
38 Cyclohexane	110-82-7	0.0228	6.1		0.0264	7.0		0.0346	9.2
39 2-Pentanone	107-87-9	0.1092	28.4		0.1107	28.8		0.0918	23.9
40 3-Methylhexane	589-34-4	0.0436	9.8		0.0448	10.0		0.0342	7.7
41 1,2-Dichloropropane	78-87-5	<0.0015	<0.3	U	<0.0015	<0.3	U	<0.0015	<0.3
42 1,4-Dioxane	123-91-1	<0.0047	<1.2	U	<0.0047	<1.2	U	<0.0047	<1.2
43 Trichloroethene	79-01-6	<0.0012	<0.2	U	<0.0012	<0.2	U	<0.0024	<0.4

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds		VP006-049-C233		VP006-057-C303		VP006-066-C226		VP006-127-C295	
	CAS	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)
44 Heptane	142-82-5	1.3094	293		1.3722	307		1.1941	267
45 cis-1,3-Dichloropropene	10061-01-5	<0.0012	<0.2	U	<0.0012	<0.2	U	<0.0012	<0.2
46 4-Methyl-2-Pentanone	108-10-1	0.0313	7.0		0.0289	6.5		0.0308	6.9
47 Pyridine	110-86-1	0.00359	10.2	J	0.0615	17.4	J	0.1283	36.3
48 trans-1,3-Dichloropropene	10061-02-6	<0.0009	<0.2	U	<0.0009	<0.2	U	<0.0018	<0.4
49 Pentanenitrile	110-59-8	0.2545	68.6		0.2685	72.4		0.2373	64
50 1,1,2-Trichloroethane	79-00-5	0.0164	2.8		0.0197	3.3		0.0207	3.5
51 Toluene	108-88-3	0.2254	54.8		0.1966	47.8		0.1821	44.3
52 2-Hexanone	591-78-6	0.5439	122		0.4718	106		0.4876	109
53 1,2-Dibromoethane	106-93-4	<0.0026	<0.3	U	<0.0026	<0.3	U	<0.0052	<0.6
54 Octane	111-65-9	0.4105	80.5		0.3741	73.4		0.391	76.7
55 Tetrachloroethylene	127-18-4	0.0028	0.4	J	0.0029	0.4	J	<0.0042	<0.6
56 Chlorobenzene	108-90-7	0.0063	1.3	J	<0.0013	<0.3	U	0.0060	1.2
57 Hexanenitrile	628-73-9	0.2001	46.2		0.2000	46.1		0.1912	44.1
58 Ethylbenzene	100-41-4	0.0059	1.3	J	0.0054	1.1	J	0.0061	1.3
59 p/m-Xylene	106-42-3	0.0087	1.8	J	0.0086	1.8	J	0.0100	2.1
60 3-Heptanone	106-35-4	7.8837	1550	E	7.2691	1430	E	10.9432	2150
61 2-Heptanone	110-43-0	1.7411	342		2.1524	422		2.5283	496
62 Bromoform	75-25-2	<0.0059	<0.8	U	<0.0059	<0.8	U	<0.0118	<1.5
63 Cyclohexanone	108-94-1	0.9388	214		1.021	233		1.2161	278
64 Styrene	100-42-5	<0.0011	<0.2	U	0.0009	0.2	J	<0.0022	<0.5
65 1,1,2,2-Tetrachloroethane	79-34-5	0.0277	3.7		0.0052	0.7	J	<0.0042	<0.6
66 o-Xylene	95-47-6	0.0037	0.8	J	0.0042	0.9	J	<0.0028	<0.6
67 Nonane	111-84-2	0.4013	70.1		0.3994	69.8		0.401	70.0
68 1-Ethyl-2-Methyl-Benzene	611-14-3	0.0014	0.3	J	0.0016	0.3	J	0.0028	0.5
69 1,3,5-Trimethylbenzene	108-87-8	0.0011	0.2	J	0.0011	0.2	J	0.0019	0.4
70 2-Octanone	111-13-7	0.1384	24.2	J	0.1428	25.0	J	0.1366	23.9
71 1,2,4-Trimethylbenzene	95-63-6	0.0025	0.5	J	0.0025	0.5	J	0.0035	0.7
72 Decane	124-18-5	1.1496	181		1.1035	174		1.2879	203
73 1,3-Dichlorobenzene	541-73-1	<0.0009	<0.1	U	<0.0009	<0.1	U	<0.0018	<0.3
74 1,4-Dichlorobenzene	90-46-7	<0.0009	<0.1	U	<0.0009	<0.1	U	<0.0018	<0.3
75 1,2-Dichlorobenzene	95-50-1	<0.0009	<0.1	U	<0.0009	<0.1	U	0.0038	0.6
76 Undecane	1120-21-4	2.0560	295		1.9858	285		2.5029	359
77 1,2,4-Trichlorobenzene	120-82-1	0.0063	0.8	J	0.0084	1.0	J	0.0212	2.6
78 Dodecane	112-40-3	2.8851	379	E	2.5618	337	E	3.6890	485
79 Hexachloro-1,3-butadiene	67-68-3	0.0074	0.6	BJ	0.0092	0.8	BJ	0.0219	2.4
80 Tridecane	629-50-5	9.3119	1130	E	7.0936	862	E	9.1389	1110
81 Tetradecane	629-59-4	3.4813	393	E	2.1931	248	E	2.1352	241
Sum of Targets		43.2			39.5			48.4	
								36.3	

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds		VP006-024-C277		VP006-024-C277 (Dup)	
	CAS	(mg/m3)	(ppbv)	Flag	Flag
1 Propane	115-07-1	0.0025	1.3	J	1.2 J
2 Propane	74-98-6	0.0025	1.3	J	0.0023 1.2 J
3 Dichlorodifluoromethane	75-71-8	0.0042	0.8	J	0.0037 0.7 J
4 Chloromethane	74-87-3	0.0014	0.6	J	<0.0012 <0.5 U
5 1,2-dichloro-1,1,2,2-tetrafluoroethane	76-14-2	<0.0065	<0.9	U	<0.0065 <0.9 U
6 Methanol	67-56-1	<0.0063	<4.4	U	<0.0063 <4.4 U
7 Vinyl Chloride	75-01-4	<0.0008	<0.3	U	<0.0008 <0.3 U
8 Butane	106-97-8	0.0033	1.3	J	0.0027 1.1 J
9 Bromomethane	74-83-9	<0.0026	<0.6	U	<0.0026 <0.6 U
10 Chloroethane	75-00-3	<0.0027	<0.9	U	<0.0027 <0.9 U
11 Ethanol	64-17-5	<0.002	<1.0	U	<0.002 <1.0 U
12 Acetonitrile	75-05-8	<0.002	<1.1	U	<0.002 <1.1 U
13 Acetone	67-64-1	0.0165	6.4	BJ	0.0161 6.2 BJ
14 Trichlorofluoromethane	75-69-4	0.0025	0.4	J	0.0021 0.4 J
15 Isopropyl Alcohol	67-63-0	0.0009	0.3	J	0.0009 0.3 J
16 Furan	110-00-9	<0.0036	<1.2	U	<0.0036 <1.2 U
17 Pentane	109-66-0	0.002	0.6	J	0.0017 0.5 J
18 1,1-Dichloroethene	75-35-4	<0.0019	<0.4	U	<0.0019 <0.4 U
19 Methylene Chloride	75-09-2	0.0035	0.9	BJ	0.0032 0.9 BJ
20 1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	0.0032	0.4	J	0.0029 0.4 J
21 Propanenitrile	71-23-8	<0.0014	<0.5	U	<0.0014 <0.5 U
22 Propanol	75-34-3	<0.001	<0.2	U	<0.001 <0.2 U
23 1,1-Dichloroethane	107-83-5	0.0008	0.2	J	<0.0024 <0.6 U
24 2-Methylpentane	123-72-8	<0.003	<0.9	U	<0.003 <0.9 U
25 Butanal	78-93-3	0.0023	0.7	J	0.0021 0.7 J
26 2-Butanone	592-41-6	0.0032	0.9	J	0.0034 0.9 J
27 1-Hexene	156-59-2	<0.0017	<0.4	U	<0.0017 <0.4 U
28 cis-1,2-Dichloroethene	110-54-3	0.0024	0.6	J	0.0025 0.7 J
29 Hexane	67-66-3	<0.0013	<0.2	U	<0.0013 <0.2 U
30 Chloroform	109-99-9	<0.0008	<0.3	U	<0.0008 <0.3 U
31 Tetrahydrofuran	107-06-2	<0.0011	<0.3	U	<0.0011 <0.3 U
32 1,2-Dichloroethane	109-74-0	<0.0017	<0.6	U	0.0008 0.3 J
33 Butanenitrile	71-55-6	<0.0016	<0.3	U	<0.0016 <0.3 U
34 1,1,1-Trichloroethane	71-36-3	0.1091	33.0	J	0.1087 32.9 J
35 1-Butanol	71-43-2	0.0020	0.6	J	0.0020 0.6 J
36 Benzene	56-23-5	<0.0017	<0.3	U	<0.0017 <0.3 U
37 Carbon Tetrachloride	110-82-7	<0.0018	<0.5	U	<0.0018 <0.5 U
38 Cyclohexane	107-87-9	0.001	0.3	J	0.0011 0.3 J
39 2-Pentanone	589-34-4	<0.0027	<0.6	U	<0.0027 <0.6 U
40 3-Methylhexane	78-87-5	<0.0015	<0.3	U	<0.0015 <0.3 U
41 1,2-Dichloropropane	123-91-1	<0.0047	<1.2	U	<0.0047 <1.2 U
42 1,4-Dioxane	79-01-6	<0.0012	<0.2	U	<0.0012 <0.2 U
43 Trichloroethene					

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds		CAS	VP006-024-C277		VP006-024-C277 (Dup)	
			(mg/m ³)	(ppbv)	Flag	
44	Heptane	142-82-5	0.018	4.0		
45	cis-1,3-Dichloropropene	10061-01-5	<0.0012	<0.2	U	0.0181 4.0
46	4-Methyl-2-Pentanone	108-10-1	<0.0017	<0.4	U	<0.0012 <0.2 U
47	Pyridine	110-86-1	<0.0093	<2.6	U	<0.0017 <0.4 U
48	trans-1,3-Dichloropropene	10061-02-6	<0.0009	<0.2	U	<0.0093 <2.6 U
49	Pentanenitrile	110-59-8	<0.0021	<0.6	U	<0.0009 <0.2 U
50	1,1,2-Trichloroethane	79-00-5	<0.0014	<0.2	U	<0.0021 <0.6 U
51	Toluene	108-88-3	0.0044	1.1	J	<0.0014 <0.2 U
52	2-Hexanone	591-78-6	0.0034	0.8	J	0.0042 1.0 J
53	1,2-Dibromoethane	106-93-4	<0.0026	<0.3	J	0.0038 0.8 J
54	Octane	111-65-9	0.0049	1.0	J	<0.0026 <0.3 U
55	Tetrachloroethylene	127-18-4	<0.0021	<0.3	U	0.0052 1.0 J
56	Chlorobenzene	108-90-7	<0.0013	<0.3	U	<0.0021 <0.3 U
57	Hexanenitrile	628-73-9	<0.0026	<0.6	U	<0.0013 <0.3 U
58	Ethylbenzene	100-41-4	<0.0014	<0.3	U	<0.0026 <0.6 U
59	p/m-Xylene	106-42-3	<0.0065	<1.4	U	<0.0014 <0.3 U
60	3-Heptanone	106-35-4	0.3056	59.9		<0.0065 <1.4 U
61	2-Heptanone	110-43-0	0.0404	7.9	J	0.307 60.2
62	Bromoform	75-25-2	<0.0059	<0.8	U	0.0381 7.5 J
63	Cyclohexanone	108-94-1	0.0114	2.6	J	<0.0059 <0.8 U
64	Styrene	100-42-5	<0.0011	<0.2	U	0.0159 3.6 J
65	1,1,2,2-Tetrachloroethane	79-34-5	<0.0021	<0.3	U	<0.0011 <0.2 U
66	o-Xylene	95-47-6	<0.0014	<0.3	U	<0.0021 <0.3 U
67	Nonane	111-84-2	0.01	1.7		<0.0014 <0.3 U
68	1-Ethyl-2-Methyl-Benzene	611-14-3	<0.0009	<0.2	U	0.0102 1.8
69	1,3,5-Trimethylbenzene	108-67-8	<0.0009	<0.2	U	<0.0009 <0.2 U
70	2-Octanone	111-13-7	0.0037	0.6	J	<0.0009 <0.2 U
71	1,2,4-Trimethylbenzene	95-63-6	<0.0013	<0.2	U	0.0034 0.6 J
72	Decane	124-18-5	0.0548	8.6		<0.0013 <0.2 U
73	1,3-Dichlorobenzene	541-73-1	<0.0009	<0.1	U	0.0545 8.6
74	1,4-Dichlorobenzene	106-46-7	<0.0009	<0.1	U	<0.0009 <0.1 U
75	1,2-Dichlorobenzene	95-50-1	<0.0009	<0.1	U	<0.0009 <0.1 U
76	Undecane	1120-21-4	0.1263	18.1	J	<0.0009 <0.1 U
77	1,2,4-Trichlorobenzene	120-82-1	<0.0014	<0.2	U	0.1301 18.6 J
78	Dodecane	112-40-3	0.3178	41.8		<0.0014 <0.2 U
79	Hexachloro-1,3-butadiene	87-68-3	0.0040	0.3	BJ	0.3347 44.0
80	Tridecane	629-50-5	1.1313	137		0.0038 0.3 BJ
81	Tetradecane	629-59-4	0.6027	68.1		1.0332 126
Sum of Targets			2.9			0.6826 77.1

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	MW	Ret Time	Gas Std	VP006-001-C248		VP006-009-C143	
						(mg/m ³)	(ppbv)	(mg/m ³)	(ppbv)
1	Methyl nitrite	624-91-9	61	4.8				0.0249	9.2
2	Cyclopropane	75-19-4	42	5.1				0.0236	13.6
3	Acetaldehyde	75-07-0	44	5.3				0.1207	61.5
4	1-Propene, 2-methyl-	115-11-7	56	5.7				0.1021	40.8
5	1-Butene	106-98-9	56	6.1				0.0084	3.4
6	2-Butene, (E)-	624-64-6	56	6.5					
7	Unknown C5 Alkane		72	8.0					
8	Butane, 2-methyl-	78-78-4	72	8.0					
9	Cyclopropane, ethyl-	1191-96-4	70	8.5				0.0267	8.5
10	1-Butene, 2-methyl-	563-46-2	70	8.7					
11	2-Pentene, (E)-	646-04-8	70	9.2					
12	Spiropentane	157-40-4	68	9.4					
13	2-Pentene, (Z)-	627-20-3	70	9.6				0.0148	5.5
14	Methyl formate	107-31-3	60	9.7					
15	1-Pentene, 4-methyl-	691-37-2	84	11.4					
16	Silanol, trimethyl-	1066-40-6	90	11.5				0.0174	4.3
17	1-Pentene	109-67-1	70	11.9					
18	Pentane, 3-methyl-	96-14-0	86	12.8					
19	1,4-Hexadiene, (Z)-	7318-67-4	82	13.4					
20	2-Hexene, (E)-	4050-45-7	84	13.9					
21	1,4-Pentadiene, 3-methyl-	1115-08-8	82	14.3					
22	2-Hexene	592-43-8	84	14.4					
23	Nitrous acid, butyl ester	544-16-1	103	14.5					
24	1-Pentene, 2-methyl-	763-29-1	84	14.7					
25	Cyclobutane, ethyl-	4806-61-5	84	15.1					
26	Cyclopentane, methyl-	96-37-7	84	15.3					
27	1,3-Dioxolane, 2-methyl-	497-26-7	88	15.5				0.0821	20.9
28	1-Butyne, 3-methyl-	598-23-2	68	15.9					
29	Unknown C6 Alkane		86	15.9					
30	Cyclopropane, 1,2-dimethyl-3-methylene-		82	15.9					
31	Unknown C7 Alkene/Cycloalkane		98	16.5					
32	3-Hexene, 2-methyl-, (E)-	692-24-0	98	16.9					
33	3-Hexene, 2-methyl-, (Z)-	15840-60-5	98	16.9					
34	Unknown C7 Alkane		100	17.3					
35	Pentane, 2,4-dimethyl-	108-08-7	100	17.3					
36	Butanenitrile, 2-methylene-	1647-11-6	81	17.5					
37	1,3-Dioxane	505-22-6	88	17.6				0.1824	46.4
38	3-Heptene, (E)	14686-14-7	98	17.7					
39	Hexane, 3-methyl-	389-34-4	100	17.9				0.0130	2.9
40	1,3-Dioxane, 2-methyl-	626-68-6	102	18.1				0.0763	16.8
41	1-Hexene, 2-methyl-	6094-02-6	98	18.4					
42	1-Heptene	592-76-7	98	18.6				0.0078	1.8
43	1,5-Heptadiene, (Z)-	7736-34-7	96	18.7					

Table 4.6 296-C-006 SUNMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds			CAS	MW	Ret Time	Gas Std (mg/m3)	VP006-001-C248 (ppbv)	Flag	VP006-009-C143 (mg/m3)	(ppbv)	Flag
44	3-Heptene		592-78-9	98	19.1				0.0229	5.2	NJ
45	(Z)-3-Heptene		14850-22-7	98	19.2						
46	3-Heptene, (E)-		14686-14-7	98	19.2						
47	2-Heptene		592-77-8	98	19.4				0.0300	6.9	NJ
48	Formic acid, butyl ester		592-84-7	102	19.6				0.0393	8.6	NJ
49	2-Heptene, (E)-		14686-13-6	98	19.9				0.0276	6.3	NJ
50	Unknown C9 Alkane			128	20.4						
51	Cyclohexane, methyl-		108-87-2	98	20.7				0.0044	1	NJ
52	Cyclopentane, ethyl-		1640-89-7	98	21.2						
53	1,4-Heptadiene		5673-22-9	96	21.7				0.0072		NJ
54	Unknown C7 Alkene/Cycloalkane			96	21.7						
55	2-Butenal, 2-ethenyl-		20521-42-0	96	21.7						
56	Cyclopentane, 1,2-dimethyl-, cis-		1192-18-3	98	21.9						
57	2-Hexene, 3-ethyl			112	22.2						
58	4-Octene, (E)-		14850-23-8	112	22.2						
59	2-Heptyne		1119-65-9	96	22.9						
60	2-Hexanone		591-78-6	100	22.9				0.0079	1.8	NJ
61	2-Octene, (E)-		13389-42-9	112	23.1				0.0192	4.3	NJ
62	Heptane, 3-methyl-		589-81-1	114	23.3				0.0087	1.7	NJ
63	Hexanal		66-25-1	100	23.4						
64	Heptane, 3-methylene-		1632-16-2	112	24.0				0.0118	2.4	NJ
65	3-Hexene, 3-ethyl-		16789-51-8	112	24.0						
66	4-Heptenal, (Z)-		6728-31-0	112	24.2						
67	Unknown Alkene/Cycloalkane				24.3						
68	3-Heptene, 3-methyl-		7300-03-0	112	24.4						
69	2-Octene		111-67-1	112	24.6						
70	2-Heptene, 3-methyl-			112	25.0						
71	Unknown C8 Alkene/Cycloalkane			112	25.0						
72	2-Octene, (Z)-		7642-04-8	112	25.3						
73	3-Hexanone, 5-methyl-		623-56-3	114	25.5						
74	Cyclopropane, penyl-		2511-91-3	112	25.8						
75	4-Heptanone		123-19-3	114	27.5						
76	Furan, tetrahydro-2,2,5,5-tetramethyl-		15045-43-9	128	27.7						
77	Ethanol, 2-butoxy-		111-76-2	118	28.4						
78	n-Butyl ether		142-96-1	130	28.4						
79	3-Heptanol		589-82-2	116	28.8				0.0272	5.3	NJ
80	2-Heptanol, (S)-		6033-23-4	116	28.8						
81	Cyclopropane, 1-methyl-2-penyl-		41977-37-1	126	29.1						
82	Unknown C8 Alkane			114	29.1						
83	Hexanenitrile, 3-methyl-		53783-89-4	111	29.2						
84	Cyclopent-2-ene-1-one, 2,3,4-trimethyl-		83321-16-8	124	29.4						
85	Furan, 2,5-diethyltetrahydro-		41239-48-9	128	30.9						
86	1,3-Diethyl-1,4-epoxybutane			128	31.0				0.0319	5.6	NJ

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	MW	Ret Time	Gas Std	VP006-001-C248 (mg/m3)	Flag	VP006-009-C143 (ppbv)	Flag
87	1-Hexyn-3-ol	105-31-7	98	31.0					
88	Unknown C9 Alkene/Cycloalkane		126	31.1				0.0625	NJ
89	1,2-Diethyl-1,4-epoxybutane		128	31.2					
90	Unknown C10 Alkane		142	31.4					
91	3-Octen-2-one, (E)-	18402-82-9	126	31.4				0.0151	NJ
92	Unknown hydrocarbon			31.6				0.0160	NJ
93	Unknown Cycloalkane			31.6					
94	Heptane, 3-ethyl-2-methyl-	14676-29-0	142	31.9					
95	Heptanenitrile	629-08-3	111	32.0					
96	4-Octanone	589-63-9	128	32.3					
97	Octane, 4-ethyl-	15869-86-0	142	32.4					
98	2-Hexenal, 2-ethyl-	643-62-5	126	32.5					
99	3-Heptene, 3-ethyl-	74764-46-8	126	32.5					
100	3-Octanone	106-68-3	128	32.8					
101	2-Octanone	111-13-7	128	33.0					
102	1R,2T,4T,5C-Tetramethylcyclohexane		126	33.1					
103	Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2	140	33.1					
104	Unknown hydrocarbon (mw 138)		138	33.7					
105	1-Octene, 3,7-dimethyl-	4984-01-4	140	33.8					
106	Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8	168	33.8					
107	Cyclohexane, 1-methyl-3-propyl-	4291-80-9	140	34.0					
108	Cyclohexane, 1,4-dimethyl-	589-90-2	112	34.0					
109	1-Hexanol, 2-ethyl-	104-76-7	130	35.0					
110	Decane, 4-methyl-	2847-72-5	156	35.4				0.0087	1.3 NJ
111	Nonane, 2,6-dimethyl-	17302-28-2	156	35.4					
112	Unknown hydrocarbon (mw 152)		152	36.0					
113	2-Pentanol, 5-methoxy-2-methyl-	55724-04-4	132	36.0					
114	Cyclohexane, (2-methylpropyl)-	1678-98-4	140	36.2					
115	Unknown C10 Alkene/Cycloalkane		140	36.3				0.0055	NJ
116	Octanenitrile	124-12-9	125	36.6					
117	Decane, 5-methyl-	13151-35-4	156	36.8					
118	Unknown Alkane		36.9						
119	Unknown C11 Alkane		156	37.0				0.0096	NJ
120	Decane, 2-methyl-	6975-98-0	156	37.2				0.0688	9.9 NJ
121	1-Ethyl-1,2,6-trimethylcyclohexane		154	37.3					
122	Decane, 3-methyl-	13151-34-3	156	37.5					
123	Naphthalene, decalhydro-, trans-	493-02-7	138	37.8					
124	Unknown Alkyl Decahydronaphthalene			37.8					
125	Unknown C11 Alkene/Cycloalkane		152	38.0					
126	Unknown hydrocarbon (mw 152)		152	38.1					
127	Cyclopropane, 1,2-dibutyl-	41977-32-6	154	38.2					
128	Unknown hydrocarbon (mw 166)		166	38.4					
129	Unknown C12 Alkane		170	39.4					

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	MW	Ret Time	Gas Std (mg/m3)	VP006-001-C248 (ppbv)	Flag	VP006-009-C143 (mg/m3)	(ppbv)	Flag
130	Unknown Cycloalkene			39.7						
131	Unknown C12 Alkene/Cycloalkane		168	39.7						
132	Undecane, 5-methyl-	1632-70-8	170	40.0						
133	Cyclohexane, pentyl-	4292-92-6	154	40.6						
134	Unknown C11 Alkene/Cycloalkane		154	40.7						
135	Naphthalene, decahydro-2-methyl-	2958-76-1	152	41.0						
136	Undecane, 2-methyl-	7045-71-8	170	41.3						
137	Decane, 2,9-dimethyl-	1002-17-1	170	41.3						
138	Undecane, 3-methyl-	1002-43-3	170	41.6						
139	5-Dodecene, (Z)-	7206-28-2	168	42.2						
140	6-Dodecene, (E)-	7206-17-9	168	42.2						
141	Naphthalene, decahydro-1,5-dimethyl-	1008-80-6	166	43.0						
142	Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	166	43.2						
143	Undecane, 2,6-dimethyl-	17301-23-4	184	43.3						
144	Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	182	44.6						
145	Unknown C13 Alkene/Cycloalkane		180	44.7						
146	Unknown C13 Alkene/Cycloalkane		180	45.1						
147	Tridecane, 7-methyl-	26730-14-3	198	45.5						
148	Cyclopentane, 1,2-dibutyl-	62199-52-4	182	45.9						
149	Cyclohexane, 1,2,3-trimethyl-	1678-97-3	126	46.7						
150	Unknown C14 Alkene/Cycloalkane		196	46.7						
Sum of TICs						0.0		1.1		
Sum of Targets and TICs						0.2		3.5		

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		VP006-017-C235		VP006-032-C237		VP006-032-C227 (Dup)		VP006-040-C135	
		CAS	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)
1	Methyl nitrite	624-91-9							
2	Cyclopropane	75-19-4	0.0497	26.5	NJ	0.0595	21.8	NJ	0.0377
3	Acetaldehyde	75-07-0	0.0678	34.5	NJ	0.0653	34.9	NJ	0.0434
4	1-Propene, 2-methyl-	115-11-7	0.9643	386	NJ	0.0802	40.8	NJ	0.0694
5	1-Butene	106-98-9	0.0716	28.7	NJ	0.1191	47.6	NJ	0.0606
6	2-Butene, (E)-	624-64-6	0.1629	65.1	NJ	0.2699	108	NJ	0.0821
7	Unknown C5 Alkane					0.1131		NJ	0.1828
8	Butane, 2-methyl-	78-78-4	0.0607	18.9	NJ				0.0628
9	Cyclopropane, ethyl-	1191-96-4							
10	1-Butene, 2-methyl-	563-46-2	0.0784	25.1	NJ	0.1633	52.3	NJ	0.1176
11	2-Pentene, (E)-	646-04-8	0.0757	24.2	NJ	0.1664	53.3	NJ	0.1189
12	Spiropentane	157-40-4	0.1013	3.4	NJ				
13	2-Pentene, (Z)-	627-20-3	0.0968	31	NJ	0.1301	41.6	NJ	0.0785
14	Methyl formate	107-31-3							
15	1-Pentene, 3-methyl-	691-37-2	0.0365	9.7	NJ	0.0841	22.4	NJ	0.0605
16	Silanol, trimethyl-	1066-40-6	0.0533	13.3	NJ	0.0768	19.1	NJ	0.0627
17	1-Pentene	109-67-1	0.1084	34.7	NJ	0.1735	55.5	NJ	0.4680
18	Pentane, 3-methyl-	96-14-0	0.0198	5.2	NJ	0.0391	10.2	NJ	0.0287
19	1,4-Hexadiene, (Z)-	7318-67-4	0.0125	3.4	NJ	0.0243	6.6	NJ	
20	2-Hexene, (E)-	4050-45-7	0.2089	53.7	NJ	0.1640	43.7	NJ	0.1704
21	1,4-Pentadiene, 3-methyl-	1115-08-8	0.0351	9.6	NJ	0.0875	23.9	NJ	0.0729
22	2-Hexene	592-43-8	0.0350	14.1	NJ	0.1282	34.2	NJ	0.1039
23	Nitrous acid, butyl ester	744-16-1	0.0969	21.1	NJ				
24	1-Pentene, 2-methyl-	563-29-1	0.0355	9.5	NJ	0.0718	19.2	NJ	0.0504
25	Cyclobutane, ethyl-	4806-61-5	0.0163	4.3	NJ				
26	Cyclopentane, methyl-	96-37-7	0.0153	4.1	NJ	0.0337	9	NJ	
27	1,3-Dioxolane, 2-methyl-	497-26-7	0.0341	8.7	NJ	0.0162	4.1	NJ	
28	1-Butyne, 3-methyl-	598-23-2							
29	Unknown C6 Alkane								0.0217
30	Cyclopropane, 1,2-dimethyl-3-methylene-								
31	Unknown C7 Alkene/Cycloalkane								
32	3-Hexene, 2-methyl-, (E)-	692-24-0							
33	3-Hexene, 2-methyl-, (Z)-	15840-60-5							
34	Unknown C7 Alkane								
35	Pentane, 2,4-dimethyl-	108-08-7	0.0564	12.6	NJ	0.1678	37.6	NJ	
36	Butanenitrile, 2-methylene-	1647-11-6	0.0877	24.2	NJ	0.1307	36.2	NJ	0.1407
37	1,3-Dioxane	505-22-6							
38	3-Heptene, (E)	14686-14-7	0.0434	9.9	NJ				
39	Hexane, 3-methyl-	589-34-4	0.0486	10.9	NJ				
40	1,3-Dioxane, 2-methyl-	626-68-6							
41	1-Hexene, 2-methyl-	6094-02-6							
42	1-Heptene	592-76-7	0.2517	57.5	NJ	0.7420	170	NJ	0.7275
43	1,5-Heptadiene, (Z)-	7736-34-7				0.0664	15.5	NJ	0.0321

Table 4.6 296-C-006 SUMMATM Canister Organic Vapor Concentrations

Tentatively Identified Compounds			VP006-017-C235		VP006-032-C227		VP006-032-C227 (Dup)		VP006-040-C135		
		CAS	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag
44	3-Heptene	592-78-9	1.2946	296	NJ	2.9513	675	NJ	2.6610	608	NJ
45	(Z)-3-Heptene	14850-22-7	0.9219	211	NJ	1.7683	404	NJ	2.4766	566	NJ
46	3-Heptene, (E)-	14686-14-7				0.1634	37.3	NJ	0.1448	33.1	NJ
47	2-Heptene	592-77-8	1.4987	343	NJ	3.1649	723	NJ	2.6192	599	NJ
48	Formic acid, butyl ester	592-84-7	0.0217	4.8	NJ						
49	2-Heptene, (E)-	14686-13-6	1.0902	249	NJ	2.3676	541	NJ	1.9905	455	NJ
50	Unknown C9 Alkane		0.0210			0.0783			0.9534		
51	Cyclohexane, methyl-	108-87-2				0.0645	14.7	NJ	0.0475	10.9	NJ
52	Cyclopentane, ethyl-	1640-89-7									
53	1,4-Heptadiene	5675-22-9	0.3503	81.7	NJ	1.0508	245	NJ	0.9398	219	NJ
54	Unknown C7 Alkene/Cycloalkane										
55	2-Butenal, 2-ethenyl-	20521-42-0									
56	Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3				0.1427	32.6	NJ	0.1371	31.3	NJ
57	2-Hexene, 3-ethyl					0.1735	34.7	NJ	0.1512	30.3	NJ
58	4-Octene, (E)-	14850-23-8	0.0487	9.7	NJ						
59	2-Heptyne	1119-65-9	0.3719	86.8	NJ	1.1841	276	NJ	1.1813	276	NJ
60	2-Hexanone	591-78-6	0.1083	24.3	NJ	0.3755	84.1	NJ	0.3768	84.4	NJ
61	2-Octene, (E)-	13389-42-9	0.1935	38.7	NJ	0.5556	111	NJ	0.5232	105	NJ
62	Heptane, 3-methyl-	589-81-1	0.8416	165	NJ	2.0539	404	NJ	2.0920	411	NJ
63	Hexanal	66-25-1									
64	Heptane, 3-methylene-	1632-16-2	0.8891	178	NJ	2.2208	444	NJ	2.3464	469	NJ
65	3-Hexene, 3-ethyl-	16789-51-8	0.2103	42.1	NJ	0.2086	41.7	NJ	0.2388	47.8	NJ
66	4-Heptenal, (Z)-	6728-31-0									
67	Unknown Alkene/Cycloalkane										
68	3-Heptene, 3-methyl-	7300-03-0				0.6428	129		0.7009	140	NJ
69	2-Octene	111-67-1	0.0898	18	NJ	0.2760	55.2	NJ	0.2890	57.8	NJ
70	2-Heptene, 3-methyl-		0.1798	36	NJ	0.5794	116	NJ	0.5529	111	NJ
71	Unknown C8 Alkene/Cycloalkane		0.0584			0.2082			0.2318		
72	2-Octene, (Z)-	7642-04-8	0.0871	17.4	NJ	0.3245	64.9	NJ	0.3343	66.9	NJ
73	3-Hexanone, 5-methyl-	623-56-3	0.0331	6.5	NJ	0.1609	31.6	NJ	0.1715	33.7	NJ
74	Cyclopropane, phenyl-	2511-91-3	0.0126	2.5	NJ						
75	4-Heptanone	123-19-3									
76	Furan, tetrahydro-2,5,5-tetramethyl-	15045-43-9	0.0533	9.3	NJ	0.2365	41.4	NJ	0.2347	41.1	NJ
77	Ethanol, 2-butoxy-	111-76-2									
78	n-Butyl ether	142-96-1	0.1691	29.1	NJ	0.4056	69.9	NJ	0.3874	66.8	NJ
79	3-Heptanol	589-82-2	0.1960	37.8	NJ	0.1654	31.9	NJ	0.5981	116	NJ
80	2-Heptanol, (S)-	6033-23-4									
81	Cyclopropane, 1-methyl-2-pentyl-	41977-37-1				0.2127	37.8	NJ	0.1977	35.1	NJ
82	Unknown C8 Alkane		0.0126			0.0640			0.0735		
83	Hexanenitrile, 3-methyl-	53783-89-4									
84	Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	8332-16-8									
85	Furan, 2,5-diethyltetrahydro-	41239-48-9									
86	1,3-Diethyl-1,4-epoxybutane		0.3556	62.2	NJ	1.1520	202	NJ	1.1269	197	NJ
									1.0973	192	NJ
									0.8620	151	NJ

Table 4.6 296-C-006 SUN/MA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	VP006-017-C235		VP006-032-C227		VP006-032-C227 (Dup)		VP006-040-C135	
			(mg/m3)	Flag	(mg/m3)	Flag	(mg/m3)	Flag	(mg/m3)	Flag
87	1-Hexyn-3-ol	105-31-7								
88	Unknown C9 Alkene/Cycloalkane		0.1225	NJ	0.2790	NJ	1.632	312	NJ	NJ
89	1,2-Diethyl-1,4-epoxybutane		0.4729	82.8	NJ	1.1876	208	NJ	0.2289	NJ
90	Unknown C10 Alkene		0.0342	NJ	0.0807	NJ	0.0710	NJ	0.9498	166
91	3-Octen-2-one, (E)-	18402-82-9							0.0660	NJ
92	Unknown hydrocarbon		0.0380	NJ	1.0762	NJ			1.1522	205
93	Unknown Cycloalkane									
94	Heptane, 3-ethyl-2-methyl-	14676-29-0	0.0185	2.9	NJ					
95	Heptanenitrile	529-08-3	0.0803	16.2	NJ	0.3699	74.7	NJ	0.2990	60.3
96	4-Octanone	689-63-9	0.0488	8.5	NJ	0.2202	38.5	NJ	0.2265	39.6
97	Octane, 4-ethyl-	15869-86-0							0.0918	14.5
98	2-Hexenal, 2-ethyl-	645-62-5							0.0563	10
99	3-Heptene, 3-ethyl-	74764-46-8			0.0548	9.8	NJ			
100	3-Octanone	106-68-3								
101	2-Octanone	111-13-7			0.1445	25.3	NJ	0.1427	25	NJ
102	IR,2',4',5C-Tetramethylcyclohexane		0.1514	26.9	NJ	0.1953	34.7	NJ	0.1973	31.6
103	Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2								
104	Unknown hydrocarbon (mw 138)									
105	1-Octene, 3,7-dimethyl-	4984-01-4							0.2190	29.2
106	Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8							0.1793	35.9
107	Cyclohexane, 1-methyl-3-propyl-	4291-80-9							0.5278	91
108	Cyclohexane, 1,4-dimethyl-	589-90-2							0.1013	14.6
109	1-Hexanol, 2-ethyl-	104-76-7	0.3407	58.7	NJ				0.4604	66.1
110	Decane, 4-methyl-	2847-72-5	0.2171	31.2	NJ	0.4916	70.6	NJ	0.1793	NJ
111	Nonane, 2,6-dimethyl-	17302-28-2			0.0778				0.0914	15.5
112	Unknown hydrocarbon (mw 152)								0.3344	53.5
113	2-Pentanol, 5-methoxy-2-methyl-	55724-04-4							0.1341	24
114	Cyclohexane, (2-methylpropyl)-	1678-98-4	0.1527	24.4	NJ	0.3435	55	NJ		
115	Unknown C10 Alkene/Cycloalkane		0.0260	NJ	0.0396	NJ				
116	Octanenitrile	124-12-9								
117	Decane, 5-methyl-	13151-35-4			0.1025	14.7	NJ		0.0651	9.4
118	Unknown Alkane									
119	Unknown C11 Alkane				0.1066				0.1182	NJ
120	Decane, 2-methyl-	6975-98-0			0.0863	12.4	NJ	0.0713	10.2	NJ
121	1-Ethyl-2,2,6-trimethylcyclohexane		0.0566	8.2	NJ	0.1061	15.4	NJ	0.1056	15.4
122	Decane, 3-methyl-	13151-34-3	0.0331	4.8	NJ	0.0783	11.2	NJ	0.0804	11.6
123	Naphthalene, decalhydro-, trans-	493-02-7	0.0848	13.8	NJ	0.2014	32.7	NJ	0.1937	31.4
124	Unknown Alkyl Decalhydronaphthalene		0.0229	NJ	0.1699	NJ			0.0754	NJ
125	Unknown C11 Alkene/Cycloalkane		0.0349	NJ						
126	Unknown hydrocarbon (mw 152)									
127	Cyclopropane, 1,2-dibutyl-	41977-32-6			0.0904	13.1	NJ			
128	Unknown hydrocarbon (mw 166)		0.0350	NJ						
129	Unknown C12 Alkane		0.0415	NJ					0.0646	NJ

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds	CAS	VP006-D17-C235			VP006-032-C227			VP006-032-C227 (Dup)			VP006-040-C135		
		(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
130 Unknown Cycloalkane											0.0846		NJ
131 Unknown C12 Alkene/Cycloalkane		0.0152		NJ									
132 Undecane, 5-methyl-	1632-70-8				0.0810	10.7	NJ	0.1398	18.4	NJ			
133 Cyclohexane, pentyl-	4292-92-6	0.0413	6	NJ	0.0974	14.2	NJ	0.0993	14.4	NJ	0.0856	12.4	NJ
134 Unknown C11 Alkene/Cycloalkane		0.0408		NJ	0.1012		NJ	0.1754		NJ	0.0612		NJ
135 Naphthalene, decahydro-2-methyl-	2958-76-1	0.0934	13.8	NJ	0.2193	32.3	NJ	0.2107	31.1	NJ	0.1535	22.6	NJ
136 Undecane, 2-methyl-	7045-71-8				0.0384	5.1	NJ	0.1044	13.8	NJ			
137 Decane, 2,9-dimethyl-	1002-17-1				0.0996	13.1	NJ				0.0646	8.5	NJ
138 Undecane, 3-methyl-	1002-43-3	0.0168	2.2	NJ	0.0406	5.4	NJ	0.0430	5.7	NJ			
139 5-Dodecene, (Z)-	7206-28-2												
140 6-Dodecene, (E)-	7206-17-9							0.0945	12.6	NJ			
141 Naphthalene, decahydro-1,5-dimethyl-	1008-80-6				0.0562	7.6	NJ				0.0490	6.6	NJ
142 Naphthalene, decahydro-2,6-dimethyl-	1618-22-0				0.0431	5.8	NJ						
143 Undecane, 2,6-dimethyl-	17301-23-4	0.1471	17.9	NJ	0.2980	36.3	NJ	0.4479	54.5	NJ			
144 Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	0.0326	4	NJ				0.0893	11	NJ			
145 Unknown C13 Alkene/Cycloalkane													
146 Unknown C13 Alkene/Cycloalkane								0.0427		NJ			
147 Tridecane, 7-methyl-	26730-14-3							0.2312	26.2	NJ			
148 Cyclopentane, 1,2-dibutyl-	62199-52-4							0.0802	9.9	NJ			
149 Cyclohexane, 1,2,3-trimethyl-	1678-97-3												
150 Unknown C14 Alkene/Cycloalkane								0.0494		NJ			
Sum of TICs		14.4			34.1			36.6			23.2		
Sum of Targets and TICs		29.7			74.1			77.4			51.8		

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	VP006-049-C223		VP006-057-C303		VP006-066-C226		VP006-127-C295		
			(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
1	Methyl nitrite	624-91-9	0.0473	17.4	NJ	0.0606	22.3	NJ	0.0804	29.5	NJ
2	Cyclopropane	75-19-4	0.0410	21.9	NJ	0.0487	26	NJ	0.0727	38.8	NJ
3	Acetaldehyde	75-07-0	0.0509	25.9	NJ	0.0700	35.6	NJ	0.0975	49.6	NJ
4	1-Propene, 2-methyl-	115-11-7	0.9219	369	NJ	0.9671	387	NJ	1.4714	589	NJ
5	1-Butene	106-98-9	0.0886	35.5	NJ	0.0881	35.3	NJ	0.1061	42.4	NJ
6	2-Butene, (E)-	624-64-6	0.1963	78.5	NJ	0.1942	77.7	NJ	0.2636	105	NJ
7	Unknown C5 Alkane		0.0852	26.5	NJ						
8	Butane, 2-methyl-	78-78-4									
9	Cyclopropane, ethyl-	1191-96-4									
10	1-Butene, 2-methyl-	563-46-2	0.1215	38.9	NJ	0.1187	38	NJ	0.1516	48.5	NJ
11	2-Pentene, (E)-	646-04-8	0.1173	37.5	NJ	0.1181	37.8	NJ	0.1536	49.2	NJ
12	Spiropentane	157-40-4				0.0209	6.9	NJ			
13	2-Pentene, (Z)-	627-20-3	0.1079	34.5	NJ	0.1364	43.7	NJ	0.1322	42.3	NJ
14	Methyl formate	107-31-3									
15	1-Pentene, 4-methyl-	691-37-2				0.0583	15.5	NJ	0.0763	20.4	NJ
16	Silanol, trimethyl-	1066-40-6	0.0747	18.6	NJ	0.0713	17.7	NJ	0.1022	23.4	NJ
17	1-Pentene	109-67-1	0.0248	7.9	NJ	0.0295	9.4	NJ			
18	Pentane, 3-methyl-	96-14-0	0.0292	7.6	NJ	0.0319	8.3	NJ	0.0379	9.9	NJ
19	1,4-Hexadiene, (Z)-	7318-67-4	0.0225	6.1	NJ						
20	2-Hexene, (E)-	4050-45-7	0.1388	37	NJ	0.1425	38	NJ	0.1864	49.7	NJ
21	1,4-Pentadiene, 3-methyl-	1115-08-8	0.0617	16.9	NJ	0.0546	14.9	NJ	0.0449	12.3	NJ
22	2-Hexene	592-43-8	0.1064	28.4	NJ	0.1039	27.7	NJ	0.1177	31.4	NJ
23	Nitrous acid, butyl ester	544-16-1				0.1508	32.8	NJ			
24	1-Pentene, 2-methyl-	763-29-1	0.0609	16.2	NJ	0.0597	15.9	NJ	0.0722	19.3	NJ
25	Cyclobutane, ethyl-	4806-61-5							0.0356	9.5	NJ
26	Cyclopentane, methyl-	96-37-7	0.0264	7	NJ						
27	1,3-Dioxolane, 2-methyl-	497-26-7	0.0086	2.2	NJ				0.2737	90.2	NJ
28	1-Butyne, 3-methyl-	598-23-2									
29	Unknown C6 Alkane										
30	Cyclopropane, 1,2-dimethyl-3-methylene-										
31	Unknown C7 Alkene/Cycloalkane										
32	3-Hexene, 2-methyl-, (E)-	692-24-0	0.0318	7.3	NJ	0.0303	6.9	NJ	0.3024	69.1	NJ
33	3-Hexene, 2-methyl-, (Z)-	15840-60-5									
34	Unknown C7 Alkane		0.1289	28.9	NJ						
35	Pentane, 2,4-dimethyl-	108-08-7									
36	Butanenitrile, 2-methylene-	1647-11-6	0.0933	25.8	NJ	0.1318	36.5	NJ	0.9996	276	NJ
37	1,3-Dioxane	505-22-6									
38	3-Heptene, (E)	14686-14-7									
39	Hexane, 3-methyl-	589-34-4									
40	1,3-Dioxane, 2-methyl-	626-68-6									
41	1-Hexene, 2-methyl-	6094-02-6									
42	1-Heptene	592-76-7	0.5611	128	NJ	0.5676	130	NJ	6.1785	1410	NJ
43	1,5-Heptadiene, (Z)-	7736-34-7									

Table 4.6 296 C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		VP006-049-C223		VP006-057-C303		VP006-066-C226		VP006-127-C295	
	CAS	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)
44	3-Heptene	2.3112	528	NJ	3.2760	749	NJ	1.9989	457
45	(Z)-3-Heptene	14830-22-7							
46	3-Heptene, (E)-	14686-14-7	26.1	NJ				1.7538	401
47	2-Heptene	592-77-8	2.5325	579	NJ			1.9166	438
48	Formic acid, butyl ester	592-84-7			2.6159	598	NJ		
49	2-Heptene, (E)-	14686-13-6	2.0394	466	NJ	2.1217	485	2.2730	520
50	Unknown C9 Alkane		0.0597	NJ	0.0610	NJ	0.0569	10	0.0508
51	Cyclohexane, methyl-	108-87-2							
52	Cyclopentane, ethyl-	1640-89-7						0.0368	8.4
53	1,4-Heptadiene	5675-22-9	0.0503	11.5	NJ	0.0435	9.9	0.7038	164
54	Unknown C7 Alkene/Cycloalkane								
55	2-Butenal, 2-ethenyl-	20521-42-0	0.8248	192	NJ	0.8853	207		
56	Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	0.1147	26.2	NJ	0.0896	20.5	0.0836	19.1
57	2-Hexene, 3-ethyl		0.1366	27.3	NJ	0.1039	20.8		
58	4-Octene, (E)-	14850-23-8							
59	2-Heptyne	1119-65-9	1.1621	271	NJ	1.0461	244	0.7926	185
60	2-Hexanone	591-78-6	0.4302	96.4	NJ	0.2371	53.1	0.3690	82.7
61	2-Octene, (E)-	13389-42-9	0.5184	104	NJ	0.4181	83.6		
62	Heptane, 3-methyl-	589-81-1	2.0926	411	NJ	1.8457	363	1.5106	297
63	Hexanal	66-25-1	0.0477	10.7	NJ	0.0462	10.4	0.0346	7.8
64	Hexanal, 3-methyl/ene-	1632-16-2	2.2893	438	NJ	2.1047	421	1.6781	336
65	3-Hexene, 3-ethyl-	16789-51-8						0.0804	16.1
66	4-Heptenal, (Z)-	6728-31-0	0.1793	35.9	NJ	0.1673	33.5		
67	Unknown Alkene/Cycloalkane							0.1249	
68	3-Heptene, 3-methyl-	7300-03-0	0.5844	117	NJ	0.5523	110	0.4050	81
69	2-Octene	111-67-1	0.2500	50	NJ	0.2408	48.2	0.1714	34.3
70	2-Heptene, 3-methyl-		0.4915	98.3	NJ	0.4589	91.8	0.3345	66.9
71	Unknown C8 Alkene/Cycloalkane								
72	2-Octene, (Z)-	7642-04-8	0.2617	52.4	NJ	0.2465	49.3	0.1715	34.3
73	3-Hexanone, 5-methyl-	622-56-3	0.1339	26.3	NJ	0.1314	25.8	0.1016	20
74	Cyclopropane, pentyl-	2511-91-3							
75	4-Heptanone	123-19-3							
76	Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	0.2006	35.1	NJ	0.1887	33		
77	Ethanol, 2-butoxy-	111-76-2	0.5456	104	NJ	0.5416	103		
78	n-Butyl ether	142-96-1						0.4178	72
79	3-Heptanol	589-82-2	0.9089	176	NJ			0.9994	193
80	2-Heptanol, (S)-	6033-23-4	0.1397	27	NJ	0.1488	28.7	0.1333	25.7
81	Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	0.2143	38.1	NJ	0.2056	36.6	0.1608	28.6
82	Unknown C8 Alkane		0.0571		NJ	0.0441		0.1447	
83	Hexanenitrile, 3-methyl-	53783-89-4				0.0929	18.7		
84	Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	83321-16-8	0.0499	9	NJ	0.0436	7.9		
85	Furan, 2,5-diethyltetrahydro-	41239-48-9							
86	1,3-Diethyl-1,4-epoxybutane		1.0410	182	NJ	1.0632	186	0.9527	167

Table 4.6 296-C-006 SUNMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds			VP006-049-C233			VP006-057-C303			VP006-066-C226			VP006-127-C295		
		CAS	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag	(mg/m ³)	(ppbv)	Flag
87	1-Hexyn-3-ol	105-31-7												
88	Unknown C9 Alkene/Cycloalkane		0.2739		NJ	0.2888		NJ	0.3722		NJ	0.0425		NJ
89	1,2-Diethyl-1,4-epoxybutane		1.2456	218	NJ	1.1371	199	NJ	1.5901	278	NJ	1.1246	197	NJ
90	Unknown C10 Alkene		1.3816		NJ									
91	3-Octen-2-one, (E)-	18402-82-9				1.4246	253	NJ	1.7713	315	NJ			
92	Unknown hydrocarbon		0.1836		NJ	0.2097		NJ	0.1793		NJ	0.1638		NJ
93	Unknown Cycloalkane													
94	Heptane, 3-ethyl-2-methyl-	14676-29-0												
95	Heptanenitrile	629-08-3	0.3633	73.3	NJ	0.3746	75.6	NJ	0.3683	74.3	NJ	0.3150	63.6	NJ
96	4-Octanone	589-63-9	0.1988	34.8	NJ	0.2228	39	NJ	0.2274	39.8	NJ	0.2382	41.7	NJ
97	Octane, 4-ethyl-	15869-86-0												
98	2-Hexenal, 2-ethyl-	645-62-5												
99	3-Heptene, 3-ethyl-	74764-46-8												
100	3-Octanone	106-68-3							0.0498	8.7	NJ			
101	2-Octanone	1111-13-7	0.1631	28.6	NJ	0.1680	29.4	NJ	0.1805	31.6	NJ	0.1359	23.8	NJ
102	1R,2T,4T,5C-Tetramethyleyclohexane		0.1497	23.9	NJ	0.1384	22.1	NJ	0.1709	30.4	NJ	0.1056	16.9	NJ
103	Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2												
104	Unknown hydrocarbon (mw 138)											0.7696		NJ
105	1-Octene, 3,7-dimethyl-	4984-01-4				0.1692	27.1	NJ						
106	Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8							0.1705	27.3	NJ			
107	Cyclohexane, 1-methyl-3-propyl-	4291-80-9												
108	Cyclohexane, 1,4-dimethyl-	589-90-2												
109	1-Hexanol, 2-ethyl-	104-76-7	0.8715	150	NJ	1.2237	211	NJ	0.7039	121	NJ	0.9607	166	NJ
110	Decane, 4-methyl-	2847-72-5	0.3703	53.2	NJ	0.3455	49.6	NJ	0.4401	63.2	NJ	0.2856	41	NJ
111	Nonane, 2,6-dimethyl-	17302-28-2												
112	Unknown hydrocarbon (mw 152)													
113	2-Pentanol, 5-methoxy-2-methyl-	55724-04-4												
114	Cyclohexane, 2-methylpropyl-	1678-98-4	0.2417	38.7	NJ	0.2563	41	NJ	0.3146	50.3	NJ	0.2077	33.2	NJ
115	Unknown C10 Alkene/Cycloalkane		0.1767	28.3	NJ	1.3876		NJ	0.2020		NJ	0.1314		NJ
116	Octanenitrile	124-12-9	0.1450	26	NJ	0.1471	26.4	NJ	0.1166	20.9	NJ	0.1212	21.7	NJ
117	Decane, 5-methyl-	13151-35-4	0.0958	13.8	NJ	0.0900	12.9	NJ	0.1056	15.2	NJ			
118	Unknown Alkane													
119	Unknown C11 Alkane		0.0910		NJ	0.0818		NJ	0.0964		NJ	0.0712		NJ
120	Decane, 2-methyl-	6975-98-0	0.0573	8.2	NJ	0.0560	8.1	NJ	0.0744	10.7	NJ	0.0459	6.6	NJ
121	1-Ethyl-2,2,6-trimethylcyclohexane		0.0856	12.5	NJ	0.0800	11.6	NJ	0.1025	14.9	NJ	0.0677	9.9	NJ
122	Decane, 3-methyl-	13151-34-3	0.0734	10.5	NJ	0.0752	10.8	NJ	0.0770	11.1	NJ	0.0578	8.3	NJ
123	Naphthalene, decalhydro-, trans-	493-02-7	0.1711	27.8	NJ	0.1632	26.5	NJ	0.1913	31.1	NJ	0.1297	21.1	NJ
124	Unknown Alkyl Decalhydrotonaphthalene		0.1403		NJ	0.0439		NJ	0.0689		NJ	0.0442		NJ
125	Unknown C11 Alkene/Cycloalkane													
126	Unknown hydrocarbon (mw 152)											0.0452		NJ
127	Cyclopropane, 1,2-dibutyl-													
128	Unknown hydrocarbon (mw 166)													
129	Unknown C12 Alkane		0.1219		NJ	0.0621		NJ				0.0835		NJ

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS		VP006-049-C223		VP006-057-C303		VP006-066-C226		VP006-127-C295		
				(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
130	Unknown Cycloalkene											
131	Unknown C12 Alkene/Cycloalkane											
132	Undecane, 5-methyl-	1632-70-8		0.0723	9.5	NJ	0.0688		NJ	0.0708	9.3	NJ
133	Cyclohexane, pentyl-	4292-92-6		0.0835	12.1	NJ	0.1079	14.2	NJ	0.0889	12.9	NJ
134	Unknown C11 Alkene/Cycloalkane			0.1035		NJ	0.0710	10.3	NJ	0.1232		NJ
135	Naphthalene, decahydro-2-methyl-	2958-76-1		0.1766	26	NJ	0.1704		NJ	0.1963	28.9	NJ
136	Undecane, 2-methyl-	7045-71-8		0.0941	12.4	NJ	0.1508	22.2	NJ	0.0390	5.1	NJ
137	Decane, 2,9-dimethyl-	1002-17-1					0.0791	10.4	NJ	0.0945	12.5	NJ
138	Undecane, 3-methyl-	1002-43-3		0.0362	4.8	NJ				0.0389	5.1	NJ
139	5-Dodecene, (Z)-	7206-28-2		0.1032	13.8	NJ						
140	6-Dodecene, (E)-	7206-17-9										
141	Naphthalene, decahydro-1,5-dimethyl-	1008-80-6					0.0386	5.2	NJ	0.0525	7.1	NJ
142	Naphthalene, decahydro-2,6-dimethyl-	1618-22-0								0.0438	5.9	NJ
143	Undecane, 2,6-dimethyl-	17301-23-4					0.2568	31.3	NJ	0.3555	43.3	NJ
144	Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0					0.0585	7.2	NJ	0.0836	10.3	NJ
145	Unknown C13 Alkene/Cycloalkane									0.0963	12	NJ
146	Unknown C13 Alkene/Cycloalkane						0.0334		NJ			
147	Tridecane, 7-methyl-	26730-14-3					0.2105	23.8	NJ	0.2656	30.1	NJ
148	Cyclopentane, 1,2-dibutyl-	62199-52-4					0.0490	6	NJ			
149	Cyclohexane, 1,2,3-trimethyl-	16798-97-3					0.0329	5.9	NJ			
150	Unknown C14 Alkene/Cycloalkane											
Sum of TICs				30.2			31.7			144.7		26.7
Sum of Targets and TICs				73.4			71.2			193.0		63.0

Table 4.6 296-C-006 SUNMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	VP006-024-C277 (mg/m ³)	(ppbv)	Flag	VP006-024-C277 (Dup) (mg/m ³)	(ppbv)	Flag
1	Methyl nitrite	624-91-9						
2	Cyclopropane	75-19-4						
3	Acetaldehyde	75-07-0						
4	1-Propene, 2-methyl-	115-11-7						
5	1-Butene	105-98-9						
6	2-Butene, (E)-	624-64-6						
7	Unknown C5 Alkane							
8	Butane, 2-methyl-	78-78-4						
9	Cyclopropane, ethyl-	1191-96-4						
10	1-Butene, 2-methyl-	563-46-2						
11	2-Pentene, (E)-	646-04-8						
12	Spiropentane	157-40-4						
13	2-Pentene, (Z)-	627-20-3						
14	Methyl formate	107-31-3						
15	1-Pentene, 4-methyl-	691-37-2						
16	Silanol, trimethyl-	1066-40-6						
17	1-Pentene	109-67-1						
18	Pentane, 3-methyl-	96-14-0						
19	1,4-Hexadiene, (Z)-	7318-67-4						
20	2-Hexene, (E)-	4050-45-7						
21	1,4-Pentadiene, 3-methyl-	1115-08-8						
22	2-Hexene	592-43-8						
23	Nitrous acid, butyl ester	544-16-1						
24	1-Pentene, 2-methyl-	763-29-1						
25	Cyclobutane, ethyl-	4806-61-5						
26	Cyclopentane, methyl-	96-37-7						
27	1,3-Dioxolane, 2-methyl-	497-26-7						
28	1-Butyne, 3-methyl-	598-23-2						
29	Unknown C6 Alkane							
30	Cyclopropane, 1,2-dimethyl-3-methylene-							
31	Unknown C7 Alkane/Cycloalkane							
32	3-Hexene, 2-methyl-, (E)-	692-24-0						
33	3-Hexene, 2-methyl-, (Z)-	15840-60-5						
34	Unknown C7 Alkane							
35	Pentane, 2,4-dimethyl-	108-08-7						
36	Butanenitrile, 2-methylene-	1647-11-6						
37	1,3-Dioxane	505-22-6						
38	3-Heptene, (E)	14686-14-7						
39	Hexane, 3-methyl-	589-34-4						
40	1,3-Dioxane, 2-methyl-	626-68-6						
41	1-Hexene, 2-methyl-	6094-02-6						
42	1-Heptene	592-76-7	0.0035	0.8	NU	0.0040	0.9	NU
43	1,5-Heptadiene, (Z)-	7736-34-7						

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	VP006-024-C277		VP006-024-C277 (Dup)	
			(mg/m3)	(ppbv)	Flag	Flag
44	3-Heptene	592-78-9	0.0286	6.5	NJ	Flag
45	(Z)-3-Heptene	14850-22-7			NJ	6.9
46	3-Heptene, (E)-	14686-14-7	0.0444	10.2	NJ	10.5
47	2-Heptene	592-77-8	0.0410	9.4	NJ	9.3
48	Formic acid, butyl ester	592-84-7				
49	2-Heptene, (E)-	14686-13-6	0.0264	6	NJ	0.0262
50	Unknown C9 Alkane		0.0031		NJ	6
51	Cyclohexane, methyl-	108-87-2				
52	Cyclopentane, ethyl-	1640-89-7				
53	1,4-Heptadiene	5675-22-9				
54	Unknown C7 Alkene/Cycloalkane					
55	2-Butenal, 2-ethenyl-	20521-42-0	0.0056	1.3	NJ	
56	Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3				
57	2-Hexene, 3-ethyl					
58	4-Octene, (E)-	14850-23-8				
59	2-Heptyne	1119-65-9	0.0081	1.9	NJ	0.0087
60	2-Hexanone	591-78-6				2
61	2-Octene, (E)-	13389-42-9	0.0032	0.6	NJ	0.0049
62	Heptane, 3-methyl-	589-81-1	0.0291	5.7	NJ	0.0275
63	Hexanal	66-25-1				5.4
64	Heptane, 3-methylene-	1632-16-2	0.0329	6.6	NJ	0.0051
65	3-Hexene, 3-ethyl-	16789-51-8				1
66	4-Heptenal, (Z)-	6728-31-0				
67	Unknown Alkene/Cycloalkane					
68	3-Heptene, 3-methyl-	7300-03-0	0.0053	1.1	NJ	0.0059
69	2-Octene	111-67-1	0.0127	2.5	NJ	1.2
70	2-Heptene, 3-methyl-					
71	Unknown C8 Alkene/Cycloalkane		0.0073		NJ	
72	2-Octene, (Z)-	7642-04-8	0.0030	0.6	NJ	
73	3-Hexanone, 5-methyl-	623-56-3				
74	Cyclopropane, pentyl-	2511-91-3				
75	4-Heptanone	123-19-3	0.0279	5.5	NJ	
76	Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9				
77	Ethanol, 2-butoxy-	111-76-2				
78	n-Butyl ether	142-96-1				
79	3-Heptanol	589-82-2				
80	2-Heptanol, (S)-	6033-23-4	0.0334	6.5	NJ	0.0095
81	Cyclopropane, 1-methyl-2-pentyl-	41977-37-1				1.6
82	Unknown C8 Alkane		0.0053		NJ	7.4
83	Hexanenitrile, 3-methyl-	53783-89-4				
84	Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	83321-16-8				
85	Furan, 2,5-diethyltetrahydro-	41239-48-9				
86	1,3-Diethyl-1,4-epoxybutane		0.0380	6.6	NJ	0.0373
						6.5

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

	Tentatively Identified Compounds	CAS	VP006-024-C277			VP006-024-C277 (Dup)		
			(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
87	1-Hexyn-3-ol	105-31-7						
88	Unknown C9 Alkene/Cycloalkane		0.0485		NJ	0.0112		NJ
89	1,2-Diethyl-1,4-epoxybutane		0.0607	10.6	NJ	0.0565	9.9	NJ
90	Unknown C10 Alkane							
91	3-Octen-2-one, (E)-	18402-82-9						
92	Unknown hydrocarbon		0.0078					
93	Unknown Cycloalkane				NJ	0.0137		NJ
94	Heptane, 3-ethyl-2-methyl-	14676-29-0						
95	Heptanenitrile	629-08-3	0.0066	1.3	NJ			
96	4-Octanone	589-63-9						
97	Octane, 4-ethyl-	15869-86-0						
98	2-Hexenal, 2-ethyl-	645-62-5						
99	3-Heptene, 3-ethyl-	74764-46-8						
100	3-Octanone	106-68-3						
101	2-Octanone	111-13-7						
102	1R,2T,4T,5C-Tetramethylcyclohexane							
103	Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2						
104	Unknown hydrocarbon (mw 138)							
105	1-Octene, 3,7-dimethyl-	4984-01-4						
106	Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8						
107	Cyclohexane, 1-methyl-3-propyl-	4291-80-9						
108	Cyclohexane, 1,4-dimethyl-	589-90-2						
109	1-Hexanol, 2-ethyl-	104-76-7	0.1483	25.5	NJ	0.1541	26.6	NJ
110	Decane, 4-methyl-	2847-72-5						
111	Nonane, 2,6-dimethyl-	17302-28-2						
112	Unknown hydrocarbon (mw 152)							
113	2-Pentanol, 5-methoxy-2-methyl-	55724-04-4						
114	Cyclohexane, (2-methylpropyl)-	1678-98-4				0.0093	1.5	NJ
115	Unknown C10 Alkene/Cycloalkane		0.0061		NJ	0.0067		NJ
116	Octanenitrile	124-12-9						
117	Decane, 5-methyl-	13151-35-4						
118	Unknown Alkane		0.0187		NJ			
119	Unknown C11 Alkane							
120	Decane, 2-methyl-	6975-98-0						
121	1-Ethyl-2,2,6-trimethylcyclohexane							
122	Decane, 3-methyl-	13151-34-3						
123	Naphthalene, decahydro-, trans-	493-02-7				0.0127	2.1	NJ
124	Unknown Alkyl Decahydronaphthalene							
125	Unknown C11 Alkene/Cycloalkane		0.0112		NJ	0.0105		NJ
126	Unknown hydrocarbon (mw 152)							
127	Cyclopropane, 1,2-diethyl-	41977-32-6						
128	Unknown hydrocarbon (mw 166)							
129	Unknown C12 Alkane							

Table 4.6 296-C-006 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	VP006-024-C277 (mg/m3)	(ppbv)	Flag	VP006-024-C277 (Dup) (mg/m3)	(ppbv)	Flag
130	Unknown Cycloalkene							
131	Unknown C12 Alkene/Cycloalkene							
132	Undecane, 5-methyl-	1632-70-8	0.0057	0.8	NJ			
133	Cyclohexane, pentyl-	4292-92-6						
134	Unknown C11 Alkene/Cycloalkene		0.0064					
135	Naphthalene, decahydro-2-methyl-	2958-76-1	0.0168	2.5	NJ	0.0157	2.3	NJ
136	Undecane, 2-methyl-	7045-71-8						
137	Decane, 2,9-dimethyl-	1002-17-1						
138	Undecane, 3-methyl-	1002-43-3						
139	5-Dodecene, (Z)-	7206-28-2						
140	6-Dodecene, (E)-	7206-17-9						
141	Naphthalene, decahydro-1,5-dimethyl-	1008-80-6						
142	Naphthalene, decahydro-2,6-dimethyl-	1618-22-0						
143	Undecane, 2,6-dimethyl-	17301-23-4	0.0412	5	NJ	0.0469	5.7	NJ
144	Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0						
145	Unknown C13 Alkene/Cycloalkene							
146	Unknown C13 Alkene/Cycloalkene							
147	Tridecane, 7-methyl-	26730-14-3						
148	Cyclopentane, 1,2-dibutyl-	62199-52-4						
149	Cyclohexane, 1,2,3-trimethyl-	1678-97-3						
150	Unknown C14 Alkene/Cycloalkene							
Sum of TICs			0.7			0.6		
Sum of Targets and TICs			3.6			3.5		

Table 4.7 241-AY-102 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds			CAS	MW	Ret Time	Gas Std	VP102-002-C050		VP102-006-C042	
							(mg/m3)	(ppbv)	(mg/m3)	(ppbv)
							Flag	Flag		
1	Propene		115-07-1	42.08	4.5	SAS	0.0078	4.1	J	0.0262
2	Propane		74-98-6	44.1	4.5	SAS	0.0165	8.4		0.0281
3	Dichlorodifluoromethane		75-71-8	120.91	4.6	TO-14	0.0034	0.6	J	0.0038
4	Chloromethane		74-87-3	50.49	5.0	TO-14	<0.0012	<0.5	U	0.0013
5	1,2-dichloro 1,1,2,2-tetrafluoroeth		76-14-2	170.92	5.3	TO-14	<0.0065	<0.9	U	<0.0065
6	Methanol		67-56-1	32.04	5.3	PNNL	0.1771	124		0.2208
7	Vinyl Chloride		75-01-4	62.5	5.5	TO-14	<0.0008	<0.3	U	<0.0008
8	Butane		106-97-8	58.12	5.9	SAS	0.0165	6.4		0.0534
9	Bromomethane		74-83-9	94.94	6.4	TO-14	<0.0026	<0.6	U	<0.0026
10	Chloroethane		75-00-3	64.51	6.8	TO-14	<0.0027	<0.9	U	<0.0027
11	Ethanol		64-17-5	46.07	7.0	SAS	0.2943	143		0.3622
12	Acetonitrile		75-05-8	41.05	7.1	PNNL	0.013	7.1	J	0.0184
13	Acetone		67-64-1	58.08	7.9	SAS	0.3717	143		0.4016
14	Trichlorofluoromethane		75-69-4	137.37	8.3	TO-14	0.0274	4.5		0.0437
15	Isopropyl Alcohol		67-63-0	60.1	8.4	SAS	0.0077	2.9	J	0.0087
16	Furan		110-00-9	68.08	8.6	SAS	<0.0036	<1.2	U	<0.0036
17	Pentane		109-66-0	72	9.0	SAS	0.0123	3.8	J	0.0338
18	1,1-Dichloroethene		75-35-4	96.94	9.5	TO-14	<0.0019	<0.4	U	<0.0019
19	Methylene Chloride		75-09-2	84.93	9.7	TO-14	0.0033	0.9	BJ	0.0038
20	1,1,2-trichloro 1,2,2-trifluoroethane		76-13-1	187.38	10.2	TO-14	0.0031	0.4	J	0.0039
21	Propanenitrile		107-12-0	55.08	10.9	SAS	0.0037	2.3	J	0.0074
22	Propanol		71-23-8	60.1	11.0	SAS	0.0264	9.9		0.0327
23	1,1-Dichloroethane		75-34-3	98.96	11.8	TO-14	<0.0001	<0.2	U	<0.0001
24	2-Methylpentane		107-83-5	86.18	12.1	SAS	0.0028	0.7	J	0.0026
25	Butanal		123-72-8	72.11	12.3	SAS	0.0656	20.4		0.2062
26	2-Butanone		78-93-3	72.11	12.5	SAS	0.1285	39.9		0.1452
27	1-Hexene		592-41-6	84.16	13.1	SAS	<0.0023	<0.6	U	0.0385
28	cis-1,2-Dichloroethene		156-59-2	96.94	13.3	TO-14	<0.0017	<0.4	U	<0.0017
29	Hexane		110-54-3	86.18	13.7	SAS	0.0104	2.7	J	0.0362
30	Chloroform		67-66-3	119.38	13.9	TO-14	0.0028	0.5	J	0.0052
31	Tetrahydrofuran		109-99-9	72.11	14.6	SAS	0.0024	0.8	J	0.004
32	1,2-Dichlorofluorane		107-06-2	98.96	15.3	TO-14	<0.0011	<0.3	U	<0.0011
33	Butanenitrile		109-74-0	69.11	15.8	SAS	0.0455	14.7		0.0536
34	1,1,1-Trichloroethane		71-55-6	133.4	15.8	TO-14	<0.0016	<0.3	U	<0.0016
35	1-Butanol		71-36-3	74.12	16.3	SAS	0.1812	54.8		0.2847
36	Benzene		71-43-2	78.11	16.7	TO-14	0.0018	0.5	J	0.003
37	Carbon Tetrachloride		56-23-5	153.82	17.0	TO-14	<0.0017	<0.3	U	<0.0017
38	Cyclohexane		110-82-7	84.16	17.3	PNNL	<0.0018	<0.5	U	0.0025
39	2-Pentanone		107-87-9	86.13	17.3	SAS	0.0473	12.3		0.0698
40	3-Methylhexane		589-34-4	100.2	17.9	SAS	0.004	0.04	J	0.0326
41	1,2-Dichloropropane		78-87-5	112.99	18.3	TO-14	<0.0015	<0.3	U	<0.0015

Table 4.7 241-AY-102 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds			CAS	MW	Ret Time	Gas Std	VP102-002-C050		VP102-006-C042	
							(mg/m3)	Flag	(mg/m3)	Flag
42	1,4-Dioxane		123-91-1	88.11	18.6	SAS	<1.2	U	<0.0047	<1.2
43	Trichloroethene		79-01-6	131.39	18.7	TO-14	<0.0012	<0.2	U	<0.0012
44	Heptane		142-82-5	100.2	19.2	SAS	0.0117	2.6	0.1839	41.1
45	cis-1,3-Dichloropropene		10061-01-5	110.97	20.4	TO-14	<0.0012	<0.2	U	<0.0012
46	4-Methyl-2-Pentanone		108-10-1	100.16	20.4	SAS	0.002	0.4	0.005	1.1
47	Pyridine		110-86-1	79.1	20.6	PNNL	0.0553	15.7	0.1047	29.7
48	trans-1,3-Dichloropropene		10061-02-6	110.97	21.5	TO-14	<0.0009	<0.2	U	<0.0009
49	Pentanenitrile		110-59-8	83.13	21.5	PNNL	0.007	1.9	0.0127	3.4
50	1,1,2-Trichloroethane		79-00-5	133.4	21.9	TO-14	<0.0014	<0.2	U	<0.0014
51	Toluene		108-88-3	92.14	22.5	TO-14	0.0053	1.3	0.0145	3.5
52	2-Hexanone		591-78-6	100.16	22.9	SAS	0.0435	9.7	0.1032	23.1
53	1,2-Dibromoethane		106-93-4	187.86	24.1	TO-14	<0.0026	<0.3	U	<0.0026
54	Octane		111-65-9	114.23	24.6	SAS	0.0043	0.8	0.0351	6.9
55	Tetrachloroethylene		127-18-4	165.83	25.1	TO-14	0.0035	0.5	0.0062	0.8
56	Chlorobenzene		108-90-7	112.56	26.7	TO-14	<0.0013	<0.3	U	<0.0013
57	Hexanenitrile		628-73-9	97.13	27.0	PNNL	0.0033	0.8	0.0074	1.7
58	Ethylbenzene		100-41-4	106.17	27.6	TO-14	<0.0014	<0.3	U	<0.0014
59	p/m-Xylene		106-42-3	106.17	28.0	TO-14	<0.0065	<1.4	U	<0.0065
60	3-Heptanone		106-35-4	114.19	28.1	SAS	1.1718	230	1.988	390
61	2-Heptanone		110-43-0	114.19	28.2	SAS	<0.2711	53.2	0.5675	111
62	Bromoform		75-25-2	175	28.3	TO-14	<0.0059	<0.8	U	<0.0059
63	Cyclohexanone		108-94-1	98.14	28.4	SAS	0.0161	3.7	0.0785	17.9
64	Styrene		100-42-5	104.15	28.9	TO-14	<0.0011	<0.2	U	<0.0011
65	1,1,2,2-Tetrachloroethane		79-34-5	167.85	29.1	TO-14	<0.0021	<0.3	U	<0.0021
66	o-Xylene		95-47-6	106.17	29.2	TO-14	<0.0014	<0.3	U	<0.0014
67	Nonane		111-84-2	128.26	29.6	SAS	0.0027	0.5	0.0253	4.4
68	1-Ethyl-2-Methyl-Benzene		611-14-3	120.19	32.6	TO-14	<0.0009	<0.2	U	<0.0009
69	1,3,5-Trimethylbenzene		108-67-8	120.19	32.9	TO-14	<0.0009	<0.2	U	<0.0009
70	2-Octanone		111-13-7	128.21	33.1	SAS	<0.0772	<13.5	0.0139	2.4
71	1,2,4-Trimethylbenzene		95-63-6	120.19	34.1	TO-14	<0.0013	<0.2	U	<0.0013
72	Decane		124-18-5	142.2	34.3	SAS	0.0046	0.7	0.0816	12.9
73	1,3-Dichlorobenzene		541-73-1	147	34.6	TO-14	<0.0009	<0.1	U	<0.0009
74	1,4-Dichlorobenzene		106-46-7	147	34.8	TO-14	<0.0009	<0.1	U	<0.0009
75	1,2-Dichlorobenzene		95-50-1	147	36.0	TO-14	<0.0009	<0.1	U	<0.0009
76	Undecane		1120-21-4	156.31	38.3	PNNL	<0.0141	<2.0	0.092	13.2
77	1,2,4-Trichlorobenzene		120-82-1	181.45	42.2	TO-14	<0.0014	<0.2	U	<0.0014
78	Dodecane		112-40-3	170.34	42.7	PNNL	<0.0049	<0.6	0.0964	12.7
79	Hexachloro-1,3-butadiene		87-68-3	260.76	44.0	TO-14	<0.0023	<0.2	U	<0.0023
80	Tridecane		629-50-5	184.36	46.5	PNNL	<0.003	<0.4	0.0103	15.9
81	Tetradecane		629-59-4	198.34	50.5	PNNL	<0.0021	<0.2	U	<0.0021
Sum of Targets							3.08		5.69	

Table 4.7 241-AY-102 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds	CAS	VP102-010-C134		VP102-014-C298	
		(mg/m3)	(ppbv)	(mg/m3)	(ppbv)
1 Propene	115-07-1	0.0323	17.2	0.0441	23.5
2 Propane	74-98-6	0.032	16.3	0.0363	18.4
3 Dichlorodifluoromethane	75-71-8	0.0038	0.7	J	J
4 Chloromethane	74-87-3	0.0014	0.6	J	J
5 1,2-dichloro 1,1,2,2-tetrafluoroeth	76-14-2	<0.0065	<0.9	U	U
6 Methanol	67-56-1	0.2194	153	0.1783	125
7 Vinyl Chloride	75-01-4	<0.0008	<0.3	U	<0.3
8 Butane	106-97-8	0.0716	27.6	0.0989	38.1
9 Bromomethane	74-83-9	<0.0026	<0.6	U	<0.6
10 Chloroethane	75-00-3	<0.0027	<0.9	U	<0.9
11 Ethanol	64-17-5	0.3466	169	0.3426	167
12 Acetonitrile	75-05-8	0.0127	6.9	J	J
13 Acetone	67-64-1	0.4031	155	0.3481	134
14 Trichlorofluoromethane	75-69-4	0.0453	7.4	0.0357	5.8
15 Isopropyl Alcohol	67-63-0	0.0093	3.5	J	J
16 Furan	110-00-9	<0.0036	<1.2	U	<1.2
17 Pentane	109-66-0	0.0394	12.3	0.058	18.0
18 1,1-Dichloroethene	75-35-4	<0.0019	<0.4	U	<0.4
19 Methylene Chloride	75-09-2	0.0038	1.0	BI	BI
20 1,1,2-trichloro 1,2,2-trifluoroethane	76-13-1	0.0041	0.5	J	J
21 Propanenitrile	107-12-0	0.0076	3.1	J	J
22 Propanol	71-23-8	0.0374	13.9	0.0313	11.7
23 1,1-Dichloroethane	75-34-3	<0.001	<0.2	U	<0.2
24 2-Methylpentane	107-83-5	0.0127	3.3	J	J
25 Butanal	123-72-8	0.2387	74.2	0.3206	100
26 2-Butanone	78-93-3	0.171	53.1	0.1504	46.7
27 1-Hexene	592-41-6	0.0556	14.8	0.1033	27.5
28 cis-1,2-Dichloroethene	156-59-2	<0.0017	<0.4	U	<0.4
29 Hexane	110-54-3	0.0489	12.7	0.0737	19.2
30 Chloroform	67-66-3	0.0049	0.9	J	J
31 Tetrahydrofuran	109-99-9	0.0042	1.3	J	J
32 1,2-Dichloroethane	107-06-2	<0.0011	<0.3	U	<0.3
33 Butanenitrile	109-74-0	0.0455	14.8	0.0392	12.7
34 1,1,1-Trichloroethane	71-55-6	<0.0016	<0.3	U	<0.3
35 1-Butanol	71-36-3	0.2638	79.7	0.2263	68.4
36 Benzene	71-43-2	0.0035	1.0	J	J
37 Carbon Tetrachloride	56-23-5	<0.0017	<0.3	U	<0.3
38 Cyclohexane	110-82-7	0.0043	1.2	J	J
39 2-Pentanone	107-87-9	0.0714	18.6	0.0676	17.6
40 3-Methylhexane	589-34-4	0.0386	8.6	0.0602	13.5
41 1,2-Dichloropropane	78-87-5	<0.0015	<0.3	U	<0.3

Table 4.7 241-AY-102 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds		CAS	VP102-010-C134		VP102-014-C298	
			(mg/m3)	(ppbv)	(mg/m3)	(ppbv)
42	1,4-Dioxane	123-91-1	<0.0047	<1.2	<0.0047	<1.2
43	Trichloroethene	79-01-6	<0.0012	<0.2	<0.0012	<0.2
44	Heptane	142-82-5	0.2697	60.3	0.4456	100
45	cis-1,3-Dichloropropene	10061-01-5	<0.0012	<0.2	<0.0012	<0.2
46	4-Methyl-2-Pentanone	108-10-1	0.0059	1.3	0.0076	1.7
47	Pyridine	110-86-1	0.0832	23.6	0.0719	20.4
48	trans-1,3-Dichloropropene	10061-02-6	<0.0009	<0.2	<0.0009	<0.2
49	Pentanenitrile	110-59-8	0.0149	4.0	0.0171	4.6
50	1,1,2-Trichloroethane	79-00-5	<0.0014	<0.2	<0.0014	<0.2
51	Toluene	108-88-3	0.0174	4.2	0.0245	6.0
52	2-Hexanone	591-78-6	0.1187	26.6	0.1415	31.7
53	1,2-Dibromoethane	106-93-4	<0.0026	<0.3	<0.0026	<0.3
54	Octane	111-65-9	0.0521	10.2	0.0856	16.8
55	Tetrachloroethylene	127-18-4	0.0059	0.8	0.0052	0.7
56	Chlorobenzene	108-90-7	<0.0013	<0.3	<0.0013	<0.3
57	Hexanenitrile	628-73-9	0.0082	1.9	0.0096	2.2
58	Ethylbenzene	100-41-4	0.0012	0.3	0.0013	0.3
59	p/m-Xylene	106-42-3	0.0022	0.5	0.0025	0.5
60	3-Heptanone	106-35-4	2.2245	436	2.2985	451
61	2-Heptanone	110-43-0	0.5998	118	0.627	123
62	Bromoform	75-25-2	0.0008	0.1	<0.0059	<0.8
63	Cyclohexanone	108-94-1	0.1305	29.8	0.195	44.5
64	Styrene	100-42-5	<0.0011	<0.2	<0.0011	<0.2
65	1,2,2-Tetrachloroethane	79-34-5	0.0031	0.4	0.004	0.5
66	o-Xylene	95-47-6	0.0009	0.2	0.0008	0.2
67	Nonane	111-84-2	0.0364	6.4	0.0612	10.7
68	1-Ethyl-2-Methyl-Benzene	611-14-3	<0.0009	<0.2	<0.0009	<0.2
69	1,3,5-Trimethylbenzene	108-67-8	<0.0009	<0.2	<0.0009	<0.2
70	2-Octanone	111-13-7	0.0149	2.6	0.0254	4.5
71	1,2,4-Trimethylbenzene	95-63-6	0.0009	0.2	<0.0013	<0.2
72	Decane	124-18-5	0.0943	14.9	0.1632	25.7
73	1,3-Dichlorobenzene	541-73-1	<0.0009	<0.1	<0.0009	<0.1
74	1,4-Dichlorobenzene	106-46-7	<0.0009	<0.1	<0.0009	<0.1
75	1,2-Dichlorobenzene	95-50-1	0.0019	0.3	<0.0009	<0.1
76	Undecane	1120-21-4	0.1439	20.6	0.2622	37.6
77	1,2,4-Trichlorobenzene	120-82-1	<0.0014	<0.2	<0.0014	<0.2
78	Dodecane	112-40-3	0.1389	18.3	0.3287	43.2
79	Hexachloro-1,3-butadiene	87-68-3	0.0101	0.9	0.0051	0.4
80	Tridecane	629-50-5	0.2344	28.5	1.0278	125
81	Tetradecane	629-59-4	<0.0021	<0.2	<0.0021	<0.2
Sum of Targets			6.45		8.09	

Table 4.7 241-AY-102 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds			CAS	MW	Ret Time	Gas Std	VP102-002-C050		VP102-006-C042	
							(mg/m3)	Flag	(mg/m3)	Flag
1	Acetaldehyde		75-07-0	44	5.3					
2	1-Propene, 2-methyl-		115-11-7	56	5.8				0.0675	27
3	Propanal		123-38-6	58	8.0					
4	1-Hexene		592-41-6	84	13.1				0.0986	26.3
5	Nitric acid, ethyl ester		625-58-1	91	13.9					
6	Pentanal		110-62-3	86	17.9					
7	1-Heptene		592-76-7	98	18.6				0.0806	19.8
8	(Z)-3-Heptene		14850-22-7	98	19.0					
9	3-Heptene		592-78-9	98	19.1					
10	2-Heptene		592-77-8	98	19.4					
11	2-Heptene, (E)-		14686-13-6	98	19.9					
12	Cyclopropane, butyl-		930-37-4	98	20.4				0.0512	11.7
13	2,3-Hexadiene, 2-methyl-		29212-09-7	96	21.7					
14	1,4-Heptadiene		5675-22-9	96	21.7					
15	2-Heptyne		1119-65-9	96	22.8				0.0687	16
16	2-Hexanone		591-78-6	100	23.0				0.0698	15.6
17	4-Octene, (E)-		14850-23-8	112	23.1					
18	Heptane, 3-methyl-		589-81-1	114	23.3				0.1916	37.7
19	Heptane, 3-methylene-		1632-16-2	112	23.9				0.1079	21.6
20	4-Heptanone		123-19-3	114	27.4					
21	n-Butyl ether		142-96-1	130	28.4				0.1387	27.3
22	Ethyl ester of 2-bromo-1-ethenecarboxylic		31930-34-4	178	31.0					
23	1,1'-Bicyclohexyl-1,1'-diol			198	31.0					
24	Glycoxyaniline		503-86-6	99	31.1				0.137	31
25	2,2'-Biorepane		74793-02-5	198	31.2				0.0912	10.3
26	Hexanal, 2-ethyl-		123-05-7	128	31.6					
27	1,2-Nonadiene		22433-33-6	124	33.8					
Sum of TICs							0.22		1.37	
Sum of Targets and TICs							3.30		7.06	

Table 4.7 241-AY-102 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds	CAS	VP102-010-C134		VP102-014-C298	
		(mg/m3)	(ppbv)	(mg/m3)	(ppbv)
1 Acetaldehyde	75-07-0				
2 1-Propene, 2-methyl-	115-11-7	0.0913	36.5	0.1856	94.5
3 Propanal	123-38-6	0.1161	44.8	0.1075	43
4 1-Hexene	592-41-6	0.1389	37	0.1381	53.4
5 Nitric acid, ethyl ester	625-58-1			0.2358	62.9
6 Pentanal	110-62-3	0.2122	55.3		
7 1-Heptene	592-76-7			0.3214	83.7
8 (Z)-3-Heptene	14850-22-7			0.0754	17.2
9 3-Heptene	592-78-9	0.1097	25.1	0.2439	55.8
10 2-Heptene	592-77-8	0.1194	27.3		
11 2-Heptene, (E)-	14686-13-6	0.0922	21.1	0.2014	46
12 Cyclopropane, butyl-	930-57-4			0.0708	16.2
13 2,3-Hexadiene, 2-methyl-	29212-09-7			0.1165	27.2
14 1,4-Heptadiene	5675-22-9	0.0658	15.4		
15 2-Hepayne	1119-65-9	0.0887	20.7		
16 2-Hexanone	591-78-6	0.0805	18	0.1502	35
17 4-Octene, (E)-	14850-23-8			0.096	21.5
18 Heptane, 3-methyl-	589-81-1	0.2843	55.9	0.0923	18.5
19 Heptane, 3-methyle-	1632-16-2	0.1679	33.6	0.481	94.5
20 4-Heptanone	123-19-3	0.2968	58.3	0.3281	65.6
21 n-Butyl ether	142-96-1			0.3168	62.3
22 Ethyl ester of 2-bromo-1-ethenecarboxylic	31930-34-4	0.11	13.9	0.0577	9.9
23 1,1'-Bicyclohexyl-1,1'-diol					
24 Glycocyanidine	503-86-6			0.1374	15.5
25 2,2-Bioxepane	74793-02-5	0.1714	19.4	0.2381	26.9
26 Hexanal, 2-ethyl-	123-05-7	0.0904	15.8	0.0964	16.9
27 1,2-Nonadiene	22433-33-6			0.1275	23
Sum of TICs		2.24		3.82	
Sum of Targets and TICs		8.68		11.91	

Table 4.8 241-AZ-702 SUNMA™ Canister Organic Vapor Concentrations

Target Compounds			CAS	MW	Ret Time	Gas Std	VP702-004-C429		VP702-002-C428		VP702-007-C301	
							(mg/m3)	(ppbv)	(mg/m3)	(ppbv)	(mg/m3)	(ppbv)
1	Propene		115-071-1	42.1	4.5	SAS	0.0022	1.2	J	0.0039	3.1	J
2	Propane		74-98-6	44.1	4.5	SAS	0.0031	1.6	J	0.0116	5.9	J
3	Dichlorodifluoromethane		75-71-8	120.9	4.6	TO-14	0.0044	0.8	J	0.0051	0.9	J
4	Chloromethane		74-87-3	50.5	5.0	TO-14	0.0014	0.6	J	0.0014	0.6	J
5	1,2-dichloro-1,1,2,2-tetrafluoroethane		76-14-2	170.9	5.2	TO-14	<0.0065	<0.9	U	<0.0065	<0.9	U
6	Methanol		67-56-1	32.0	5.4	PNNL	0.0187	13.1	J	0.1417	99.1	J
7	Vinyl Chloride		75-01-4	62.5	5.5	TO-14	<0.0008	<0.3	U	<0.0008	<0.3	U
8	Butane		106-97-8	58.1	5.9	SAS	0.0029	1.1	J	0.011	4.2	J
9	Bromomethane		74-83-9	94.9	6.4	TO-14	<0.0026	<0.6	U	<0.0027	<0.6	U
10	Chloroethane		75-00-3	64.5	6.8	TO-14	<0.0027	<0.9	U	<0.0027	<0.9	U
11	Ethanol		64-17-5	46.1	7.0	SAS	0.0034	1.6	J	0.0837	40.7	J
12	Acetonitrile		75-05-8	41.1	7.4	PNNL	<0.002	<1.1	U	<0.002	<1.1	U
13	Acetone		67-64-1	58.1	7.9	SAS	0.0245	9.5	B	0.3186	123	J
14	Trichlorofluoromethane		75-69-4	137.4	8.3	TO-14	0.0031	0.5	J	0.1743	28.4	J
15	Isopropyl Alcohol		67-63-0	60.1	8.4	SAS	0.0012	0.5	J	0.0058	2.2	J
16	Furan		110-00-9	68.1	8.6	SAS	<0.0036	<1.2	U	<0.0036	<1.2	U
17	Pentane		109-66-0	72.0	9.0	SAS	0.001	0.3	J	0.0049	1.5	J
18	1,1-Dichloroethane		75-35-4	96.9	9.5	TO-14	<0.0019	<0.4	U	<0.0019	<0.4	U
19	Methylene Chloride		75-09-2	84.9	9.7	TO-14	0.0033	0.9	BJ	0.004	1.0	BJ
20	1,1,2-Trichloro-1,2,2-trifluoroethane		76-13-1	187.4	10.2	TO-14	<0.0028	0.3	J	0.0041	0.5	J
21	Propanenitrile		107-12-0	55.1	10.9	SAS	<0.0019	<0.8	U	0.0304	12.4	J
22	1-Propanol		71-23-8	60.1	11.0	SAS	<0.0014	<0.5	U	0.0186	7	J
23	1,1-Dichloroethane		75-34-3	99.0	11.8	TO-14	<0.001	<0.2	U	<0.001	<0.2	U
24	2-Methylpentane		70-83-5	86.2	12.1	SAS	<0.0024	<0.6	U	0.0009	0.2	J
25	Butanal		123-72-8	72.1	12.3	SAS	<0.003	<0.9	U	0.004	1.2	J
26	2-Butanone		78-93-3	72.1	12.5	SAS	0.0015	0.5	J	0.0405	12.6	J
27	1-Hexene		592-41-6	84.2	13.1	SAS	<0.0023	<0.6	U	<0.0023	<0.6	U
28	cis-1,2-Dichloroethene		156-59-2	96.9	13.7	TO-14	<0.0017	<0.4	U	<0.0017	<0.4	U
29	Hexane		110-54-3	86.2	13.7	SAS	<0.0016	<0.4	U	0.0045	1.2	J
30	Chloroform		67-66-3	119.4	13.9	TO-14	<0.0013	<0.2	U	0.0071	1.3	J
31	Tetrahydrofuran		109-99-9	72.1	14.6	SAS	<0.0008	<0.3	U	0.0019	0.6	J
32	1,2-Dichloroethane		107-06-2	99.0	15.3	TO-14	<0.0011	<0.3	U	<0.0011	<0.3	U
33	Butanenitrile		109-74-0	69.1	15.8	SAS	<0.0017	<0.6	U	0.0276	8.9	J
34	1,1,1-Trichloroethane		71-55-6	133.4	15.8	TO-14	<0.0016	<0.3	U	<0.0016	<0.3	U
35	1-Butanol		71-36-3	74.1	16.3	SAS	0.1097	33.1	J	0.0185	5.6	J
36	Benzene		71-43-2	78.1	16.7	TO-14	0.0013	0.4	J	0.0013	0.4	J
37	Carbon Tetrachloride		56-23-5	153.8	17.0	TO-14	<0.0017	<0.3	U	<0.0017	<0.3	U
38	Cyclohexane		110-82-7	84.2	17.3	PNNL	<0.0018	<0.5	U	<0.0018	<0.5	U
39	2-Pentanone		107-87-9	86.1	17.9	SAS	0.0007	0.2	J	0.002	0.5	J
40	3-Methylhexane		589-34-4	100.2	17.9	SAS	<0.0027	<0.6	U	<0.0027	<0.6	U
41	1,2-Dichloropropane		78-87-5	113.0	18.3	TO-14	<0.0015	<0.3	U	<0.0015	<0.3	U
42	1,4-Dioxane		123-91-1	88.1	18.6	SAS	<0.0047	<1.2	U	<0.0047	<1.2	U

Table 4.8 241-AZ-702 SUMMA™ Canister Organic Vapor Concentrations

43	Trichloroethene	CAS	MW	Ret Time	Gas Std	VP702-004-C429		VP702-002-C428		VP702-007-C301	
						(mg/m3)	Flag	(mg/m3)	Flag	(mg/m3)	Flag
43	Trichloroethene	79-01-6	131.4	18.7	TO-14	<0.0012	<0.2	U	<0.0012	J	<0.0012
44	Heptane	142-82-5	100.2	19.2	SAS	<0.0009	<0.2	U	<0.0009	<0.2	U
45	cis-1,3-Dichloropropene	10061-01-5	111.0	20.4	TO-14	<0.0012	<0.2	U	<0.0012	<0.2	U
46	4-Methyl-2-Pentanone	108-10-1	100.2	20.4	SAS	<0.0017	<0.4	U	<0.0017	<0.4	U
47	Pyridine	110-86-1	79.1	20.6	PNNL	<0.0093	<2.6	U	<0.0093	<2.6	U
48	trans-1,3-Dichloropropene	10061-02-6	111.0	21.5	TO-14	<0.0009	<0.2	U	<0.0009	<0.2	U
49	Pentanenitrile	110-59-8	83.1	21.5	PNNL	<0.0021	<0.6	U	<0.0021	<0.6	U
50	1,1,2-Trichloroethane	79-00-5	133.4	21.9	TO-14	<0.0014	<0.2	U	<0.0014	<0.2	U
51	Toluene	108-88-3	92.1	22.5	TO-14	0.003	0.7	J	0.0022	0.5	J
52	2-Hexanone	591-78-6	100.2	22.9	SAS	<0.0049	<1.1	U	<0.0049	<1.1	U
53	1,2-Dibromooethane	106-93-4	187.9	24.1	TO-14	<0.0026	<0.3	U	<0.0026	<0.3	U
54	Octane	111-65-9	114.2	24.6	SAS	<0.0012	<0.2	U	<0.0012	<0.2	U
55	Tetrachloroethylene	127-18-4	165.8	25.1	TO-14	<0.0021	<0.3	U	<0.0021	<0.3	U
56	Chlorobenzene	108-90-7	112.6	26.7	TO-14	<0.0013	<0.3	U	<0.0013	<0.3	U
57	Hexanenitrile	628-73-9	97.1	27.0	PNNL	<0.0026	<0.6	U	<0.0026	<0.6	U
58	Ethylbenzene	100-41-4	106.2	27.6	TO-14	<0.0014	<0.3	U	<0.0014	<0.3	U
59	p/m-Xylene	106-42-3	106.2	28.0	TO-14	<0.0065	<1.4	U	<0.0065	<1.4	U
60	2-Heptanone	110-43-0	114.2	28.2	SAS	<0.0056	<1.1	U	<0.0056	<1.1	U
61	Bromoform	75-25-2	175.0	28.3	TO-14	<0.0059	<0.8	U	<0.0059	<0.8	U
62	Cyclohexanone	108-94-1	98.1	28.4	SAS	<0.0029	<0.7	U	<0.0029	<0.7	U
63	Styrene	100-42-5	104.2	28.9	TO-14	<0.0011	<0.3	U	<0.0011	<0.3	U
64	1,1,2,2-Tetrachloroethane	79-34-5	167.9	29.1	TO-14	<0.0021	<0.3	U	<0.0021	<0.3	U
65	o-Xylene	95-47-6	106.2	29.2	TO-14	<0.0014	<0.3	U	<0.0014	<0.3	U
66	Nonane	111-84-2	128.3	29.6	SAS	<0.0009	<0.2	U	<0.0009	<0.2	U
67	1-Ethyl-2-Methylbenzene	611-14-3	120.2	32.9	TO-14	<0.0009	<0.2	U	<0.0009	<0.2	U
68	1,3,5-Trimethylbenzene	108-67-8	120.2	32.9	TO-14	<0.0009	<0.2	U	<0.0009	<0.2	U
69	2-Octanone	111-13-7	128.2	33.1	SAS	<0.0072	<13.5	U	<0.0072	<13.5	U
70	1,2,4-Trimethylbenzene	95-63-6	120.2	34.1	TO-14	<0.0013	<0.2	U	<0.0013	<0.2	U
71	3-Heptanone	106-33-4	114.2	34.3	SAS	<0.0057	<1.1	U	<0.0057	<1.1	U
72	Decane	124-18-5	142.2	34.3	SAS	<0.0015	<0.2	U	<0.0015	<0.2	U
73	1,3-Dichlorobenzene	541-73-1	147.0	34.6	TO-14	<0.0009	<0.1	U	<0.0009	<0.1	U
74	1,4-Dichlorobenzene	106-46-7	147.0	34.8	TO-14	<0.0009	<0.1	U	<0.0009	<0.1	U
75	1,2-Dichlorobenzene	95-50-1	147.0	36.0	TO-14	<0.0009	<0.1	U	<0.0009	<0.1	U
76	Undecane	1120-21-4	156.3	38.7	PNNL	<0.0141	<2.0	U	<0.0141	<2.0	U
77	1,2,4-Trichlorobenzene	120-82-1	181.5	42.2	TO-14	<0.0014	<0.2	U	<0.0014	<0.2	U
78	Dodecane	112-40-3	170.3	42.7	PNNL	<0.0049	<0.6	U	<0.0049	<0.6	U
79	Hexachloro-1,3-butadiene	87-68-3	260.8	44.0	TO-14	<0.0023	<0.2	U	<0.0023	<0.2	U
80	Tridecane	629-50-5	184.4	46.5	PNNL	<0.003	<0.4	U	<0.003	<0.4	U
81	Tetradecane	629-59-4	198.3	50.0	PNNL	<0.0021	<0.2	U	<0.0021	<0.2	U
Sum of Targets						0.2113		1.0787		0.8139	

Table 4.8 241-AZ-702 SUMMA™ Canister Organic Vapor Concentrations

Target Compounds		VP702-010-C160			VP702-013-C020			VP702-013-C020 (Dup)		
		CAS	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)
1	Propane	115-07-1	0.0129	6.9		0.0193	10.3		0.0193	10.3
2	Propane	74-98-6	0.015	7.6		0.0177	9		0.0185	9.4
3	Dichlorodifluoromethane	75-71-8	0.0037	0.7	J	0.0042	0.8	J	0.0041	0.8
4	Chloromethane	74-87-3	<0.0012	<0.5	U	0.0012	0.5	J	0.0011	0.5
5	1,1,2-dichloro-1,1,2,2-tetrafluoroethane	76-14-2	<0.0065	<0.9	U	<0.0065	<0.9	U	<0.0065	<0.9
6	Methanol	67-56-1	0.0903	63.2		0.1014	70.9		0.1059	74
7	Vinyl Chloride	75-01-4	<0.0008	<0.3	U	<0.0008	<0.3	U	<0.0008	<0.3
8	Butane	106-97-8	0.0219	8.4		0.0327	12.6		0.0332	12.8
9	Bromomethane	74-83-9	<0.0026	<0.6	U	<0.0026	<0.6	U	<0.0026	<0.6
10	Chloroethane	75-00-3	<0.0027	<0.9	U	<0.0027	<0.9	U	<0.0027	<0.9
11	Ethanol	64-17-5	0.0761	37		0.0788	38.3		0.0772	37.5
12	Acetonitrile	75-05-8	<0.002	<1.1	U	<0.002	<1.1	U	<0.002	<1.1
13	Acetone	67-64-1	0.2198	84.8		0.2833	109		0.2989	115
14	Trichlorofluoromethane	75-69-4	0.1008	16.4		0.1249	20.4		0.1208	19.7
15	Isopropyl Alcohol	67-63-0	0.0053	2		0.0053	2	J	0.005	1.9
16	Furan	110-00-9	<0.0036	<1.2	U	<0.0036	<1.2	U	<0.0036	<1.2
17	Pentane	109-66-0	0.0062	1.9	J	0.0076	2.4	J	0.0072	2.3
18	1,1-Dichloroethene	75-35-4	<0.0019	<0.4	U	<0.0019	<0.4	U	<0.0019	<0.4
19	Methylene Chloride	75-09-2	0.0028	0.7	BJ	0.0034	0.9	BJ	0.0031	0.8
20	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0024	0.3	J	0.003	0.4	J	0.0026	0.3
21	Propanenitrile	107-12-0	0.0195	7.9		0.0206	8.4		0.0211	8.6
22	1-Propanol	71-23-8	0.017	6.3		0.0156	5.8		0.015	5.6
23	1,1-Dichloroethane	75-34-3	<0.001	<0.2	U	<0.001	<0.2	U	<0.001	<0.2
24	2-Methylpentane	107-83-5	0.0028	0.7	J	0.0027	0.7	J	0.0017	0.5
25	Butanal	123-72-8	0.0091	2.8	J	0.0081	2.5	J	0.0083	2.6
26	2-Butanone	78-93-3	0.0736	22.9		0.0624	19.4		0.0632	19.6
27	1-Hexene	592-41-6	<0.0023	<0.6	U	<0.0023	<0.6	U	0.0011	0.3
28	cis-1,2-Dichloroethene	136-59-2	<0.0017	<0.4	U	<0.0017	<0.4	U	<0.0017	<0.4
29	Hexane	110-54-3	0.0035	0.9	J	0.0036	0.9	J	0.0034	0.9
30	Chloroform	67-66-3	0.0044	0.8	J	0.0032	1	J	0.003	1
31	Tetrahydrofuran	109-99-9	0.0011	0.3	J	0.0013	0.4	J	0.0012	0.4
32	1,2-Dichloroethane	107-06-2	<0.0011	<0.3	U	<0.0011	<0.3	U	<0.0011	<0.3
33	Butanenitrile	109-74-0	0.0206	6.7		0.0228	7.4		0.0231	7.5
34	1,1,1-Trichloroethane	71-55-6	<0.0016	<0.3	U	<0.0016	<0.3	U	<0.0016	<0.3
35	1-Butanol	71-36-3	0.1232	37.2		0.0701	21.2		0.074	22.4
36	Benzene	71-43-2	0.001	0.3	J	0.0011	0.3	J	0.0012	0.3
37	Carbon Tetrachloride	56-23-5	<0.0017	<0.3	U	<0.0017	<0.3	U	<0.0017	<0.3
38	Cyclohexane	110-82-7	<0.0018	<0.5	U	<0.0018	<0.5	U	<0.0018	<0.5
39	2-Pentanone	107-87-9	0.0025	0.6	J	0.0021	0.5	J	0.0021	0.6
40	3-Methylhexane	589-34-4	0.0007	0.2	J	0.0011	0.2	J	0.0009	0.2
41	1,2-Dichloropropane	78-87-5	<0.0015	<0.3	U	<0.0015	<0.3	U	<0.0015	<0.3
42	1,4-Dioxane	123-91-1	<0.0047	<1.2	U	<0.0047	<1.2	U	<0.0047	<1.2

Table 4.8 241-AZ-702 SUN/MA™ Canister Organic Vapor Concentrations

Target Compounds	VP702-010-CI60			VP702-013-C020			VP702-013-C020 (Dup)		
	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
43 Trichloroethene	79-01-6	<0.0012	<0.2	U	<0.0012	<0.2	U	<0.0012	<0.2
44 Heptane	142-82-5	<0.0009	<0.2	U	<0.0009	<0.2	U	<0.0009	<0.2
45 cis-1,3-Dichloropropene	10061-01-5	<0.0012	<0.2	U	<0.0012	<0.2	U	<0.0012	<0.2
46 4-Methyl-2-Pentanone	108-10-1	0.0003	0.1	J	<0.0017	<0.4	U	<0.0017	<0.4
47 Pyridine	110-86-1	<0.0093	<2.6	U	0.0025	7.1	J	0.0139	3.9
48 trans-1,3-Dichloropropene	10061-02-6	<0.0009	<0.2	U	<0.0009	<0.2	U	<0.0009	<0.2
49 Pentanenitrile	110-59-8	0.003	0.8	J	<0.0021	<0.6	U	0.003	0.8
50 1,1,2-Trichloroethane	79-00-5	<0.0014	<0.2	U	<0.0014	<0.2	U	<0.0014	<0.2
51 Toluene	108-88-3	0.0016	0.4	J	0.0019	0.5	J	0.0017	0.4
52 2-Hexanone	591-78-6	0.0011	0.2	J	<0.0049	<1.1	U	<0.0049	<1.1
53 1,2-Dibromoethane	106-93-4	<0.0026	<0.3	U	<0.0026	<0.3	U	<0.0026	<0.3
54 Octane	111-65-9	<0.0012	<0.2	U	<0.0012	<0.2	U	<0.0012	<0.2
55 Tetrachloroethylene	127-18-4	0.0146	2.0	J	0.0168	2.3	J	0.0159	2.1
56 Chlorobenzene	108-90-7	<0.0013	<0.3	U	<0.0013	<0.3	U	<0.0013	<0.3
57 Hexanenitrile	628-73-9	<0.0026	<0.6	U	<0.0026	<0.6	U	<0.0026	<0.6
58 Ethylbenzene	100-41-4	<0.0014	<0.3	U	<0.0014	<0.3	U	<0.0014	<0.3
59 p/m-Xylene	106-42-3	<0.0065	<1.4	U	<0.0065	<1.4	U	<0.0065	<1.4
60 2-Heptanone	110-43-0	0.0023	0.5	J	0.002	0.4	J	0.0014	0.3
61 Bromoform	75-25-2	<0.0039	<0.8	U	<0.0039	<0.8	U	<0.0039	<0.8
62 Cyclohexanone	108-94-1	<0.0029	<0.7	U	<0.0029	<0.7	U	0.009	2.1
63 Styrene	100-42-5	<0.0011	<0.2	U	<0.0011	<0.2	U	<0.0011	<0.2
64 1,1,2,2-Tetrachloroethane	79-34-5	<0.0021	<0.3	U	<0.0021	<0.3	U	<0.0021	<0.3
65 o-Xylene	95-47-6	<0.0014	<0.3	U	<0.0014	<0.3	U	<0.0014	<0.3
66 Nonane	111-84-2	<0.0009	<0.2	U	<0.0009	<0.2	U	<0.0009	<0.2
67 1-Ethyl-2-Methylbenzene	611-14-3	<0.0009	<0.2	U	<0.0009	<0.2	U	<0.0009	<0.2
68 1,3,5-Trimethylbenzene	108-67-8	<0.0009	<0.2	U	<0.0009	<0.2	U	<0.0009	<0.2
69 2-Octanone	111-13-7	<0.0772	<13.5	U	<0.0772	<13.5	U	<0.0772	<13.5
70 1,2,4-Trimethylbenzene	95-63-6	<0.0013	<0.2	U	<0.0013	<0.2	U	<0.0013	<0.2
71 3-Heptanone	106-35-4	0.0133	2.6	J	0.0105	2.1	J	0.0092	1.8
72 Decane	124-18-5	0.0037	0.6	J	0.0029	0.5	J	0.0025	0.4
73 1,3-Dichlorobenzene	541-73-1	<0.0009	<0.1	U	<0.0009	<0.1	U	<0.0009	<0.1
74 1,4-Dichlorobenzene	106-46-7	<0.0009	<0.1	U	<0.0009	<0.1	U	<0.0009	<0.1
75 1,2-Dichlorobenzene	95-50-1	<0.0009	<0.1	U	<0.0009	<0.1	U	<0.0009	<0.1
76 Undecane	1120-21-4	<0.0141	<2.0	U	<0.0141	<2.0	U	<0.0141	<2.0
77 1,2,4-Trichlorobenzene	120-82-1	<0.0014	<0.2	U	<0.0014	<0.2	U	<0.0014	<0.2
78 Dodecane	112-40-3	0.0261	3.4	J	<0.0049	<0.6	U	<0.0049	<0.6
79 Hexachloro-1,3-butadiene	87-68-3	0.004	0.4	BJ	0.0035	0.5	BJ	0.0041	0.4
80 Tridecane	629-50-5	0.2323	28.2	U	<0.003	<0.4	U	<0.003	<0.4
81 Tetradecane	629-59-4	<0.0021	<0.2	U	<0.0021	<0.2	U	<0.0021	<0.2
Sum of Targets		1.2561			1.0667			1.0968	

Table 4.8 241-AZ-702 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds			CAS	MW	Ret Time	Gas Std	VP702-004-C429			VP702-002-C428			VP702-007-C301		
							(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
1	Ethane, 1-chloro-1,1-difluoro-		75-68-3	100	5.0					0.0092	2.1	NJ	0.0099	2.2	NJ
2	Cyclopropane		75-19-4	42	5.1										
3	Acetaldehyde		75-07-0	44	5.4					0.0784	39.9	NJ			
4	1-Propene, 2-methyl-		115-11-7	56	5.8					0.0097	3.9	NJ	0.0332	13.3	NJ
5	Unknown Ketone				12.0										
6	Butanal		123-72-8	72	12.3										
7	2-Butanol		78-92-2	74	13.0										
8	3-Heptanone		106-35-4	114	28.1										
9	Unknown Alkane				33.5					0.0142		NJ	0.0104		NJ
10	Unknown hydrocarbon														
11	Limonene		138-86-3	136	35.9										
12	Hexane, 3,3-dimethyl-		563-16-6	114	37.0					0.0102	2.0	NJ			
13	Undecane, 4,7-dimethyl-		17301-32-5	184	37.1										
14	Dodecane, 2,6,10-trimethyl-		3891-98-3	212	37.4										
15	Undecane, 5,7-dimethyl-		17312-83-3	184	37.4										
16	Unknown C12 Alkane				37.4					0.0437		NJ			
Sum of TICs							0.00			0.17			0.05		
Sum of Targets and TICs							0.21			1.24			0.87		

Table 4.8 241-AZ-702 SUMMA™ Canister Organic Vapor Concentrations

Tentatively Identified Compounds		CAS	VP702-010-C160		VP702-013-C020		VP702-013-C020 (Dup)				
			(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag	(mg/m3)	(ppbv)	Flag
1	Ethane, 1-chloro-1,1-difluoro-	75-68-3	0.0091	2.0	NJ				0.0093	2.1	NJ
2	Cyclopropane	75-19-4				0.0066	3.5	NJ			
3	Acetaldehyde	75-07-0									
4	1-Propene, 2-methyl-	115-11-7	0.0408	16.3	NJ	0.0619	24.8	NJ	0.066	26.4	NJ
5	Unknown Ketone		0.0265		NJ						
6	Butanal	123-72-8	0.0143	4.5	NJ	0.0131	4.1	NJ	0.013	4.0	NJ
7	2-Butanol	78-92-2	0.0065	2.0	NJ						
8	3-Heptanone	106-35-4	0.0059	1.2	NJ						
9	Unknown Alkane		0.0102		NJ				0.0085		NJ
10	Unknown hydrocarbon										
11	Limontene	138-86-3	0.0063	1.0	NJ						
12	Hexane, 3,3-dimethyl-	563-16-6									
13	Undecane, 4,7-dimethyl-	17301-32-5				0.0706	8.6	NJ			
14	Dodecane, 2,6,10-trimethyl-	3891-98-3				0.0293	3.1	NJ			
15	Undecane, 5,7-dimethyl-	17312-83-3							0.0259	3.2	NJ
16	Unknown C12 Alkane										
Sum of TICs			0.12			0.18			0.12		
Sum of Targets and TICs			1.38			1.25			1.22		

5.0 References

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Jones, J. M., 1998, *Process Test Procedure: Waste Retrieval Sluicing System Emissions Collection*, PTP-320-001, Rev. A-0, Lockheed Martin Hanford Corp., for Fluor Daniel Hanford, Inc., Richland, Washington.

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Sasaki, L. M., 1998, *Waste Retrieval Sluicing System Vapor Sampling and Analysis Plan for Evaluation of Organic Emissions*, HNF-3732 Rev. 0-A, Lockheed Martin Hanford Corp. for Fluor Daniel Hanford, Inc., Richland, Washington.

APPENDIX A

CHAIN OF CUSTODY FORMS

HNF-4073
Rev. 0

STT

A00 002

Battelle Pacific Northwest National Laboratory	CHAIN OF CUSTODY	PNNL-TVP-000071
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Custody Form Initiator S. O. Slate - PNNL
Company Contact J. F. Sickles - LMHC

HNF-4073
Rev. 0

Telephone (509) 376-^{5936 225}~~449~~-12-25-98
Fax: 376-2329
Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 -16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. _____

Bill of Lading/Airbill No. N/A

Offsite Property No. N/A

Method of Shipment Government Truck

Collectors: LAPingel

Shipped to PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

12/16/98 1330

VP006-005-1298, baseline STT ambient air

VP006-013-1298, baseline STT

VP006-021-1298, STT operation slurry submersible pump

VP006-028-1298, STT ambient air during booster pump operation

Booster Pump @ t = 0.5 hr

1400

1528

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:30	<i>[Signature]</i>	12-15-98	1430
<i>[Signature]</i>	12-15-98	1630	<i>[Signature]</i>	12-15-98	1630
<i>[Signature]</i>	12/25/98	942	<i>[Signature]</i>	12-25-98	0842
<i>[Signature]</i>	12-25-98	1040	<i>[Signature]</i>	12-28-98	1040

Comments:

Final Sample Disposition Consumed in analysis.
S.O. Slate 12-31-98

PNNL (only) Checklist	Pick-up / Delivery	Comments
Media labeled and checked?	Y/N	
Letter of instruction?	Y/N	
Media in good condition?	Y/N / Y/N	
COC info/signatures complete?	Y/N / Y/N	
Rad release stickers on samples?	/ Y/N	
Activity report from 222S?	/ Y/N	
RSR/release? (a ≤ 100/b ≤ 400 pCi/g)	/ Y/N	
COC copy for LRB, RIDS filed:	/ Y/N	

A00 003

(HNF-3732)

POC _____ POC _____

(Revised 12/15/98 PNNL)

① correction made 12-17-98 LAPingel

Custody Form Initiator

S. O. Slate - PNNL

HNF-4073
Rev. 0

Telephone (509) 376-1149 ^{5936 ses} 12-28-98
Fax: 376-2329
Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 -16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. _____

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: LAPingel

Shipped to

PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

VP006-037-1298, STT booster pump operation, t = 1.0 hr (1)
VP006-045-1298, STT booster pump operation, t = 1.5 hr (1)
VP006-054-1298, STT booster pump operation, t = 2.0 hr (1)
VP006-062, 1298, STT booster pump operation, t = 2.5 hr (1)

12/16/98 1647
↓ 1710
↓ 1747
↓ 1811

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<u>[Signature]</u>	12/16/98	1410	<u>[Signature]</u>	12-15-98	1430
<u>[Signature]</u>	12-15-98	1630	<u>[Signature]</u>	12-15-98	1630
<u>[Signature]</u>	12/15/98	947	<u>[Signature]</u>	12-28-98	0842
<u>[Signature]</u>	12-28-98	1030	<u>[Signature]</u>	12-28-98	1030

Final Sample Disposition

Consumed in analysis
12-31-98 S.O. Slate

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

Comments

A00 004

POC

POC

(Revised 12/15/98 PNNL)

(HNF-3732)

① correction made LAPingel 12-17-98

Battelle Pacific
Northwest National Laboratory

CHAIN OF CUSTODY

PNNL-TVP-000071

Custody Form Initiator

S. O. Slate - PNNL

Company Contact

J. F. Sickles - LMHC

HNF-4073
Rev. 0

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Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 - 16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. _____

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: L.A. Pingsel

Shipped to

PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

VP006-071-1298, STT booster pump operation, t = ~~2.5~~ ^{3.0} hr. ①

12/16/98 1852

VP006-078-1298, STT booster pump operation, t = ~~3.0~~ ^{3.5} hr. ①

1911

VP006-086-1298, STT booster pump operation, t = ~~3.5~~ ^{4.0} hr. ①

2003

VP006-093-1298, STT booster pump operation, t = ~~4.0~~ ^{4.5} hr. ①

2023

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:30	<i>[Signature]</i>	12-15-98	1431
<i>[Signature]</i>	12-15-98	1620	<i>[Signature]</i>	12-15-98	1632
<i>[Signature]</i>	12-15-98	1911	<i>[Signature]</i>	12-28-98	0842
<i>[Signature]</i>	12-28-98	1030	<i>[Signature]</i>	12-28-98	1030

Final Sample Disposition

Consumed in analysis
12-31-98 S.O. Slate

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

400 005

POC _____ POC _____

(HNF-3732)

(Revised 12/15/98 PNNL)

① correction made L.A. Pingsel 12-17-98

Custody Form Initiator S. O. Slate - PNNL

Company Contact J. F. Sickles - LMHC

HNF-4073
Rev. 0

Telephone (509) 376-1149 ^{3936 use} 12-28-98
Fax: 376-2329
Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 - 16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. _____

Bill of Lading/Airbill No. N/A

Offsite Property No. N/A

Method of Shipment Government Truck

Collectors: LAPingel

Shipped to PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

VP006-101-1298, STT booster pump operation, t = ^{5.0} ~~4.5~~ hr. ①
VP006-108-1298, STT booster pump operation, t = ^{5.5} ~~5.0~~ hr. ①
VP006-116-1298, STT booster pump operation, t = ^{6.0} ~~5.5~~ hr. ①
① 000
VP006-123-1298, STT booster pump operation, t = ^{6.0} ~~5.5~~ hr. ① not used

12/16/98 2104
2125
2204

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<u>John C. ...</u>	12-15-98	1415	<u>John C. ...</u>	12-15-98	1430
<u>John C. ...</u>	12-15-98	1630	<u>John C. ...</u>	12-15-98	1630
<u>John C. ...</u>	12-15-98	942	<u>John C. ...</u>	12-22-98	0812
<u>John C. ...</u>	12-22-98	1030	<u>John C. ...</u>	12-22-98	1030

Final Sample Disposition Consumed in analysis
12-31-98 S.O. Slate

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

000 006

POC _____ POC _____

(HNF-3732)

(Revised 12/15/98 PNNL)

① correction made LAPingel 12-17-98

Custody Form Initiator

S. O. Slate - PNNL

Company Contact

J. F. Sickles - LMHC

HNF-4073

Rev. 0

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Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 - 16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. _____

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: LAPingel

Shipped to

PNNL

Possible Sample Hazards/Remarks

Unknown at time of sampling

Sample Identification

Sample Date/Time

12/16/98 2220

↓ 1300

VP006-136-1298, STT trip blank

VP006-141-1298, STT field blank.

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<u>[Signature]</u>	12/15/98	14:30	<u>[Signature]</u>	12-15-98	1430
<u>[Signature]</u>	12-16-98	1630	<u>[Signature]</u>	12-15-98	1630
<u>[Signature]</u>	12/28/98	942	<u>[Signature]</u>	12-28-98	0942
<u>[Signature]</u>	12-28-98	1030	<u>[Signature]</u>	12-28-98	1030

Final Sample Disposition

Consumed in analysis
12-31-98 S.O. Slate

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

A00 007

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

① correction made LAPingel 12-17-98

HNF-4073
Rev. 0

TST

ADD 008

Custody Form Initiator

S. O. Slate - PNNL

Company Contact

J. F. Sickles - LMHC

HNF-4073
Rev. 0Telephone (509) 376-1149 ⁵⁹³⁶ 12-28-98

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/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm

HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 - 16 - 98

Preparation date: 12 - 15 - 98

Ice Chest No.

Field Logbook No. _____

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: LAPingel

Shipped to

PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

- ✓ ① 084 Booster pump @ $t = 4.0$ hr ①
VP006-129-1394, post shutdown TST, $t = 3.0$ hr.
✓ ① 076 Booster pump @ $t = 3.5$ hr ①
VP006-131-1395, post shutdown TST, $t = 3.0$ hr.
✓ ① 052 Booster pump @ $t = 2.0$ hr ①
VP006-134-1396, TST trip blank
① 060 Booster pump @ $t = 2.5$ hr ①
VP006-138-1398, TST field blank

Sample Date/Time

① 98
12/16/98 1957
1906
1741
1808

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:25	<i>[Signature]</i>	12-15-98	1425
<i>[Signature]</i>	12-15-98	1630	<i>[Signature]</i>	12-15-98	1630
<i>[Signature]</i>	12-15-98	1942	<i>[Signature]</i>	12-28-98	0842
<i>[Signature]</i>	12-28-98	1030	<i>[Signature]</i>	12-28-98	1030
<i>[Signature]</i>	12-28-98	1145	<i>[Signature]</i>	12-28-98	1145
<i>[Signature]</i>	12-28-98	11:58	<i>[Signature]</i>	12/15/99	

Final Sample Disposition

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? ($a \leq 100$ b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

Comments

A00 OC9

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

5 of 5

① corrections made LAPingel 12-17-98

Custody Form Initiator S. O. Slate - PNNL
Company Contact J. F. Sickles - LMHC

HNF-4073
Rev. 0

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Fax: 376-2329
Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 - ~~16~~ -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. _____

Bill of Lading/Airbill No. N/A

Offsite Property No. N/A

Method of Shipment Government Truck

Collectors: LA Pangel

Shipped to PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

12/16/98 1352

1325

1325

1325

1325

1325

1325

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1325

1325

1325

1325

1325

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1325

1325

- ① 011 Baseline Stack ①
VP006-092-1378, TST booster pump operation, t = 4.5 hr.
- ① 003 Ambient Air ①
VP006-106-1381, TST booster pump operation, t = 5.0 hr.
- ① 035 ①
VP006-114-1389, TST booster pump operation, t = 5.5 hr.
- ① 019 Slurry Pump @ t = 0.0 hr ①
VP006-124-1390, TST booster pump operation, t = 6.0 hr.

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:25	<i>[Signature]</i>	12-15-98	1425
<i>[Signature]</i>	12-15-98	1630	<i>[Signature]</i>	12-15-98	1630
<i>[Signature]</i>	12/23/98	942	<i>[Signature]</i>	12-23-98	0942
<i>[Signature]</i>	12/24/98	1030	<i>[Signature]</i>	12-23-98	1030
<i>[Signature]</i>	12-28-98	1145	<i>[Signature]</i>	12-28-98	1145
<i>[Signature]</i>	12-28-98	14:50	<i>[Signature]</i>	12-28-98	14:50

Final Sample Disposition

Comments:

PNNL (only) Checklist	Pick-up / Delivery	Comments
Media labeled and checked?	Y/N	
Letter of instruction?	Y/N	
Media in good condition?	Y/N / Y/N	
COC info/signatures complete?	Y/N / Y/N	
Rad release stickers on samples:	/ Y/N	
Activity report from 222S?	/ Y/N	
RSR/release? (a ≤ 100/b ≤ 400 pCi/g)	/ Y/N	
COC copy for LRB, RIDS filed:	/ Y/N	

A00 010

POC _____ POC _____

(HNF-3732)

(Revised 12/15/98 PNNL)

① corrections made L.A. Pangel 12-17-98

Custody Form Initiator

S. O. Slate - PNNL

Company Contact

J. F. Sickles - LMHC

HNF-4073
Rev. 0

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/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 -10 -98
Preparation date: 12 -15 -98

Ice Chest No.

SM 415

Field Logbook No. _____

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: LAPingal

Shipped to

PNNL

Possible Sample Hazards/Remarks

Unknown at time of sampling

Sample Identification

Sample Date/Time

043 ① 1.5 ①
VP006-064-1316, TST booster pump operation, t = 2.5 hr.
026 ① 0.5
VP006-076-1327, TST booster pump operation, t = 3.0 hr. ①
091 ① 4.5 ①
VP006-084-1330, TST booster pump operation, t = 3.5 hr. ①
069 ① 3.0 ①
VP006-091-1347, TST booster pump operation, t = 4.0 hr. ①

12/16/98 1704

1605

2019

1843

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12-15-98	14:35	<i>[Signature]</i>	12-15-98	1425
<i>[Signature]</i>	12-15-98	1630	<i>[Signature]</i>	12-15-98	1630
<i>[Signature]</i>	12-22-98	0942	<i>[Signature]</i>	12-28-98	0842
<i>[Signature]</i>	12-28-98	1030	<i>[Signature]</i>	12-28-98	1030
<i>[Signature]</i>	12-28-98	1145	<i>[Signature]</i>	12-28-98	1145
<i>[Signature]</i>	12-28-98	11:57	<i>[Signature]</i>		

Final Sample Disposition

Comments:

PNNL (only) Checklist

Media labeled and checked?
Letter of instruction?
Media in good condition?
COC info/signatures complete?
Rad release stickers on samples:
Activity report from 222S?
RSR/release? (a ≤ 100/b ≤ 400 pCi/g)
COC copy for LRB, RIDS filed:

Pick-up / Delivery

Y/N
Y/N
Y/N / Y/N
Y/N / Y/N
/ Y/N
/ Y/N
/ Y/N

Comments

A00 011

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

① corrections made LAPingal 12-17-98

Custody Form Initiator S. O. Slate - PNNL
Company Contact J. F. Sickles - LMHC

HNF-4073
Rev. 0

Telephone (509) 376-1149 ⁵⁹²⁶ 12-12-98
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/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 -16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. - -

Bill of Lading/Airbill No. N/A

Offsite Property No. N/A

Method of Shipment Government Truck

Collectors: LA Pingel

Shipped to PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

	Event	Sample Date/Time
① 139 Field Blank ①	139	12/14/98 1300
VP006-035-1311, TST booster pump operation, t=0.5 hr.	not used	
① 000		
VP006-043-1312, TST booster pump operation, t=1.0 hr.		
① 106		
VP006-052-1314, TST booster pump operation, t=1.5 hr.		
① 000		
VP006-060-1315, TST booster pump operation, t=2.0 hr.	Not used	

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:25	<i>[Signature]</i>	12-15-98	1425
<i>[Signature]</i>	12-15-98	1630	<i>[Signature]</i>	12-15-98	1630
<i>[Signature]</i>	12/24/98	9:47	<i>[Signature]</i>	12-28-98	0242
<i>[Signature]</i>	12-28-98	1030	<i>[Signature]</i>	12-28-98	1030
<i>[Signature]</i>	12-28-98	1145	<i>[Signature]</i>	12-28-98	1145
<i>[Signature]</i>	12-28-98	11:58	<i>[Signature]</i>		

Final Sample Disposition

Comments:

PNNL (only) Checklist	Pick-up / Delivery	Comments
Media labeled and checked?	Y/N	
Letter of instruction?	Y/N	
Media in good condition?	Y/N / Y/N	
COC info/signatures complete?	Y/N / Y/N	
Rad release stickers on samples:	/ Y/N	
Activity report from 222S?	/ Y/N	
RSR/release? (a ≤ 100/b ≤ 400 pCi/g)	/ Y/N	
COC copy for LRB, RIDS filed:	/ Y/N	

A00 012

POC _____ POC _____

(HNF-3732)

(Revised 12/15/98 PNNL)

① corrections made LAPingel 12-17-98

Custody Form Initiator

S. O. Slate - PNNL

Company Contact

J. F. Sickles - LMHC

HNF-4073
Rev. 0

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Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 - 16 - 98
Preparation date: 12 - 15 - 98

Ice Chest No.

Field Logbook No. - -

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: LA Pingel

Shipped to

PNNL

Possible Sample Hazards/Remarks

Unknown at time of sampling

Sample Identification

Sample Date/Time

- ✓ ① 099 Booster Pump @ t = 5.0 hr Event ①
VP006-093-1115, baseline TST ambient air
① 114 Booster Pump @ t = 6.0 hr ①
VP006-011-1308, baseline TST
① 000
VP006-019-1309, TST during operation slurry submersible pump ① not used
✓ ① 124 Trip Blank
VP006-026-1310, TST ambient air, booster pump operation ① 134

12/16/98 2057

2159

222000 ¹²⁻¹³⁻⁹⁸

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:25	<i>[Signature]</i>	12-15-98	1425
<i>[Signature]</i>	12-15-98	1630	<i>[Signature]</i>	12-15-98	1630
<i>[Signature]</i>	12/15/98	942	<i>[Signature]</i>	12-22-98	0842
<i>[Signature]</i>	12-22-98	1030	<i>[Signature]</i>	12-22-98	1030
<i>[Signature]</i>	12-22-98	1145	<i>[Signature]</i>	12-22-98	1145
<i>[Signature]</i>	12-22-98	11:58	<i>[Signature]</i>		

Final Sample Disposition

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Comments

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 2225?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

A00 013

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

① corrections made CAPing 12-17-98

HNF-4073
Rev. 0

SUMMA

A00 014

Custody Form Initiator

S. O. Slate - PNNL

HNF-4073

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Company Contact

J. F. Sickles - LMHC

Rev. 0

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/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF - 3732 Tank Vapor Sample SAF VP006

Collection Date: 12 -16 -98

Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. ES 98 ex 412

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: Sousien, Matthews

Shipped to

PNNL

Hallman

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

✓ VP006-001.C248, baseline SUMMA ambient air.

Sample Date/Time

12/16/98 13:17

✓ VP006-009.C143, baseline SUMMA

12/16/98 13:28

✓ VP006-017.C235, SUMMA operation of slurry submersible pump

12/16/98 15:32

✓ VP006-024.C277, SUMMA ambient air during booster pump operation.

12/16/98 18:58

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:39	<i>[Signature]</i>	12-15-98	14:40
<i>[Signature]</i>	12-15-98	14:19	<i>[Signature]</i>	12-15-98	14:40
<i>[Signature]</i>	12/15/98	16:00	<i>[Signature]</i>	12-18-98	16:00
<i>[Signature]</i>	12-23-98	09:45	<i>[Signature]</i>	12-23-98	10:00
<i>[Signature]</i>	12-23-98	10:50	<i>[Signature]</i>	12/23/98	10:56
<i>[Signature]</i>	1/4/99	14:22	<i>[Signature]</i>	1/4/99	14:21
<i>[Signature]</i>	1/19/99	08:00	<i>[Signature]</i>	1/19/99	08:20

Final Sample Disposition

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

Comments

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

HNF-4073
Rev. 0

Custody Form Initiator S. O. Slate - PNNL
Company Contact J. F. Sickles - LMHC

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/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 -16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. ES - 98 - 00412

Bill of Lading/Airbill No. N/A

Offsite Property No. N/A

Method of Shipment Government Truck

Collectors: Somerton, Matthews

Shipped to PNNL

Hallman

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

12/16/98 20:37

✓VP006-066.C226, SUMMA booster pump operation, t = 2.5 hr.

✓VP006-074.C269, SUMMA booster pump operation, t = 3.0 hr.

✓VP006-082.C310, SUMMA booster pump operation, t = 3.5 hr.

✓VP006-089.C315, SUMMA booster pump operation, t = 4.0 hr.

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:37	<i>[Signature]</i>	12-15-98	1440
<i>[Signature]</i>	12-15-98	1619	<i>[Signature]</i>	12-15-98	1440
<i>[Signature]</i>	12-18-98	1600	<i>[Signature]</i>	12-18-98	1600
<i>[Signature]</i>	12-23-98	0945	<i>[Signature]</i>	12-28-98	101000
<i>[Signature]</i>	12-23-98	1658	<i>[Signature]</i>	12/21/98	10:57

Final Sample Disposition

Comments:

PNNL (only) Checklist	Pick-up / Delivery	Comments
Media labeled and checked?	Y/N	
Letter of instruction?	Y/N	
Media in good condition?	Y/N / Y/N	
COC info/signatures complete?	Y/N / Y/N	
Rad release stickers on samples:	/ Y/N	
Activity report from 222S?	/ Y/N	
RSR/release? (a ≤ 100/b ≤ 400 pCi/g)	/ Y/N	
COC copy for LRB, RIDS filed:	/ Y/N	

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

HNF-4073
Rev. 0

Custody Form Initiator

S. O. Slate - PNNL

Company Contact

J. F. Sickles - LMHC

Telephone (509) 376-1149
Fax: 376-2329
Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 -16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. ES - 98 - 00412

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: Somson, Matthews

Shipped to

PNNL

Hallman

Possible Sample Hazards/Remarks

Unknown at time of sampling

Sample Identification

Sample Date/Time

12/16/98 20:37

KVP006-066.C226, SUMMA booster pump operation, t = 2.5 hr.

~~KVP006-074.C269, SUMMA booster pump operation, t = 3.0 hr.~~

~~KVP006-082.C310, SUMMA booster pump operation, t = 3.5 hr.~~

~~KVP006-089.C315, SUMMA booster pump operation, t = 4.0 hr.~~

Can 226 only
COC confirmation
Johs claim
1/4/99

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:37	<i>[Signature]</i>	12-15-98	1440
<i>[Signature]</i>	12-15-98	16:19	<i>[Signature]</i>	12-15-98	1440
<i>[Signature]</i>	12-15-98	16:00	<i>[Signature]</i>	12-18-98	1600
<i>[Signature]</i>	12-23-98	0945	<i>[Signature]</i>	12-28-98	10000
<i>[Signature]</i>	12-23-98	10:58	<i>[Signature]</i>	12-21-98	10:57
<i>[Signature]</i>	1/4/99	17:20	<i>[Signature]</i>	1/4/99	17:20
<i>[Signature]</i>	1/19/99	8:00	<i>[Signature]</i>	1/19/99	08:20

Final Sample Disposition

Comments:

PNNL (only) Checklist

Media labeled and checked?
Letter of instruction?
Media in good condition?
COC info/signatures complete?
Rad release stickers on samples?
Activity report from 222S?
RSR/release? (a ≤ 100/b ≤ 400 pCi/g)
COC copy for LRB, RIDS filed?

Pick-up / Delivery

Y/N
Y/N
Y/N / Y/N
Y/N / Y/N
Y/N / Y/N
Y/N / Y/N
Y/N / Y/N
Y/N / Y/N

Comments

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

HNF-4073
Rev. 0

Custody Form Initiator S. O. Slate - PNNL
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/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 - 16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. ES -98 -08412

Bill of Lading/Airbill No. N/A

Offsite Property No. N/A

Method of Shipment Government Truck

Collectors: Summow, Matthews,

Shipped to PNNL

Holland

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

✓ VP006-032.C227, SUMMA booster pump operation, t = 0.5 hr.

12/16/98 17:38

✓ VP006-040.C135, SUMMA booster pump operation, t = 1.0 hr.

12/16/98 19:11

✓ VP006-049.C223, SUMMA booster pump operation, t = 1.5 hr.

12/16/98 19:37

✓ VP006-057.C303, SUMMA booster pump operation, t = 2.0 hr.

12/16/98 20:10

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:39	<i>[Signature]</i>	12/15/98	1440
<i>[Signature]</i>	12-15-98	1619	<i>[Signature]</i>	12-15-98	1440
<i>[Signature]</i>	12-18-98	1606	<i>[Signature]</i>	12-18-98	1608
<i>[Signature]</i>	12-23-98	0945	<i>[Signature]</i>	12-23-98	10:00
<i>[Signature]</i>	12-23-98	10:55	<i>[Signature]</i>	12/23/98	10:55
<i>[Signature]</i>	1/4/99	19:20	<i>[Signature]</i>	1/4/99	14:20
<i>[Signature]</i>	1/19/99	8:20	<i>[Signature]</i>	1/19/99	08:20

Final Sample Disposition

Comments:

PNNL (only) Checklist

Pick-up / Delivery

Comments

Media labeled and checked?

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

Custody Form Initiator S. O. Slate - PNNL
Company Contact J. F. Sickles - LMHC

HNF-4073
Rev. 0

Telephone (509) 376-1149
Fax: 376-2329
Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 -16 -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. ES-98-0412

Bill of Lading/Airbill No. N/A

Offsite Property No. N/A

Method of Shipment Government Truck

Collectors: Sumsion, Matthews

Shipped to PNNL

Hallman

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

12/16/98 21:34

VP006-127.C295, SUMMA post-shutdown, t = 3.0 hr.

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)		
Relinquished By	Date	Time	Received By	Date	Time	
<i>[Signature]</i>	12/15/98	14:10	<i>[Signature]</i>	12-15-98	14:40	
<i>[Signature]</i>	12/15/98	16:19	<i>[Signature]</i>	12-15-98	14:40	
<i>[Signature]</i>	12/16/98	16:00	<i>[Signature]</i>	12-18-98	16:00	
<i>[Signature]</i>	12-23-98	0945	<i>[Signature]</i>	12-23-98	10:00	
<i>[Signature]</i>	12-23-98	10:52	<i>[Signature]</i>	12/23/98	10:52	
<i>[Signature]</i>	1/4/99	14:23	<i>[Signature]</i>	1/4/99	14:23	
<i>[Signature]</i>	1/19/99	08120	<i>[Signature]</i>	1/19/99	08:20	
Final Sample Disposition						

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

Comments

POC _____ POC _____

(HNF-3732)

(Revised 12/15/98 PNNL)

Battelle Pacific
Northwest National Laboratory

CHAIN OF CUSTODY

PNNL-TVP-000071

Custody Form Initiator

S. O. Slate - PNNL

Company Contact

J. F. Sickles - LMHC

HNF-4073
Rev. 0

Telephone (509) 376-1149
Fax: 376-2329
Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP102

Collection Date: 12 - -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. - -

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: _____

Shipped to

PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

✓ VP102-002.C050, baseline SUMMA *p225 1-5-98*

12-16-98 / 1325hr

✓ VP102-006.C042, SUMMA, booster pump operation, t = 1.0 hr. *p225 1-5-98*

* *12-16-98 / 1814hr*

✓ VP102-010.C134, SUMMA, booster pump operation, t = 2.0 hr.

* *12-16-98 / 1908hr*

✓ VP102-014.C298, SUMMA booster pump operation, t = 3.0 hr.

* *12-16-98 / 2008hr*

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	<i>12/15/98</i>	<i>14:40</i>	<i>[Signature]</i>	<i>12/15/98</i>	<i>7445</i>
<i>[Signature]</i>	<i>12-15-98</i>	<i>16:17</i>	<i>[Signature]</i>	<i>12-15-98</i>	<i>1619</i>
<i>[Signature]</i>	<i>1-5-99</i>	<i>0920</i>	<i>[Signature]</i>	<i>1-5-99</i>	<i>0920</i>
<i>[Signature]</i>	<i>1-5-99</i>	<i>0958</i>	<i>[Signature]</i>	<i>1/5/99</i>	<i>0915</i>
<i>[Signature]</i>	<i>1-15-99</i>	<i>9:09</i>	<i>[Signature]</i>	<i>1/15/99</i>	<i>09:09</i>
<i>[Signature]</i>	<i>1-19-99</i>	<i>8:19</i>	<i>[Signature]</i>	<i>1/19/99</i>	<i>08:19</i>

Final Sample Disposition

Comments:

PNNL (only) Checklist

Media labeled and checked?
Letter of instruction?
Media in good condition?
COC info/signatures complete?
Rad release stickers on samples:
Activity report from 222S?
RSR/release? (a ≤ 100/b ≤ 400 pCi/g)
COC copy for LRB, RIDS filed:

Pick-up / Delivery

Y/N
Y/N
Y/N / Y/N
Y/N / Y/N
/ Y/N
/ Y/N
/ Y/N
/ Y/N

Comments

* Due to revision of SAP (HNF-3732),
sample code ID numbers have changed.
Attachment I of this COC reflects these
changes.
D.D. Wanner 12/16/98
[Signature] *12/16/98*
RB for Leslie Sabaki *12/16/98*
per telegram
[Signature] *Revised 12/15/98 (PNNL)*
per telegram *12/15/98*

(HNF-3732)

POC _____ POC

A00 020

Custody Form Initiator S. O. Slate - PNNL

Company Contact J. F. Sickles - LMHC

HNF-4073
Rev. 0

Telephone (509) 376-1149
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Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF- 3732 Tank Vapor Sample SAF VP702

Collection Date: 12 - -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. - -

Bill of Lading/Airbill No. N/A

Offsite Property No. N/A

Method of Shipment Government Truck

Collectors: _____

Shipped to PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

✓ VP702-002.C428, baseline SUMMA

12-16-98 / 1321

✓ VP702-004.C429, SUMMA ambient air

12-16-98 / 1707

✓ VP702-007.C301, SUMMA booster pump operation, t = 1.0 hr.

12-16-98 / 1808

✓ VP702-010.C160, SUMMA booster pump operation, t = 2.0 hr.

12-16-98 / 1907

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:40	<i>[Signature]</i>	12-15-98	1445
<i>[Signature]</i>	12-15-98	1619	<i>[Signature]</i>	12-15-98	1619
<i>[Signature]</i>	12-23-98	0945	<i>[Signature]</i>	12-23-98	1000
<i>[Signature]</i>	12-23-98	10:51	<i>[Signature]</i>	12-23-98	10:50
<i>[Signature]</i>	1/4/99	14:20	<i>[Signature]</i>	1/4/99	14:20
<i>[Signature]</i>	1/17/99	8:00	<i>[Signature]</i>	1/19/99	0820

Final Sample Disposition

Comments:

PNNL (only) Checklist	Pick-up / Delivery	Comments
Media labeled and checked?	Y/N	
Letter of instruction?	Y/N	
Media in good condition?	Y/N / Y/N	
COC info/signatures complete?	Y/N / Y/N	
Rad release stickers on samples:	/ Y/N	
Activity report from 2225?	/ Y/N	
RSR/release? (a ≤ 100/b ≤ 400 pCi/g)	/ Y/N	
COC copy for LRB, RIDS filed:	/ Y/N	

POC _____ POC _____

(HNF-3732)

(Revised 12/15/98 PNNL)

Custody Form Initiator

S. O. Slate - PNNL

Company Contact

J. F. Sickles - LMHC

HNF-4073
Rev. 0

Telephone (509) 376-1149

Fax: 376-2329

Telephone (509) 373-3578

/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm

HNF-3732 Tank Vapor Sample SAF VP702

Collection Date: 12 - -98

Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. _____

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: _____

Shipped to

PNNL

Possible Sample Hazards/Remarks

Unknown at time of sampling

Sample Identification

Sample Date/Time

12-16-98 / 2008

✓ VP702-013.C020, SUMMA booster pump operation, t = 3.0 hr.

✗ VP702-0116.C403, SUMMA booster pump operation, t = 4.0 hr.

✗ VP702-019.C431, SUMMA booster pump operation, t = 5.0 hr.

✓ VP702-022.C430, SUMMA booster pump operation, t = 6.0 hr.

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:40	<i>[Signature]</i>	12-15-98	14:45
<i>[Signature]</i>	12-15-98	16:19	<i>[Signature]</i>	12-15-98	16:19
<i>[Signature]</i>	12-23-98	09:45	<i>[Signature]</i>	12-23-98	10:00
<i>[Signature]</i>	12-23-98	10:54	<i>[Signature]</i>	12/23/98	10:55

Final Sample Disposition

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

Comments

* Samples Not Taken per
Test Direction

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

Custody Form Initiator

S. O. Slate - PNNL

Company Contact

J. F. Sickles - LMHC

HNF-4073
Rev. 0

Telephone (509) 376-1149
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Telephone (509) 373-3578
/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF- 3732 Tank Vapor Sample SAF VP702

Collection Date: 12 - -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. _____

Bill of Lading/Airbill No.

N/A

Offsite Property No. N/A

Method of Shipment

Government Truck

Collectors: _____

Shipped to

PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

12-16-98 / 2008

✓ VP702-013.C020, SUMMA booster pump operation, t = 3.0 hr.

016 12/16/98 (change made due to typographical error)
✓ VP702-0116.C403, SUMMA booster pump operation, t = 4.0 hr.

✓ VP702-019.C431, SUMMA booster pump operation, t = 5.0 hr.

✓ VP702-022.C430, SUMMA booster pump operation, t = 6.0 hr.

Can 020
COC continuation
John Clear
1/4/98 *

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)		
Relinquished By	Date	Time	Received By	Date	Time	
<i>John Clear</i>	12/15/98	14:40	<i>James H. ...</i>	12-15-98	14:45	
<i>James H. ...</i>	12-15-98	16:17	<i>James H. ...</i>	12-15-98	16:19	
<i>James H. ...</i>	12-23-98	09:45	<i>James H. ...</i>	12-23-98	10:00	
<i>James H. ...</i>	12-23-98	10:54	<i>James H. ...</i>	12/24/98	12:18	
<i>James H. ...</i>	1/4/99	14:26	<i>James H. ...</i>	1/4/99	14:26	
<i>James H. ...</i>	1/19/99	8:18	<i>James H. ...</i>	1/19/99	08:20	

Final Sample Disposition

Comments:

PNNL (only) Checklist

Media labeled and checked?

Letter of instruction?

Media in good condition?

COC info/signatures complete?

Rad release stickers on samples:

Activity report from 222S?

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

COC copy for LRB, RIDS filed:

Pick-up / Delivery

Y/N

Y/N

Y/N / Y/N

Y/N / Y/N

/ Y/N

/ Y/N

/ Y/N

/ Y/N

Comments

* Samples Not Taken per
Test Direction

POC

POC

(HNF-3732)

(Revised 12/15/98 PNNL)

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Custody Form Initiator S. O. Slate - PNNL
Company Contact J. F. Sickles - LMHC

HNF-4073
Rev. 0

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/Fax: 376-9191

Project Designation/Sampling Locations 200 West Tank Farm
HNF-3732 Tank Vapor Sample SAF VP006

Collection Date: 12 - -98
Preparation date: 12 -15 -98

Ice Chest No.

Field Logbook No. ES - 98 - 00472

Bill of Lading/Airbill No. N/A

Offsite Property No. N/A

Method of Shipment Government Truck

Collectors: _____

Shipped to PNNL

Possible Sample Hazards/Remarks Unknown at time of sampling

Sample Identification

Sample Date/Time

✓VP006-097.C350, SUMMA booster pump operation, t = 4.5 hr.

✓VP006-104.C408, SUMMA booster pump operation, t = 5.0 hr.

✓VP006-112.C412, SUMMA booster pump operation, t = 5.5 hr.

✓VP006-119.C414, SUMMA booster pump operation, t = 6.0 hr.

[] Field Transfer of Custody		[X] Chain of Possession		(Sign and Print Names)	
Relinquished By	Date	Time	Received By	Date	Time
<i>[Signature]</i>	12/15/98	14:39	<i>[Signature]</i>	12-15-98	1440
<i>[Signature]</i>	12-15-98	1619	<i>[Signature]</i>	12-15-98	1440
<i>[Signature]</i>	12/18/98	1600	<i>[Signature]</i>	12-18-98	1600
<i>[Signature]</i>	12-23-98	0945	<i>[Signature]</i>	12-23-98	10:00
<i>[Signature]</i>	12-23-98	1057	<i>[Signature]</i>	12/23/98	10:57

Final Sample Disposition

Comments:

PNNL (only) Checklist

Media labeled and checked?

Pick-up / Delivery

Y/N

Letter of instruction?

Y/N

Media in good condition?

Y/N / Y/N

COC info/signatures complete?

Y/N / Y/N

Rad release stickers on samples:

/ Y/N

Activity report from 222S?

/ Y/N

RSR/release? (a ≤ 100/b ≤ 400 pCi/g)

/ Y/N

COC copy for LRB, RIDS filed:

/ Y/N

POC _____ POC _____

(HNF-3732)

(Revised 12/15/98 PNNL)

HNF-4073
Rev. 0

APPENDIX B

AMMONIA ANALYSIS

B00 001

HNF-4073

Rev. 0

AMMONIA ANALYSIS

Data Package Review

The ammonia analysis performed on 12/29/98 were reviewed on 1/29/99 and found acceptable.

TL Almeida 2/23/99
TL Almeida, Quality Engineer

B00 002

HNF-4073

Rev. 0

ADVANCED INORGANIC ANALYSIS GROUP
ANALYTICAL CHEMISTRY RESOURCES, ENVIRONMENTAL AND HEALTH SCIENCES DIVISION
BATTELLE, PACIFIC NORTHWEST NATIONAL LABORATORY, RICHLAND, WA

NH₃ Analysis

Client K. Sivers/Jim Hueckaby Reviewed by Tarl Pool (date) 12/31/98
WP# K90685 Analyst S.D. Slate

Procedure ☒ PNL-ALO-226 Rev 0 ☐ SOP PNL-TVP-09 Rev 2 ☒ LRB BNW 55437, p 49

Sample Information Tank C106 VP006 SIT (Sorbent Tube Train)

Sample Log-In # 99-12-(114 + 147)

Sample Preparation: Prepared by: S.D. Slate Date 12-28-98
Leachate: (BDIW) Volume 10 ml front Dilution 5 ml back Filtration none

Standards Preparation: Prepared by: S.D. Slate Date 12-28-98 5:00pm

M&TE Mettler Electronic Balance Model #AK 160 (366-06-01-005)
Calibration Expires 2/99 Calibration Check "S" mass 1 g = 1.0000 g
Weight set (394-86-02-001) Calibration expires 5-29-99

Material NH₄Cl

Stock Standard - Source MCB Lot # 10F31B Date dried 12-17-98 Temp 105°C

Concentration	Target	Actual
<u>✓</u> 1000 µg NH ₃ /ml	0.314 g/100 ml	0.3143 g/100 ml
	g/ml	g/ml

Working Standards - Prepared by serial dilution using Class "A": glass pipets and volumetric flasks.

Matrix: ASTM Type II Barnstead Dionized Water ☒ Preserved with 0.050 ml conc. H₂SO₄

100 µg NH ₃ /ml	<u>10</u> ml of	<u>1000</u> µg/ml NH ₃	<u>100</u> ml
10 µg NH ₃ /ml	<u>10</u> ml of	<u>100</u> µg/ml NH ₃	<u>1</u> ml
1 µg NH ₃ /ml	<u>10</u> ml of	<u>10</u> µg/ml NH ₃	<u>1</u> ml
0.5 µg NH ₃ /ml	<u>5</u> ml of	<u>10</u> µg/ml NH ₃	<u>1</u> ml
0.2 µg NH ₃ /ml	<u>2</u> ml of	<u>10</u> µg/ml NH ₃	<u>1</u> ml
0.1 µg NH ₃ /ml	<u>1</u> ml of	<u>10</u> µg/ml NH ₃	<u>1</u> ml

Continuing Calibration Standard - Source Integra 0.10006 M NH₄Cl Lot 773545 Expiration Date 7/99
Dilution 100x Matrix BDIW + 0.05% Final Concentration 17 ppm
con H₂SO₄

Electrode Preparation: Membrane replaced 12/28/98 Fresh filling solution 12/29/98

Sample Analysis: Analyzed by: Sally D. Slate Date 12/29/98

M&TE: pH meter, Orion Model 420A (S/N 006312), Orion NH₃ Ion Selective Electrode Model 95-12

Concentration (µg/ml)	Initial Std (mV)	Intermediate Std (mV)	Final std (mV)
<u>Blank - 0</u>	<u>222</u>	<u>218</u>	
<u>0.1</u>	<u>173.5</u>	<u>177.3</u>	<u>170.7</u>
<u>0.2</u>	<u>167.4</u>	<u>159.7</u>	<u>155.</u>
<u>0.5</u>	<u>137.7</u>	<u>138.5</u>	<u>135.6</u>
<u>1.0</u>	<u>118.8</u>	<u>119.9</u>	<u>118.2</u>
<u>10.0</u>		<u>61.8</u>	<u>63.8</u>

Rev. 0

Client K. Silvers / J. Hucksaby WP # K90685 Date of Analysis 12-29-98Sample Information Janet C 106 VP006 STT (Sorkunt Tube Train)Sample Log-in # 99-12-(114 to 147)

Log-in #	Sample ID	Diln	mV	Comments
-	CCV-2 (0.34)	-	142.3	probable carryover
-	CCV-2 (0.34)	-	146.3	
-	Blank BDIW	-	>200	
99-12-129	136-1298 trip blank front 1X	-	167.0 166.8	
99-12-130	141-1298 field blank front 1X	-	166.7	
99-12-146	136-1298 trip blank back 1X	-	142.6 142.5 163.2 167.7	spike added (17.0) = 163.2
99-12-131	005-1298 back 1X	1X	150. 146.9	? recheck -
99-12-114	005-1298 front 1X	1X	163. 162.7	
99-12-115	013-1298 front 1X	1X	140.7	
99-12-116	021-1298 front 1X	1X	135.0 134.6	
99-12-117	028-1298 front 1X	1X	125.9	
-	CCV-2 (0.34)	-	144.7	
-	blank - BDIW	-	>200	
99-12-118	037-1298 front 1X	1X	124.6	
99-12-119	045-1298 front 1X	1X	122.6	
99-12-120	054-1298 front 1X	1X	118.0	
99-12-121	062-1298 front 1X	1X	118.4	
99-12-122	071-1298 front 1X	1X	115.3	
99-12-123	078-1298 front 1X	1X	114.8	
99-12-124	086-1298 front 1X	1X	115.3	
99-12-124.5	093-1298 front 1X	1X	117.1	
99-12-126	101-1298 front 1X	1X	116.3	
-	CCV-2 (0.34)	-	145	
-	blank	-	>215	
99-12-127	108-1298 front 1X	1X	115.1	
99-12-128	116-1298 front 1X	1X	117.2	
99-12-122 dup	071-1298 front 1X	1X	114.8	
99-12-123	078-1298 front 1X	1X	114.6 114.5	
↓	spike added	-	96.9 96.8	(0.25 mL / 17.0 μL/mL)
99-12-131 dup	005-1298 back	-	147.4 146.6	repeated
99-12-132	013-1298 back	-	158.0	

B00 004

HNH-4073

Rev. 0

Regression Analysis for ISE

Name:

J. Huckaby/K. Silvers

Date of analysis: 12/29/98

WP#:

K90685

Equipment:

pH meter. Orion Model 420A (S/N 006312), Orion ISE Model 96-09

Procedure(s):

Instruction Manual for ISE

Matrix:

~~10% TISAB added~~ KHP 1/29/99

Standards (ug/ml)	x	y (mV)	xy	x ²	y ²	
0.1	-1	173.5	-173.5	1	30,102.25	
0.2	-0.699	157.4	-110.0	0.48856	24,774.76	
0.5	-0.301	137.7	-41.5	0.09062	18,961.29	
1	0	118.8	.0	0	14,113.44	
0.1	-1	177.3	-177.3	1	31,435.29	
0.2	-0.699	159.7	-111.6	0.48856	25,504.09	
0.5	-0.301	138.5	-41.7	0.09062	19,182.25	
1	0	119.9	.0	0	14,376.01	
10	1	61.8	61.8	1	3,819.24	
0.1	-1	170.7	-170.7	1	29,138.49	
0.2	-0.699	155.0	-108.3	0.48856	24,025.00	
0.5	-0.301	135.6	-40.8	0.09062	18,387.36	
1	0	118.2	.0	0	13,971.24	
10	1	62.8	62.8	1	3,943.84	
n	14	Σ x = -4	Σ y = 1886.9	Σ xy = -850.8	Σ x ² = 6.73753	Σ y ² = 271,735

Σu^2	5.59468
Σuv	-311.73
Σv^2	17420.9
r^2	0.99706
b (slope)	-55.72
a (intercept)	118.859

B00 006

Regression Analysis for ISE

as run

Name: J. Huckaby/K. Silvers
 WP#: K90685

HNF-4073

Date of analysis: 12/29/98

Rev. 0

Sample Job: Tank C106 VP006 STT

Concentration: as noted

mls/sample

10

Molecular weight

Log-in #	Sample ID	Yi (mV)	NH3	NH3	NH3	
			ug/ml	ug	umol	
	ccv-2 (0.34)	146.3	0.322			
99-12-129	136-1298 trip blank front	166.8	0.138	1.379	0.0811	
99-12-130	141-1298 field blank front	166.7	0.138	1.385	0.0815	
99-12-130	0.85 ug NH3 spike added	142.5	0.376			
99-12-146	136-1298 trip blank back	167.7	0.133	0.665	0.0391	
99-12-131	005-1298 back	146.9	0.314	1.570	0.0924	
99-12-114	005-1298 front	162.7	0.163	1.634	0.0961	
99-12-115	013-1298 front	140.7	0.406	4.055	0.2385	
99-12-116	021-1298 front	134.6	0.52	5.218	0.3069	
99-12-117	028-1298 front	125.9	0.75	7.475	0.4397	
	ccv-2 (0.34)	144.7	0.344			
99-12-118	037-1298 front	124.6	0.79	7.888	0.4640	
99-12-119	045-1298 front	122.6	0.9	8.568	0.5040	
99-12-120	054-1298 front	118	1.036	10.361	0.6095	
99-12-121	062-1298 front	118.4	1.019	10.191	0.5995	
99-12-122	071-1298 front	115.3	1.158	11.584	0.6814	
99-12-123	078-1298 front	114.8	1.183	11.826	0.6956	
99-12-124	086-1298 front	115.3	1.158	11.584	0.6814	
99-12-125	093-1298 front	117.1	1.075	10.754	0.6326	
99-12-126	101-1298 front	116.3	1.112	11.115	0.6538	
	ccv-2 (0.34)	145	0.340			
99-12-127	108-1298 front	115.1	1.168	11.680	0.6871	
99-12-128	116-1298 front	117.2	1.071	10.709	0.6299	
99-12-122	071-1298 front (dup)	114.8	1.183	11.826	0.6956	

B00 007

in order of running

HNF-4073

Rev. 0

Concentration: as noted

m/s/sample

5

Molecular weight

[illegible]

BOO OOS

Regression Analysis for ISE

Name: J. Huckaby/K. Silvers
WP#: K90685

Date of analysis: 12/29/98

HNF-4073

Rev. 0

Sample Job: Tank C106 VP006 STT

Concentration: as noted, not blank corrected

mls/sample

10

Molecular weight

17

Log-in #	Sample ID	Y _i (mV)	NH3	NH3	NH3
			ug/ml	ug	umol
99-12-114	005-1298 front	162.7	0.163	1.634	0.0961
99-12-115	013-1298 front	140.7	0.406	4.055	0.2385
99-12-116	021-1298 front	134.6	0.522	5.218	0.3069
99-12-117	028-1298 front	125.9	0.748	7.475	0.4397
99-12-118	037-1298 front	124.6	0.789	7.888	0.4640
99-12-119	045-1298 front	122.6	0.857	8.568	0.5040
99-12-120	054-1298 front	118	1.036	10.361	0.6095
99-12-121	062-1298 front	118.4	1.019	10.191	0.5995
99-12-122	071-1298 front	115.3	1.158	11.584	0.6814
99-12-123	078-1298 front	114.8	1.183	11.826	0.6957
99-12-124	086-1298 front	115.3	1.158	11.584	0.6814
99-12-125	093-1298 front	117.1	1.075	10.754	0.6326
99-12-126	101-1298 front	116.3	1.112	11.115	0.6538
99-12-127	108-1298 front	115.1	1.168	11.680	0.6871
99-12-128	116-1298 front	117.2	1.071	10.709	0.6300
99-12-129	136-1298 trip blank front	166.8	0.138	1.379	0.0811
99-12-130	141-1298 field blank front	166.7	0.138	1.385	0.0815
	0.85 ug NH3 spike added	142.5	0.376		
99-12-122	071-1298 front (dup)	114.8	1.183	11.826	0.6957
99-12-123	078-1298 front (dup)	114.5	1.197	11.974	0.7043
	4.25 ug spike added	96.8	2.488		
99-12-127	108-1298 front (dup)	115.5	1.149	11.489	0.6758
99-12-129	136-1298 trip blk front (dup)	167.2	0.1356	1.356	0.0798

B00 009

Regression Analysis for ISE

Name: J. Huckaby/K. Silvers
WP#: K90685

Date of analysis: 12/29/98

HNF-4073

Rev. 0

Sample Job: Tank C106 VP006 STT

Concentration: as noted, not blank corrected

mls/sample

Molecular weight

5

17

[illegible]

BOO 010

HNF-4073
Rev. 0

APPENDIX C

TST ANALYSIS

COO 001

TST ANALYSIS

Data Package Review

The following batch files were reviewed and found acceptable based on qualifications stated in the case narratives:

68121401.b reviewed 2/20/99

69011901.b reviewed 2/21/99

68122801.b reviewed 2/21/99

69012001.b reviewed 2/22/99

69012101.b reviewed 2/22/99

69012501.b reviewed 2/22/99

69012601.b reviewed 2/22/99

69012801.b reviewed 2/22/99

TL Almeida 2/23/99
TL Almeida, Quality Engineer

HNF-4073

Rev. 0

TST SUMMARY NARRATIVE AND DESCRIPTION OF METHOD

CGO 003

Jkh Lm
2/10/99

C-106 Sluicing Test Conducted on 12/16/98
Summary Narrative and Description of Method for TST Analyses

Triple sorbent trap (TST) tubes were used for sampling vapor phase organic effluents from the C-106 exhaust stack during the sluicing test performed on 12/16/98. The sampling tubes used are a commercial product, Supelco 300. Each glass tube was packaged in a Supelco hard plastic protective casing modified for use with 1/4" Swagelok fittings. Samples of approximately 200 ml each were collected by the field sampling team. A complete listing of accurately measured volumes was provided by the field sampling team and included in the summary folder. Tubes were prepared and analyzed using the methodology documented as PNNL Technical Method TVP-10, Rev. 2 and shipped to and from the field using chain-of-custody (CoC) procedures according to PNNL-TVP-07. A copy of TVP-10 is included in the folder. The original CoC is also in this file. The procedures were developed and utilized for the Tank Vapor Project conducted during mid-1995 through the end of FY 1997. Subsequent to the termination of the project, the laboratory facilities were dismantled with the methods and QA infrastructure no longer actively maintained. PNNL support for the December 1998 C-106 sluicing test was thus provided on an ad hoc basis. CoC procedures were followed rigorously, however, significant procedural deviations to TVP-10 were required in order for analysis of the tubes to be performed in a timely and cost effective manner using existing resources. A brief description of the methodology and exceptions is included here.

Tube Preparation

Tubes were cleaned in batches of six each using a Dynatherm tube conditioning unit. Each tube was heated to 380 C for 1 hour or more under a reverse helium flow of 30-40 ml/minute. The tubes were then placed in Supelco TD³ protective outer casings and sealed with 1/4" Swagelok plugs. The tubes were kept in refrigerated storage at -20 C prior to transfer to the field and during storage following sampling. Twenty tubes were sent to the field with accompanying CoC documentation (5 pages).

Surrogates

TVP-10 calls for the addition of 3 surrogate compounds (hexafluorobenzene (HFB), toluene-d8 (tol-d8), and bromobenzene-d5 (BrB-d5)) to be added to each tube to test recovery. Materials and equipment for that purpose were no longer available. Prior work performed on 246 tank vapor samples and 162 field blanks conducted between February 1996 and April 1997 showed recoveries averaging close to 100% for all three compounds with typical precision less than 10% (HFB 98+/-7%; tol-d8 99+/-7%; BrB-d5 99+/-5%). Trend plots of this data are included in the summary folder. Additional supporting evidence for stability of the sampling medium was provided during that same time frame through the performance of a holding time study spanning a 32-week period. The study showed no significant loss of surrogates or tank related analytes collected from Tank S-102 under conditions similar to the present work. Results of the holding time study were recently published in the open literature (ES&T, 1998). A copy of a reprint of the article is included in the summary folder. Further demonstration of the ability of TSTs to

function satisfactorily without breakthrough or analyte loss for small sample volumes thus does not appear to be necessary.

Instrumentation

The analytical instrumentation consists of four primary components. Thermal desorption and sample introduction was performed using a Dynatherm Model 900 Thermal Desorber Unit (TDU). The system originally used for the prior tank vapor work was no longer available because of transfer of that equipment to the SAS Laboratory. A newer and otherwise identical system purchased for methods development was used instead. The parameters used on the TDU were identical to those specified in TVP-10. Analyte separations were performed using a Hewlett-Packard HP-5890 gas chromatograph equipped with a 60 meter long x 0.32 μ m diameter DB-1 capillary GC column. This GC and column are identical to that used in the earlier work. Mass spectral detection was performed in the earlier work using a Hewlett-Packard HP-5972 mass selective detector. That system was no longer available, so a somewhat older HP-5971 system was used instead. Mass spectral parameters were identical to those specified in TVP-10. The overall sensitivity and resolution of the HP-5971 does not differ significantly from that of the 5972. The 5971 is, however, more vulnerable to analyte overload causing loss of data. That did prove to be a problem in a few cases in this work as noted in individual daily case narratives and discussed below under "Completeness". Finally, all data reduction including peak integration, peak identification, and quantitation was performed on a Hewlett-Packard, Unix based, stand-alone, GC/MS data management system employing Target3 data analysis software. The software, computer resources, and data reduction procedures were identical to those specified in TVP-10 with the exceptions noted below under "Quantitation".

Sample Splits

The Dynatherm TDU provides a sample splitting system capable of diverting a part of the sample to an archive trap. Up to 95% of the sample (20:1 split) may be retained in this manner for later analysis. In this work a 6:1 split was used. Since the internal standards follow the same path as the sample analytes, samples may be rerun several time with only limited loss in sensitivity and no significant loss of accuracy for most compounds. Duplicate analysis for QC purposes was performed using this feature and in a few cases where problems had occurred during the first run, sample reanalysis was performed on the archived splits.

Standards

Standards used in earlier tank vapor work consisted of a combination of commercially prepared TO-14 mixtures and a project specific list of analytes generated in-house using a Kintec permeation tube system. Since the Kintec system and associated permeation tubes were no longer available, calibration was performed only using commercial mixtures. In order to cover the widest range of analytes requested by the client, four separate external standards were used along with a 4 component internal standard. An internal standard prepared by Scott Speciality Gases (ALM064690) containing bromochloromethane, 1,4-bromofluorobenzene, chlorobenzene-d₅, and 1,4 difluorobenzene at the 200 ppbv (each) level was used for quantitation reference and BFB tune checks. A commercially prepared and certified TO-14 standard (Air Liquide

CS53004) containing 39 air toxic compounds specified by the EPA was still available from previous tank vapor work. This mixture was last recertified by the supplier on January 28, 1997. Since the nominal expiration date of January 28, 1998 was almost a year out of date at the time of this work, this represents a deviation from QA requirements, however, it should be noted that the supplier showed no change at all between the original certification and a recertification performed a year apart so it is clear that the TO-14 standard is very stable in that form. In any case, TO-14 compounds played a minor role at most in the C-106 results. A second standard containing seven additional compounds was purchased from Air Liquide on 4/9/98. Although this standard was less than a year old, the supplier had placed a six months expiration date on the certification. This standard was used together with the TO-14 mixture to form the PNNL mix as described under the "Standards Preparation" section below. It should be noted that because of overlap with the SAS standard, this second standard was used for quantitation of only two compounds, methanol and 1,3-butadiene. 1,3-butadiene was not detected in any sample. In addition to the two mixtures comprising the PNNL mixture, standards were also provided by the SAS Laboratory and mixed in equal amounts to form the SAS mixture. Two Summa canisters were filled with the SAS polar (Scott-Marrin CC105523) and non-polar (Scott-Marrin CC105483) mixtures at the SAS Laboratory. These standards contained numerous project specific compounds including 3-heptanone and were of great value in this work. Most of the target quantitation was performed using these standards. Certification dates for these two standards were 12/7/96 (non-polar) and 01/14/97 (polar) respectively. Although neither certification sheet lists an expiration date, since they are more well over a year old, they can be assumed to be potentially out of calibration at this time. All five standards used are thus for various reasons out of date and their use should be qualified accordingly.

Twelve-Hour Time Limit

TVP-10, in accordance with a HAZQARD requirement, specifies that all batch measurements be performed during a twelve-hour period following the instrument autotune. There appears to be no sound technical basis for this requirement, however, that requirement was followed rigorously during performance of this work resulting in a major prolongation of the time needed to complete the work

Calibration

Calibration curves were prepared for the PNNL and SAS mixtures by injecting equal amounts of each pair of mixtures onto clean TST tubes using 5, 10, 50, and 100 ml gas tight syringes. The PNNL mix calibration was performed on 12/14/98 using injection volumes of 2, 5, 20, 50, and 100 ml. The SAS calibration was performed on 1/19/99 using injection volumes of 2, 5, 20, 50, 100, and 200 ml. In all cases 100 ml of internal standard was injected on all tubes including the method blank run at the end of the calibration. In each case the nanogram loadings for each analyte were similar to that specified in TVP-10. Because of lack of suitable equipment, time and staff limitation, combined with the large number of individual standards required, the more precise pressure drop method used for aliquoting of standards specified in TVP-10 could not be implemented. Use of gas tight syringes produced good quality linear calibration curves for essentially all analytes, however, daily standards tended to show low average recoveries suggesting that the gas tight syringes were responsible for analyte loss in at least some cases. An

additional deviation from TVP-10 was associated with the lack of independent calibration verification (ICV) standards. Procurement of certified standards including those from alternate suppliers is a best a lengthy and very expensive process not compatible with the current timelines and budget.

Sample Analysis

Samples were run on a daily batch basis following instrument autotune using the instrument's internal PFTBA source. Autotune reports are included in each daily batch folder. BFB tune checks were made each day using the BFB peak present as an internal standard in one of the QC samples, usually the first one run. BFB tune check reports are included in the daily batch folders. Satisfactory BFB performance was seen in all cases. Each batch consisted of: 1) daily calibration standard (20 ml SAS polar, 20 ml SAS nonpolar, 100 ml ISTD); 2) daily calibration standard (20 ml PNNL TO-14, 20 ml PNNL supplementary mixture, 100 ml ISTD); 3) method blank on precleaned tube with 100 ml of ISTD; 4) up to 4 samples containing 100 ml of ISTD. Because of the length of each GC run, the large burden of QC samples, and the 12 hour clock requirement, it was not possible to run more than 4 samples per day and most runs contained only three useable samples if any problems developed during the batch run. Six daily batch runs were needed to complete sample and duplicate analysis.

Target Quantitation

Two separate Target3 methods were constructed for the PNNL and SAS standards. All data was thus processed twice using these two methods separately. Following integration by the SAS and PNNL methods, all peaks were inspected by the analyst to assure that the integration was done correctly and the correct peak used. The latter required verification of retention time and mass spectral match for all target and ISTD peaks. The original version of TVP-10 called for the computation of an average response factor associated with a 5 point calibration curve. Quantitation was then done using a response factor calculated from the daily calibration standard (CCV). This approach does follow conventional methodology as implemented in some EPA procedures, however, since it basically collapses a multipoint calibration into a single point calibration it does not adequately represent the full range of the calibration. Furthermore, that approach places too much reliance on the ability to reliably prepare and verify daily calibration standards. In this work the initial calibration response factor was calculated using a linear regression fit forced through zero. This type of plot honors the full range of calibration data equally. Linearity is demonstrated by the calculation of a correlation coefficient (R or R^2). In this work we assume that R^2 should be at least 0.98 to define a good quality linear fit for five points. The calibration curves produced by the PNNL and SAS standards produced fits of 0.99 or better for most analytes with the exception of a few compound with known poor performance such as pyridine, methanol, and ethanol which have inherently poor detection sensitivity at low levels because of their highly polar character. All data was quantitated using the linear factors produced by the initial calibration. Daily calibration standards run for both mixtures were processed as samples with recoveries calculated to determine if satisfactory analytical performance had been achieved for all analytes. Compound showing recoveries outside the range of 75% to 125% as specified in TVP-10 were flagged and noted in the daily case narratives. Most of the daily calibration standards showed lower than desirable average

recoveries for reasons not fully understood. The problem appears to be related to problems associated with reproducible preparation of daily standards by the syringe method.

Lower and Upper Quantitation Limits

Because of major changes in analyte list and reconfiguration of equipment and methods, the detection limits shown in TVP-10 are no longer considered valid for this work. Lower quantitation limits are reported for all data are instead based on the lower level standard used for the calibration. These are generally conservative limits and are well above the instrument detection limit. Detection of compounds at lower levels results in the use of a J flag for that data point. Similarly, upper quantitation limits are based on the upper level standard used for the calibration. Data outside that range is flagged with an E, however it should be noted that this range is somewhat of an artifact of the available standards. The true range of instrument linearity is considerably higher than that for most compounds. For example, many of the 3-heptanone measurements are flagged with an E since they are 2 to 3 times higher than the available upper level standard but are otherwise good quality determinations.

Duplicates

No true field duplicates were provided, so no check on sampling precision could be made. Two samples (VP006-060-1398 and VP006-084-1394) were selected for reanalysis of the archive tubes on different days to assess analytical reproducibility. A comparison was made of the target results for all compounds showing positive detection. A summary of the comparison for targets is included in the summary folder. The two samples showed RMS %D differences of 12% and 7% respectively for an average over the 29 target compounds detected above the lower quantitation limit. Relatively poor reproducibility was seen for three compounds known to be problematic: acetaldehyde, butanal, and 1-butanol. It appears that some loss of these materials occurs during the thermal desorption process, particularly for butanal which has shown similar problems in past work. A check was also made on reproducibility of TICs. The overall agreement was on the order of 10% which is very small compared to the overall uncertainty in quantitation of individual TICs.

Data Processing

Data was processed independently in two separate groups for the PNNL and SAS standards. Unknowns (TICs) were only calculated during the processing for the SAS standard since that standard contained more of the detected compounds thus minimizing the need to delete target compounds from the TIC list.

Identification of Unknowns

The Target3 method was set to detect and attempt to identify peaks down to 10% of the area of the nearest internal standard peak. This typically produced a long list of tentatively identified compounds (TICs) requiring more complete examination by the analyst. Since the method used a relatively small amount of internal standard this procedure tended to pick up very small peaks and some manual deletion was needed to reduce the list to manageable size. Identification of

very small peaks is, in any case, very unreliable and highly dependent on interferences by neighboring or overlapping peaks. Each unknown peak and associated library match was examined by the analyst to determine the best possible identification. Factors taken into account included: mass spectral pattern match, computed library fit factor, peak shape and location in the total ion chromatogram, presence of parent ions, reconciliation between samples, and reasonability in terms of known tank vapor chemistry. Compounds not showing a clear identification were either labeled simply as unknowns or given a partial identification based on the mass spectral pattern. In this work a large number of olefinic isomers were noted for which unique identification is not possible. The final data report reflects that type of identification. Due to the extreme complexity of the chromatograms and the nature of the detected analytes, a large number of ambiguities in identification remain which are not resolvable by this method.

Quantitation of Unknowns

Unknowns were quantitated using the response factors of the nearest internal standards. It should be noted that these are the response factors calculated from the total ion chromatogram as distinct from the internal standard response factors used for quantitation of targets based on individual parent or fragment ions. Quantitation performed in this manner is inherently approximate and can be assumed to be uncertain by up to a factor of three.

During the final stages of data package preparation it was noted that incorrect nanogram amounts had been entered into the data reduction method for two of the four internal standards. This incorrect entry affected only the quantitation of unknowns since targets are quantitated from ratios rather than absolute amounts. An appropriate correction factor was applied to the final data table to account for this error. The correction factor was applied based on the internal standard used for quantitation of each TIC individually and only affected part of the data. Some of the unknowns as reported in the final data table are thus higher than shown in the raw data package itself.

Completeness

A total of seventeen samples were analyzed. Of these, data is reported for 13 plus two run as duplicates to satisfy QC requirements. One sample, VP006-076 was lost due to an accidental erasure of the data file during archiving. Since this sample was a field blank, its loss is of limited impact. Another sample VP006-035 could not be run successfully because of analyte overload causing premature MS shutdown. The sample was rerun from the archive tube a second time with the instrument HV significantly reduced with the same result an no further attempt was made to run it. The problem appeared to be associated with a large amount of methanol on the tube. The source of the methanol is unknown but does appear to be too large to have originated in the tank. At least one other sample, VP006-069 showed a similar effect. That sample was successfully rerun using lowered voltage. Two samples, VP006-026 and VP006-052 exhibited anomalous chromatograms which suggested that the tubes had been sampled in the reverse direction. Since the internal standards showed appropriate behavior, this must have occurred in the field and the samples were thus considered to be unusable and results not included in the final data listing. One sample, VP006-076, required rerun after it was discovered that much of the early part of the chromatogram showed large retention time shifts. This is believed to be

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cause by exhaustion of the liquid nitrogen supply during that run. The tube was rerun from the archive tube successfully at a later date and only data from the latter run are reported.

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Rev. 0

TST INITIAL
CALIBRATION – PNNL
MIXTURE

BATCH FILE

68121401.b

CGO 011

HNF-4073

Rev. 0

TST Analysis Case Narrative
12/14/98

Initial calibration Using PNNL Mixture

A five level initial calibration for the modified version of TVP-10 was prepared and run on 12/14/98. Source materials were Air Liquide TO-14 Standard CC53004 and Air Liquide Mix#LPX11889. Gas tight syringes were used to aliquot equal amounts of each to precleaned tube as follows:

Level 1	100 ml
Level 2	50 ml
Level 3	20 ml
Level 4	5 ml
Level 5	2 ml

Each tube also contained 100 ml of internal standard mixture ALM064960 (Scott Specialty Gases).

Following autotune with PFTBA (HV=2188V), tubes were run in order of increasing concentration with a blank run last. BFB tune check was satisfactory.

The data files were transferred to the Target3 system to calibration response factor in method PNNL_std.m. A linear least squares regression fit forced through zero was used for all compounds. Five point calibration lines with correlation coefficients (R^2) of 0.98 or better were obtained for all compounds except: methanol (0.993, 4 points), chloroethane (0.996, 4 points), ethanol (0.94, 3 points), cis-1,3-dichloropropene (0.997, 4 points), trans-1,3-dichloropropene (0.991, 4 points).

Internal standards showed good reproducibility for all five levels.

C00 012

SAMPLE INFORMATION SUMMARY

HNF-4073
Rev. 0

BATCH: /chem/hpdos6.i/68121401.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
68121401.d	14-DEC-98 07:45	Cal Level 5		1.00 hpdos6	PNNL_std.m	
68121402.d	14-DEC-98 09:04	Cal Level 4		1.00 hpdos6	PNNL_std.m	
68121403.d	14-DEC-98 10:24	Cal Level 3		1.00 hpdos6	PNNL_std.m	
68121404.d	14-DEC-98 11:44	Cal Level 2		1.00 hpdos6	PNNL_std.m	
68121405.d	14-DEC-98 15:04	Cal Level 1		1.00 hpdos6	PNNL_std.m	

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
68121401.d	GAS	VAPOR	TST System 6	68121401		68121401
68121402.d	GAS	VAPOR	TST System 6	68121401		68121401
68121403.d	GAS	VAPOR	TST System 6	68121401		68121401
68121404.d	GAS	VAPOR	TST System 6	68121401		68121401
68121405.d	GAS	VAPOR	TST System 6	68121401		68121401

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
68121401.d	all.sub		1038397	1038401	1038366	1038453
68121402.d	all.sub		1038398	1038401	1038366	1038453
68121403.d	all.sub		1038399	1038401	1038366	1038453
68121404.d	all.sub		1038400	1038401	1038366	1038453
68121405.d	all.sub		1038408	1038401	1038366	1038453

C60 013

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

INITIAL CALIBRATION DATA

Start Cal Date : 11-DEC-98 06:22
 End Cal Date : 14-DEC-98 10:24
 Quant Method : ISTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdose.i/PNNL_std.m
 Cal Date : 03-Feb-1999 14:23 jOhn

Calibration File Names:

Level 1: /chem/hpdose.i/68121401.b/68121405.d
 Level 2: /chem/hpdose.i/68121401.b/68121404.d
 Level 3: /chem/hpdose.i/68121401.b/68121403.d
 Level 4: /chem/hpdose.i/68121401.b/68121402.d
 Level 5: /chem/hpdose.i/68121401.b/68121401.d

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Orave	a0	Coefficients		MSD
								a1	a2	or R ²
1 Dichlorodifluoromethane	3311704	2060052	775944	157385	66906	LINE	0.00000	3.11300		0.98525
2 Chloromethane	1605567	924022	321095	5939	28190	LINE	0.00000	3.51600		0.99634
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	3867829	2220191	876311	169526	70167	LINE	0.00000	2.51800		0.99378
4 Vinyl Chloride	1156007	692530	250095	46847	16198	LINE	0.00000	2.07300		0.99199
5 Methanol	1756061	1031849	377155	13482	57510	LINE	0.00000	1.99400		0.99305
6 1,3-Butadiene	1363124	757964	294078	57510	19301	LINE	0.00000	1.73600		0.99698
7 Chloroethane	520741	280119	112421	++++	8335	LINE	0.00000	0.88910		0.99620
8 Ethanol	320055	13231	85049	++++	++++	LINE	0.00000	1.05900		0.94127
9 Acetonitrile	1685507	897919	296350	52032	21878	LINE	0.00000	1.85200		0.99938
10 Acetone	1049918	54659	223108	44981	17618	LINE	0.00000	0.65420		0.99774

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

HNF-4073
Rev. 0

Start Cal Date : 11-DEC-98 06:22
 End Cal Date : 14-DEC-98 10:24
 Quant Method : ISTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdp06.1/PNNL_std.m
 Cal Date : 03-Feb-1999 14:23 john

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	OutVie	a0	a1	a2	%RSD
11 Trichlorofluoromethane	2622212	1576001	608884	125213	49381	ILINR	0.00000	2.149001		0.98691
12 Pentane	4669150	2882296	1122363	232334	86897	ILINR	0.00000	2.932001		0.98749
13 1,1-Dichloroethene	9729291	577632	219153	41880	16437	ILINR	0.00000	1.124001		0.99179
14 Methylene Chloride	982319	543038	204019	41795	17599	ILINR	0.00000	1.270001		0.99797
15 1,1,2-Trichloro-1,2,2,2-tetrafluoroethan	1654757	1019521	393307	81150	32399	ILINR	0.00000	1.002001		0.98614
16 1,1-Dichloroethane	2127713	1230608	464063	94722	35792	ILINR	0.00000	2.390001		0.99467
17 2-Butanone	8227961	493416	170301	32530	6391	ILINR	0.00000	0.531901		0.99256
18 cis-1,2-Dichloroethene	964430	595661	206436	51209	14800	ILINR	0.00000	1.134001		0.99881
20 Chloroform	2329844	1368321	412165	112958	43540	ILINR	0.00000	2.131001		0.99512
21 1,2-Dichloroethane	1430506	883144	308765	60316	22630	ILINR	0.00000	1.611001		0.99397
22 1,1,1-Trichloroethane	2092135	1231077	470789	102360	42717	ILINR	0.00000	0.539601		0.99986
23 Benzene	3246318	1962937	759555	163533	63236	ILINR	0.00000	1.473001		0.99984
24 Carbon Tetrachloride	1931725	1167006	435557	92733	36950	ILINR	0.00000	0.44401		0.99931
26 1,2-Dichloropropane	1116728	775692	298368	59281	28932	ILINR	0.00000	0.410401		0.99956
27 Trichloroethene	1503444	918197	349111	68200	27416	ILINR	0.00000	0.406101		0.99651
28 cis-1,3-Dichloropropene	1332819	767928	258395	43041	+++++	ILINR	0.00000	0.465201		0.99737
29 trans-1,3-Dichloropropene	626689	340759	99520	26138	+++++	ILINR	0.00000	0.216401		0.99142

C60 015

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INITIAL CALIBRATION DATA

HNF-4073
Rev. 0

Start Cal Date : 11-DEC-98 06:22
 End Cal Date : 14-DEC-98 10:24
 Quant Method : ISFD
 Origin : Force
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdose.1/PNNL.std.m
 Cal Date : 03-Feb-1999 14:23 jonm

Compound	100	50	20	5	2	Curve	a0	Coefficients		HRSD
	Level 1	Level 2	Level 3	Level 4	Level 5			a1	a2	or R ²
30 1,1,2-Trichloroethane	1262110	759591	277632	58089	21029	LINE	0.00001	0.48401		0.99972
31 Toluene	2265281	1367283	511510	106488	39152	LINE	0.00001	1.08000		0.99588
32 1,2-Dibromoethane	1445150	851713	308979	57388	19051	LINE	0.00001	0.33550		0.99971
33 Tetrachloroethylene	1444268	880485	331345	69960	27690	LINE	0.00001	0.38350		0.99929
35 Chlorobenzene	2708167	1637092	593861	127446	44654	LINE	0.00001	1.05600		0.99958
36 Ethylbenzene	4837449	2942336	1082979	227876	81558	LINE	0.00001	2.00300		0.99942
37 p/m-Xylene	3494975	2106319	774815	188867	59025	LINE	0.00001	0.71500		0.99932
38 Styrene	2288098	1371873	446764	93415	30658	LINE	0.00001	2.58000		0.99874
39 1,1,2,2-Tetrachloroethane	2720556	1650739	578030	125308	40837	LINE	0.00001	1.91200		0.99932
40 o-Xylene	1633409	992651	366041	83422	28754	LINE	0.00001	1.81700		0.99889
43 1,3,5-Trimethylbenzene	3979322	2484595	975851	242891	95851	LINE	0.00001	3.95300		0.99762
44 1,2,4-Trimethylbenzene	3677221	238637	746655	181835	70345	LINE	0.00001	3.81000		0.99784
45 1,3-Dichlorobenzene	2946298	1737110	473918	88168	30177	LINE	0.00001	2.33600		0.99518
46 1,4-Dichlorobenzene	3011508	1400515	1057901	131374	45304	LINE	0.00001	2.39300		0.96404
47 1,2-Dichlorobenzene	2859410	1781984	528596	119783	54205	LINE	0.00001	2.36300		0.99727
48 1,2,4-Trichlorobenzene	2347951	1301118	204078	71480	19913	LINE	0.00001	1.38400		0.98150
49 Hexachloro-1,3-butadiene	1780839	1130681	174909	79260	27669	LINE	0.00001	0.80970		0.98032

CCO 016

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

Start Cal Date : 11-DEC-98 06:22
 End Cal Date : 14-DEC-98 10:24
 Quant Method : ISTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos6.i/PNNL_std.m
 Cal Date : 03-Feb-1999 14:23 john

HNF-4073
 Rev. 0

Curve	Formula	Units
Linear	$y = a_0 + (1/a_1) * x$	Response

C60 017

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 68121401.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018

Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====	
		LOWER =====	UPPER =====			
19 Bromochloromethane (	521049	260524	1042098	223762	-57.06	<-
25 Difluorobenzene (IS)	1891825	945912	3783650	727778	-61.53	<-
34 Chlorobenzene-d5 (IS	1611664	805832	3223328	544355	-66.22	<-
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	290391	-73.42	<-

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
19 Bromochloromethane (	19.90	19.40	20.40	19.81	-0.42
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.28	-0.27
34 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.39	-0.22
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.15	-0.15

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

HNF-4073
Rev. 0

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 68121402.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018

Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====	
		LOWER =====	UPPER =====			
19 Bromochloromethane (	521049	260524	1042098	247689	-52.46	<-
25 Difluorobenzene (IS)	1891825	945912	3783650	801534	-57.63	<-
34 Chlorobenzene-d5 (IS	1611664	805832	3223328	652115	-59.54	<-
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	319339	-70.77	<-

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====	
		LOWER =====	UPPER =====			
19 Bromochloromethane (	19.90	19.40	20.40	19.81	-0.43	
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.26	-0.34	
34 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.38	-0.25	
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.14	-0.17	

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Rev. 0

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 68121403.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018

Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
19 Bromochloromethane (	521049	260524	1042098	250521	-51.92 <-
25 Difluorobenzene (IS)	1891825	945912	3783650	845204	-55.32 <-
34 Chlorobenzene-d5 (IS	1611664	805832	3223328	693656	-56.96 <-
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	376191	-65.57 <-

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
19 Bromochloromethane (	19.90	19.40	20.40	19.80	-0.47
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.25	-0.41
34 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.35	-0.33
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.11	-0.26

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 020

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 68121404.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018

Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====	
		LOWER =====	UPPER =====			
19 Bromochloromethane (	521049	260524	1042098	285561	-45.19	
25 Difluorobenzene (IS)	1891825	945912	3783650	872570	-53.88	<-
34 Chlorobenzene-d5 (IS)	1611664	805832	3223328	739885	-54.09	<-
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	394018	-63.93	<-

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====	
		LOWER =====	UPPER =====			
19 Bromochloromethane (	19.90	19.40	20.40	19.80	-0.48	
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.24	-0.44	
34 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.33	-0.38	
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.10	-0.28	

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 68121405.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
19 Bromochloromethane (	521049	260524	1042098	274231	-47.37
25 Difluorobenzene (IS)	1891825	945912	3783650	734230	-61.19 <-
34 Chlorobenzene-d5 (IS)	1611664	805832	3223328	634092	-60.66 <-
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	338009	-69.06 <-

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
19 Bromochloromethane (	19.90	19.40	20.40	19.79	-0.54
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.24	-0.44
34 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.35	-0.32
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.11	-0.25

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : PNNL TST 1371 Level 1 Cal
100 ml of ISTD

Instrument ID : hpdos6.1
 Method : PNNL_std.m
 File : 68121405.d
 Injection Date : 14-DEC-98 15:04 Operator : JCE
 Matrix : AIR Lab. Sample ID: TST System 6
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CALIB_1

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	19	120.91	8.242	8.269	3311704	428.48	2.1424	396.91	
Chloromethane	19	50.49	9.128	9.145	1605567	202.29	1.0115	448.74	
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727	9.815	3867829	643.87	3.2193	421.91	
Vinyl Chloride	19	62.50	10.150	10.200	1156007	251.08	1.2554	449.93	
Methanol	19	32.04	10.475	10.319	1796061	621.79	3.1090	2173.55	
1,3-Butadiene	19	54.00	10.721	10.772	1363124	349.90	1.7495	725.71	E
Chloroethane	19	64.51	12.269	12.221	520741	279.66	1.3983	485.53	
Ethanol	19	46.07	12.880	12.723	320055	121.82	0.6091	296.16	
Acetonitrile	19	41.05	13.362	13.177	1685507	450.49	2.2525	1229.11	
Acetone	19	58.08	13.855	13.758	1049918	689.34	3.4467	1329.30	E
Trichlorofluoromethane	19	137.37	14.269	14.202	2622212	498.47	2.4924	406.41	
Pentane	19	72.00	15.067	14.982	4669150	644.75	3.2238	1002.95	E
1,1-Dichloroethene	19	96.94	15.586	15.564	972929	369.66	1.8483	427.09	
Methylene Chloride	19	84.93	15.885	15.801	982919	331.89	1.6595	437.68	
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418	16.315	1654757	664.11	3.3205	396.95	
1,1-Dichloroethane	19	98.96	18.009	17.984	2127713	380.09	1.9005	430.18	
2-Butanone	19	72.11	18.725	18.606	822796	762.93	3.8146	1184.96	E
cis-1,2-Dichloroethene	19	96.94	19.536	19.484	964430	362.06	1.8103	418.30	
Chloroform	19	119.38	20.106	19.998	2329844	459.49	2.2974	431.08	
1,2-Dichloroethane	19	98.96	21.418	21.370	1430506	388.23	1.9412	439.39	
1,1,1-Trichloroethane	25	133.40	21.920	21.873	2032135	544.66	2.7233	457.28	
Benzene	25	78.11	22.846	22.732	3246318	323.51	1.6175	463.87	
Carbon Tetrachloride	25	153.82	23.123	23.019	1931725	649.99	3.2499	473.27	
1,2-Dichloropropane	25	112.99	24.285	24.235	1316728	481.93	2.4096	477.70	
Trichloroethene	25	131.39	24.719	24.669	1503444	561.36	2.8068	478.51	
cis-1,3-Dichloropropene	25	110.97	26.324	26.280	1332819	506.40	2.5320	511.10	
trans-1,3-Dichloropropene	25	110.97	27.348	27.297	626689	545.90	2.7295	550.97	E
1,1,2-Trichloroethane	25	133.40	27.845	27.731	1262110	404.91	2.0246	339.96	
Toluene	34	92.14	28.476	28.373	2265281	377.68	1.8884	459.09	
1,2-Dibromoethane	34	187.86	29.947	29.904	1445150	848.54	4.2427	505.89	
Tetrachloroethylene	34	165.83	30.999	30.891	1444268	675.28	3.3764	456.08	
Chlorobenzene	34	112.56	32.566	32.452	2708167	468.43	2.3421	466.10	
Ethylbenzene	34	106.17	33.394	33.291	4837449	437.25	2.1862	461.26	

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Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.717	3449475	864.50	4.3225	911.97	
Styrene	41	104.15	34.727	34.625	2288098	467.09	2.3355	502.30	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.853	2720556	708.45	3.5423	472.72	
o-Xylene	41	106.17	35.024	34.922	1633409	450.85	2.2543	475.61	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.469	3979322	298.51	1.4925	278.16	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.743	3877221	494.52	2.4726	460.82	
1,3-Dichlorobenzene	41	147.00	40.328	40.277	2946298	436.73	2.1837	332.75	
1,4-Dichlorobenzene	41	147.00	40.525	40.485	3011508	451.76	2.2588	344.20	
1,2-Dichlorobenzene	41	147.00	41.658	41.611	2959410	631.80	3.1590	481.37	
1,2,4-Trichlorobenzene	41	181.45	47.866	47.845	2141755	997.96	4.9898	615.99	E
Hexachloro-1,3-butadiene	41	260.76	49.660	49.620	1780839	1217.89	6.0894	523.10	
Bromochloromethane (IS)	19	129.40	19.898	19.790	274231	121.00	0.6050	104.73	E
Difluorobenzene (IS)	25	114.00	23.340	23.237	734230	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.352	634092	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.109	338009	162.00	0.8100	104.28	

CLP Qualifier Flag--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1371 Level 1 Cal

100 ml of ISTD

CC0 025

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Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1371 Level 1 Cal 100 ml of ISTD

C00 026

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1354 Level 2 Cal
100 ml of ISTD

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 68121404.d
Injection Date : 14-DEC-98 11:44 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_2

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.278	2060052	255.96	1.2798	237.10	
Chloromethane	19	50.49	9.128	9.145	924022	111.80	0.5590	248.01	
12dichloro1122-tetrafluoroeth	19	170.92	9.727	9.805	2230191	356.52	1.7826	233.62	
Vinyl Chloride	19	62.50	10.150	10.199	692530	144.45	0.7222	258.85	
Methanol	19	32.04	10.475	10.386	1031849	416.79	2.0839	1456.93	
1,3-Butadiene	19	54.00	10.721	10.770	757964	186.84	0.9342	387.52	E
Chloroethane	19	64.51	12.269	12.229	290119	150.64	0.7532	261.53	
Ethanol	19	46.07	12.880	12.800	132231	51.35	0.2568	124.84	J
Acetonitrile	19	41.05	13.362	13.204	897919	230.47	1.1523	628.80	
Acetone	19	58.08	13.855	13.766	544659	343.41	1.7171	662.23	
Trichlorofluoromethane	19	137.37	14.269	14.200	1575600	287.63	1.4382	234.51	
Pentane	19	72.00	15.067	14.988	2828296	375.06	1.8753	583.42	E
1,1-Dichloroethene	19	96.94	15.586	15.570	577632	210.76	1.0538	243.50	
Methylene Chloride	19	84.93	15.885	15.797	543038	176.09	0.8804	232.21	
112trichloro122trifluoroethane	19	187.38	16.418	16.321	1019532	392.94	1.9647	234.86	
1,1-Dichloroethane	19	98.96	18.009	17.978	1230608	211.11	1.0556	238.93	
2-Butanone	19	72.11	18.725	18.610	493416	439.36	2.1968	682.41	
cis-1,2-Dichloroethene	19	96.94	19.536	19.477	595661	212.71	1.0636	245.76	
Chloroform	19	119.38	20.106	20.000	1366832	258.87	1.2943	242.87	
1,2-Dichloroethane	19	98.96	21.418	21.362	838144	218.44	1.0922	247.23	
1,1,1-Trichloroethane	25	133.40	21.920	21.875	1231077	277.64	1.3882	233.10	
Benzene	25	78.11	22.846	22.733	1969237	165.13	0.8256	236.78	
Carbon Tetrachloride	25	153.82	23.123	23.020	1167006	330.42	1.6521	240.59	
1,2-Dichloropropane	25	112.99	24.285	24.234	775692	238.89	1.1945	236.80	
Trichloroethene	25	131.39	24.719	24.659	918197	288.48	1.4424	245.91	
cis-1,3-Dichloropropene	25	110.97	26.324	26.278	767926	245.51	1.2276	247.79	
trans-1,3-Dichloropropene	25	110.97	27.348	27.294	340759	249.77	1.2489	252.09	
1,1,2-Trichloroethane	25	133.40	27.845	27.738	759591	205.06	1.0253	172.16	
Toluene	34	92.14	28.476	28.379	1367283	195.37	0.9768	237.48	
1,2-Dibromoethane	34	187.86	29.947	29.898	851713	428.59	2.1429	255.52	
Tetrachloroethylene	34	165.83	30.999	30.885	880485	352.82	1.7641	238.29	
Chlorobenzene	34	112.56	32.566	32.454	1637092	242.68	1.2134	241.47	
Ethylbenzene	34	106.17	33.394	33.283	2942236	227.92	1.1396	240.43	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.708	2106319	452.40	2.2620	477.24	
Styrene	41	104.15	34.727	34.625	1371873	240.25	1.2012	258.35	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.853	1650739	368.76	1.8438	246.06	
o-Xylene	41	106.17	35.024	34.912	992651	235.04	1.1752	247.95	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.455	2484595	159.89	0.7994	148.99	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.738	2388637	261.35	1.3068	243.54	
1,3-Dichlorobenzene	41	147.00	40.328	40.272	1727110	219.62	1.0981	167.33	
1,4-Dichlorobenzene	41	147.00	40.525	40.480	1400515	180.82	0.9041	137.77	
1,2-Dichlorobenzene	41	147.00	41.658	41.605	1781981	326.36	1.6318	248.65	
1,2,4-Trichlorobenzene	41	181.45	47.866	47.855	1301118	530.17	2.6508	327.24	
Hexachloro-1,3-butadiene	41	260.76	49.660	49.623	1130681	663.34	3.3167	284.91	
Bromochloromethane (IS)	19	129.40	19.898	19.803	285561	121.00	0.6050	104.73	E
Difluorobenzene (IS)	25	114.00	23.340	23.237	872570	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.335	739885	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.097	394018	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1354 Level 2 Cal

100 ml of ISTD

000 029

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1354 Level 2 Cal 100 ml of ISTD

CCO 030

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1313 Level 3 Cal
100 ml of ISTD

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 68121403.d
Injection Date : 14-DEC-98 10:24 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_3

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	19	120.91	8.242	8.278	776944	94.38	0.4719	87.43	
Chloromethane	19	50.49	9.128	9.144	321095	39.71	0.1985	88.09	
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727	9.794	876311	144.58	0.7229	94.74	
Vinyl Chloride	19	62.50	10.150	10.208	250095	49.20	0.2460	88.17	
Methanol	19	32.04	10.475	10.552	337155	79.67	0.3983	278.49	
1,3-Butadiene	19	54.00	10.721	10.769	294078	74.07	0.3704	153.63	
Chloroethane	19	64.51	12.269	12.217	112421	54.69	0.2734	94.94	
Ethanol	19	46.07	12.880	12.955	85049	26.40	0.1320	64.18	
Acetonitrile	19	41.05	13.362	13.309	298350	78.62	0.3931	214.50	
Acetone	19	58.08	13.855	13.802	229108	161.11	0.8056	310.68	
Trichlorofluoromethane	19	137.37	14.269	14.196	608884	111.91	0.5596	91.24	
Pentane	19	72.00	15.067	14.994	1122363	148.22	0.7411	230.57	
1,1-Dichloroethene	19	96.94	15.586	15.566	219153	78.92	0.3946	91.18	
Methylene Chloride	19	84.93	15.885	15.812	204019	71.32	0.3566	94.05	
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418	16.325	393307	149.70	0.7485	89.48	
1,1-Dichloroethane	19	98.96	18.009	17.981	464063	81.41	0.4070	92.14	
2-Butanone	19	72.11	18.725	18.631	170301	132.98	0.6649	206.54	
cis-1,2-Dichloroethene	19	96.94	19.536	19.479	206436	72.03	0.3601	83.22	
Chloroform	19	119.38	20.106	20.002	412165	83.66	0.4183	78.48	
1,2-Dichloroethane	19	98.96	21.418	21.372	308765	79.80	0.3990	90.32	
1,1,1,1-Tetrachloroethane	25	133.40	21.920	21.865	470789	107.83	0.5391	90.53	
Benzene	25	78.11	22.846	22.732	756955	63.40	0.3170	90.91	
Carbon Tetrachloride	25	153.82	23.123	23.018	435567	122.91	0.6146	89.50	
1,2-Dichloropropane	25	112.99	24.285	24.241	298368	93.00	0.4650	92.18	
Trichloroethene	25	131.39	24.719	24.665	349311	106.25	0.5313	90.57	
cis-1,3-Dichloropropene	25	110.97	26.324	26.281	258395	78.63	0.3932	79.36	
trans-1,3-Dichloropropene	25	110.97	27.348	27.296	99520	72.06	0.3603	72.73	
1,1,2-Trichloroethane	25	133.40	27.845	27.739	277632	72.98	0.3649	61.27	
Toluene	34	92.14	28.476	28.380	511510	74.73	0.3736	90.84	
1,2-Dibromoethane	34	187.86	29.947	29.897	308979	152.12	0.7606	90.69	
Tetrachloroethylene	34	165.83	30.999	30.882	331345	134.42	0.6721	90.79	
Chlorobenzene	34	112.56	32.566	32.458	593861	89.47	0.4474	89.03	
Ethylbenzene	34	106.17	33.394	33.296	1082979	84.96	0.4248	89.62	

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Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.720	774815	169.31	0.8466	178.61	
Styrene	41	104.15	34.727	34.626	446764	76.77	0.3839	82.56	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.853	578030	128.31	0.6415	85.61	
o-Xylene	41	106.17	35.024	34.923	366041	85.35	0.4267	90.04	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.481	976785	96.10	0.4805	89.55	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.752	746665	84.31	0.4216	78.57	
1,3-Dichlorobenzene	41	147.00	40.328	40.295	473918	120.20	0.6010	91.58	
1,4-Dichlorobenzene	41	147.00	40.525	40.295	1057901	189.14	0.9457	144.11	
1,2-Dichlorobenzene	41	147.00	41.658	41.616	528596	101.18	0.5059	77.09	
1,2,4-Trichlorobenzene	41	181.45	47.866	47.918	204078	90.08	0.4504	55.60	
Hexachloro-1,3-butadiene	41	260.76	49.660	49.623	174909	122.51	0.6126	52.62	
Bromochloromethane (IS)	19	129.40	19.898	19.804	250521	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.245	845204	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.349	693656	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.106	376191	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1313 Level 3 Cal 100 ml of ISTD

C00 033

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1313 Level 3 Cal 100 ml of ISTD

C00 034

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : PNNL TST 1344 Level 4 Cal
100 ml of ISTDInstrument ID : hpdos6.i
Method : PNNL std.m
File : 68121402.d
Injection Date : 14-DEC-98 09:04 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_4

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.278	157385	22.55	0.1127	20.88	
Chloromethane	19	50.49	9.128	9.163	59939	8.36	0.0418	18.55	
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727	9.784	169526	31.24	0.1562	20.47	
Vinyl Chloride	19	62.50	10.150	10.226	46847	11.27	0.0563	20.19	
Methanol	19	32.04	10.475	10.866	13482	3.23	0.0162	11.31	J
1,3-Butadiene	19	54.00	10.721	10.787	57610	16.37	0.0819	33.96	J
Chloroethane	19	64.51	12.269	12.241	11430	6.06	0.0303	10.52	J
Ethanol	19	46.07	12.880				0.0274	13.32	U
Acetonitrile	19	41.05	13.362	13.599	52032	15.40	0.0770	42.01	
Acetone	19	58.08	13.855	13.934	44981	32.70	0.1635	63.05	
Trichlorofluoromethane	19	137.37	14.269	14.200	125213	26.35	0.1318	21.49	
Pentane	19	72.00	15.067	15.007	232334	35.52	0.1776	55.25	
1,1-Dichloroethene	19	96.94	15.586	15.578	41880	17.62	0.0881	20.35	
Methylene Chloride	19	84.93	15.885	15.815	41795	15.62	0.0781	20.60	J
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418	16.327	81150	36.06	0.1803	21.55	
1,1-Dichloroethane	19	98.96	18.009	17.991	94722	18.73	0.0937	21.20	
2-Butanone	19	72.11	18.725	18.719	32530	29.79	0.1490	46.28	
cis-1,2-Dichloroethene	19	96.94	19.536	19.497	51209	21.28	0.1064	24.59	
Chloroform	19	119.38	20.106	20.020	112958	24.66	0.1233	23.14	
1,2-Dichloroethane	19	98.96	21.418	21.389	60316	18.12	0.0906	20.51	
1,1,1-Trichloroethane	25	133.40	21.920	21.881	102360	25.13	0.1257	21.10	
Benzene	25	78.11	22.846	22.748	163533	14.93	0.0746	21.41	
Carbon Tetrachloride	25	153.82	23.123	23.014	92733	28.58	0.1429	20.81	
1,2-Dichloropropane	25	112.99	24.285	24.245	59281	19.88	0.0994	19.70	
Trichloroethene	25	131.39	24.719	24.689	68200	23.33	0.1166	19.88	
cis-1,3-Dichloropropene	25	110.97	26.324	26.303	43041	14.20	0.0710	14.33	
trans-1,3-Dichloropropene	25	110.97	27.348	27.346	26138	18.53	0.0926	18.70	
1,1,2-Trichloroethane	25	133.40	27.845	27.750	58089	17.07	0.0854	14.33	
Toluene	34	92.14	28.476	28.400	106488	17.26	0.0863	20.98	
1,2-Dibromoethane	34	187.86	29.947	29.915	57388	32.76	0.1638	19.53	
Tetrachloroethylene	34	165.83	30.999	30.909	69960	31.81	0.1590	21.48	
Chlorobenzene	34	112.56	32.566	32.484	127446	21.43	0.1072	21.33	
Ethylbenzene	34	106.17	33.394	33.331	227876	20.03	0.1001	21.13	

CGO 035

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Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
p/m-Xylene	34	106.17	33.809	33.774	168967	41.18	0.2059	43.44	
Styrene	41	104.15	34.727	34.670	94515	20.42	0.1021	21.96	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.877	125308	34.54	0.1727	23.05	
o-Xylene	41	106.17	35.024	34.956	83422	24.37	0.1219	25.71	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.521	242891	23.90	0.1195	22.27	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.810	181835	24.55	0.1227	22.88	
1,3-Dichlorobenzene	41	147.00	40.328	40.313	88168	16.08	0.0804	12.25	
1,4-Dichlorobenzene	41	147.00	40.525	40.530	131374	26.82	0.1341	20.44	
1,2-Dichlorobenzene	41	147.00	41.658	41.652	119783	27.07	0.1353	20.62	
1,2,4-Trichlorobenzene	41	181.45	47.866	48.037	71480	35.25	0.1763	21.76	
Hexachloro-1,3-butadiene	41	260.76	49.660	49.631	79260	57.37	0.2869	24.64	
Bromochloromethane (IS)	19	129.40	19.898	19.812	247689	121.00	0.6050	104.73	E
Difluorobenzene (IS)	25	114.00	23.340	23.260	801534	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.375	652115	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.138	319339	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1344 Level 4 Cal 100 ml of ISTD

000 037

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1344 Level 4 Cal 100 ml of ISTD

C00 038

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1320 Level 5 Cal
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 68121401.d
Injection Date : 14-DEC-98 07:45 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_5

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.298	66906	10.61	0.0530	9.83	
Chloromethane	19	50.49	9.128	9.173	28190	4.35	0.0218	9.66	
12dichloro1122-tetrafluoroeth	19	170.92	9.727	9.793	70167	14.32	0.0716	9.38	
Vinyl Chloride	19	62.50	10.150	10.214	16198	4.31	0.0216	7.73	J
Methanol	19	32.04	10.475				0.0274	19.16	U
1,3-Butadiene	19	54.00	10.721	10.804	19301	6.07	0.0304	12.59	J
Chloroethane	19	64.51	12.269	12.245	8335	4.89	0.0245	8.49	J
Ethanol	19	46.07	12.880				0.0274	13.32	U
Acetonitrile	19	41.05	13.362	13.607	21878	7.17	0.0358	19.55	
Acetone	19	58.08	13.855	14.020	17618	14.18	0.0709	27.34	J
Trichlorofluoromethane	19	137.37	14.269	14.207	49388	11.51	0.0575	9.38	
Pentane	19	72.00	15.067	15.004	85897	14.54	0.0727	22.61	
1,1-Dichloroethene	19	96.94	15.586	15.584	16437	7.65	0.0383	8.84	
Methylene Chloride	19	84.93	15.885	15.820	17599	7.28	0.0364	9.60	J
112trichlorol22trifluoroethane	19	187.38	16.418	16.342	32399	15.94	0.0797	9.52	
1,1-Dichloroethane	19	98.96	18.009	18.004	35792	7.84	0.0392	8.87	
2-Butanone	19	72.11	18.725	18.761	6391	6.48	0.0324	10.06	
cis-1,2-Dichloroethene	19	96.94	19.536	19.509	14800	6.81	0.0340	7.87	
Chloroform	19	119.38	20.106	20.021	43540	10.52	0.0526	9.87	
1,2-Dichloroethane	19	98.96	21.418	21.408	22630	7.53	0.0376	8.52	
1,1,1-Trichloroethane	25	133.40	21.920	21.890	42717	11.55	0.0578	9.70	
Benzene	25	78.11	22.846	22.756	63236	6.36	0.0318	9.12	
Carbon Tetrachloride	25	153.82	23.123	23.022	36950	12.54	0.0627	9.13	
1,2-Dichloropropane	25	112.99	24.285	24.272	25932	9.58	0.0479	9.49	
Trichloroethene	25	131.39	24.719	24.695	27416	10.33	0.0516	8.80	
cis-1,3-Dichloropropene	25	110.97	26.324	26.308	16622	6.04	0.0302	6.10	
trans-1,3-Dichloropropene	25	110.97	27.348	27.331	4620	3.61	0.0180	3.64	J
1,1,2-Trichloroethane	25	133.40	27.845	27.773	21029	6.81	0.0340	5.71	
Toluene	34	92.14	28.476	28.423	39152	7.60	0.0380	9.24	
1,2-Dibromoethane	34	187.86	29.947	29.937	19051	13.03	0.0652	7.77	
Tetrachloroethylene	34	165.83	30.999	30.921	27690	15.08	0.0754	10.19	
Chlorobenzene	34	112.56	32.566	32.505	44654	9.00	0.0450	8.95	
Ethylbenzene	34	106.17	33.394	33.341	81558	8.59	0.0429	9.06	

000 039

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.784	59025	17.23	0.0862	18.18	
Styrene	41	104.15	34.727	34.689	30658	7.28	0.0364	7.83	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.886	40837	12.38	0.0619	8.26	
o-Xylene	41	106.17	35.024	34.965	28754	9.24	0.0462	9.75	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.557	95851	9.19	0.0460	8.57	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.816	70345	10.44	0.0522	9.73	
1,3-Dichlorobenzene	41	147.00	40.328	40.357	30177	6.05	0.0303	4.61	J
1,4-Dichlorobenzene	41	147.00	40.525	40.525	45304	10.17	0.0509	7.75	
1,2-Dichlorobenzene	41	147.00	41.658	41.665	54205	13.47	0.0673	10.26	
1,2,4-Trichlorobenzene	41	181.45	47.866	48.047	19913	10.80	0.0540	6.67	J
Hexachloro-1,3-butadiene	41	260.76	49.660	49.650	27669	22.03	0.1101	9.46	J
Bromochloromethane (IS)	19	129.40	19.898	19.814	223762	121.00	0.6050	104.73	E
Difluorobenzene (IS)	25	114.00	23.340	23.278	727778	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.386	544355	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.146	290391	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1320 Level 5 Cal 100 ml of ISTD

000 041

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1320 Level 5 Cal 100 ml of ISTD
C00 042

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos6.i/PNNL_std.m
 Quant Method : ISTD
 Last Update : 03-Feb-1999 14:23
 Data Type : MS DATA

Target Version : 3.10
 Number of Cpnds : 48

Global Integrator : HP RTE

Chromat Events

Values

```

-----
Initial:Thresh Units      0.000000
Initial:Area Thresh      40000.000000
Initial:Max Peaks        200.000000
Initial:Bunching          1.000000
Initial:Smoothing         1.000000
Initial:Start Thresh      0.100000
Initial:Stop Thresh       0.000000
Initial:Baseline Reset    5.000000
Initial:Set Valley        100.000000
  
```

Compound	RT	RT Window	RF	Mass
1 Dichlorodifluoromethane	8.242	8.042-8.442	3.113	85.00
	8.242	8.042-8.442	0.000	87.00
	8.242	8.042-8.442	0.000	120.91
2 Chloromethane	9.128	8.428-9.828	3.516	50.00
	9.128	8.428-9.828	0.000	52.00
	9.128	8.428-9.828	0.000	50.49
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	9.727	9.027-10.427	2.518	85.00
	9.727	9.027-10.427	0.000	135.00
	9.727	9.027-10.427	0.000	170.92
4 Vinyl Chloride	10.150	9.450-10.850	2.073	62.00
	10.150	9.450-10.850	0.000	64.00
	10.150	9.450-10.850	0.000	62.50
5 Methanol	10.475	9.975-10.975	1.994	31.00
	10.475	9.975-10.975	0.000	30.00
	10.475	9.975-10.975	0.000	32.04
6 1,3-Butadiene	10.721	10.221-11.221	1.736	54.00
	10.721	10.221-11.221	0.000	53.00
	10.721	10.221-11.221	0.000	54.00
7 Chloroethane	12.269	11.569-12.969	0.889	64.00
	12.269	11.569-12.969	0.000	66.00
	12.269	11.569-12.969	0.000	64.51
8 Ethanol	12.880	12.380-13.380	1.059	31.00
	12.880	12.380-13.380	0.000	45.00
	12.880	12.380-13.380	0.000	46.07

CC0 043

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos6.i/PNNL_std.m

Compound	RT	RT Window	RF	Mass
9 Acetonitrile	13.362	12.662-14.062	1.852	41.00
	13.362	12.662-14.062	0.000	39.00
	13.362	12.662-14.062	0.000	41.05
10 Acetone	13.855	13.355-14.355	0.654	58.00
	13.855	13.355-14.355	0.000	43.00
	13.855	13.355-14.355	0.000	58.08
11 Trichlorofluoromethane	14.269	13.569-14.969	2.149	101.00
	14.269	13.569-14.969	0.000	103.00
	14.269	13.569-14.969	0.000	137.37
12 Pentane	15.067	14.567-15.567	2.932	43.00
	15.067	14.567-15.567	0.000	57.00
	15.067	14.567-15.567	0.000	72.00
13 1,1-Dichloroethene	15.586	14.886-16.286	1.124	96.00
	15.586	14.886-16.286	0.000	61.00
	15.586	14.886-16.286	0.000	96.94
14 Methylene Chloride	15.885	15.185-16.585	1.270	84.00
	15.885	15.185-16.585	0.000	49.00
	15.885	15.185-16.585	0.000	84.93
15 1,1,2-trichloro-2,2,2-trifluoroethane	16.418	15.718-17.118	1.002	151.00
	16.418	15.718-17.118	0.000	103.00
	16.418	15.718-17.118	0.000	187.38
16 1,1-Dichloroethane	18.009	17.509-18.509	2.390	63.00
	18.009	17.509-18.509	0.000	65.00
	18.009	17.509-18.509	0.000	98.96
17 2-Butanone	18.725	18.225-19.225	0.532	72.00
	18.725	18.225-19.225	0.000	43.00
	18.725	18.225-19.225	0.000	72.11
18 cis-1,2-Dichloroethene	19.536	19.036-20.036	1.124	96.00
	19.536	19.036-20.036	0.000	98.00
	19.536	19.036-20.036	0.000	96.94
* 19 Bromochloromethane (IS)	19.898	19.398-20.398	2.134	49.00
	19.898	19.398-20.398	0.000	130.00
	19.898	19.398-20.398	0.000	129.40
20 Chloroform	20.106	19.606-20.606	2.161	83.00
	20.106	19.606-20.606	0.000	85.00
	20.106	19.606-20.606	0.000	119.38
21 1,2-Dichloroethane	21.418	20.918-21.918	1.611	62.00
	21.418	20.918-21.918	0.000	98.00
	21.418	20.918-21.918	0.000	98.96
22 1,1,1-Trichloroethane	21.920	21.420-22.420	0.540	97.00
	21.920	21.420-22.420	0.000	99.00
	21.920	21.420-22.420	0.000	133.40

C00 044

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos6.i/PNNL_std.m

Compound	RT	RT Window	RF	Mass
23 Benzene	22.846	22.346-23.346	1.473	78.00
	22.846	22.346-23.346	0.000	77.00
	22.846	22.346-23.346	0.000	78.11
24 Carbon Tetrachloride	23.123	22.623-23.623	0.444	117.00
	23.123	22.623-23.623	0.000	119.00
	23.123	22.623-23.623	0.000	153.82
* 25 Difluorobenzene (IS)	23.340	22.840-23.840	7552	114.00
	23.340	22.840-23.840	0.000	114.00
	23.340	22.840-23.840	0.000	114.00
26 1,2-Dichloropropane	24.285	23.785-24.785	0.410	63.00
	24.285	23.785-24.785	0.000	112.00
	24.285	23.785-24.785	0.000	112.99
27 Trichloroethene	24.719	24.219-25.219	0.406	95.00
	24.719	24.219-25.219	0.000	130.00
	24.719	24.219-25.219	0.000	131.39
28 cis-1,3-Dichloropropene	26.324	25.824-26.824	0.466	75.00
	26.324	25.824-26.824	0.000	39.00
	26.324	25.824-26.824	0.000	110.97
29 trans-1,3-Dichloropropene	27.348	26.848-27.848	0.216	75.00
	27.348	26.848-27.848	0.000	77.00
	27.348	26.848-27.848	0.000	110.97
30 1,1,2-Trichloroethane	27.845	27.345-28.345	0.484	83.00
	27.845	27.345-28.345	0.000	97.00
	27.845	27.345-28.345	0.000	133.40
31 Toluene	28.476	27.976-28.976	1.080	92.00
	28.476	27.976-28.976	0.000	91.00
	28.476	27.976-28.976	0.000	92.14
32 1,2-Dibromoethane	29.947	29.447-30.447	0.336	107.00
	29.947	29.447-30.447	0.000	109.00
	29.947	29.447-30.447	0.000	187.86
33 Tetrachloroethylene	30.999	30.499-31.499	0.384	164.00
	30.999	30.499-31.499	0.000	129.00
	30.999	30.499-31.499	0.000	165.83
* 34 Chlorobenzene-d5 (IS)	32.457	31.957-32.957	5835	117.00
	32.457	31.957-32.957	0.000	119.00
	32.457	31.957-32.957	0.000	119.56
35 Chlorobenzene	32.566	32.066-33.066	1.056	112.00
	32.566	32.066-33.066	0.000	114.00
	32.566	32.066-33.066	0.000	112.56
36 Ethylbenzene	33.394	33.044-33.744	2.003	91.00
	33.394	33.044-33.744	0.000	106.00
	33.394	33.044-33.744	0.000	106.17

C60 045

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos6.i/PNNL_std.m

Compound	RT	RT Window	RF	Mass
37 p/m-Xylene	33.809	33.309-34.309	0.715	106.00
	33.809	33.309-34.309	0.000	91.00
	33.809	33.309-34.309	0.000	106.17
38 Styrene	34.727	34.227-35.227	2.580	104.00
	34.727	34.227-35.227	0.000	78.00
	34.727	34.227-35.227	0.000	104.15
39 1,1,2,2-Tetrachloroethane	34.965	34.465-35.465	1.912	83.00
	34.965	34.465-35.465	0.000	85.00
	34.965	34.465-35.465	0.000	167.85
40 o-Xylene	35.024	34.524-35.524	1.817	106.00
	35.024	34.524-35.524	0.000	91.00
	35.024	34.524-35.524	0.000	106.17
* 41 1-Bromo-4-Fluorobenzene (I	36.198	35.698-36.698	2146	174.00
	36.198	35.698-36.698	0.000	95.00
	36.198	35.698-36.698	0.000	174.00
43 1,3,5-Trimethylbenzene	38.516	38.016-39.016	3.953	105.00
	38.516	38.016-39.016	0.000	120.00
	38.516	38.016-39.016	0.000	120.19
44 1,2,4-Trimethylbenzene	39.844	39.344-40.344	3.810	105.00
	39.844	39.344-40.344	0.000	120.00
	39.844	39.344-40.344	0.000	120.19
45 1,3-Dichlorobenzene	40.328	39.828-40.828	2.336	146.00
	40.328	39.828-40.828	0.000	111.00
	40.328	39.828-40.828	0.000	147.00
46 1,4-Dichlorobenzene	40.525	40.025-41.025	2.393	146.00
	40.525	40.025-41.025	0.000	111.00
	40.525	40.025-41.025	0.000	147.00
47 1,2-Dichlorobenzene	41.658	41.158-42.158	2.363	146.00
	41.658	41.158-42.158	0.000	111.00
	41.658	41.158-42.158	0.000	147.00
48 1,2,4-Trichlorobenzene	47.866	47.366-48.366	1.384	180.00
	47.866	47.366-48.366	0.000	182.00
	47.866	47.366-48.366	0.000	181.45
49 Hexachloro-1,3-butadiene	49.660	49.160-50.160	0.810	225.00
	49.660	49.160-50.160	0.000	227.00
	49.660	49.160-50.160	0.000	260.76

HNF-4073
Rev. 0

C00 047

HNF-4073
Rev. 0

CGO 048

HNF-4073
Rev. 0

C00 049

HNF-4073
Rev. 0

C00 050

HNF-4073
Rev. 0

CCO 051

HNF-4073
Rev. 0

C00 052

HNF-4073
Rev. 0

C00 053

HNF-4073
Rev. 0

C00 054

HNF-4073
Rev. 0

C00 055

10 Acetone

HNF-4073
Rev. 0

C00 056

HNF-4073
Rev. 0

C00 057

HNF-4073
Rev. 0

C00 058

HNF-4073
Rev. 0

C00 059

HNF-4073
Rev. 0

CCO 060

HNF-4073
Rev. 0

HNF-4073
Rev. 0

C00 062

HNF-4073
Rev. 0

C00 063

HNF-4073
Rev. 0

C00 064

HNF-4073
Rev. 0

C00 065

20 Chloroform

HNF-4073
Rev. 0

COO 066

HNF-4073
Rev. 0

C00 067

HNF-4073
Rev. 0

HNF-4073
Rev. 0

C00 069

HNF-4073
Rev. 0

C00 070

HNF-4073
Rev. 0

C00 071

HNF-4073
Rev. 0

C00 072

HNF-4073
Rev. 0

C00 073

HNF-4073
Rev. 0

C00 074

HNF-4073
Rev. 0

C00 075

HNF-4073
Rev. 0

C00 076

HNF-4073
Rev. 0

000 077

HNF-4073
Rev. 0

C00 078

HNF-4073
Rev. 0

C00 079

HNF-4073
Rev. 0

C00 080

HNF-4073
Rev. 0

C00 081

HNF-4073
Rev. 0

C00 082

HNF-4073
Rev. 0

C00 083

HNF-4073
Rev. 0

C00 084

HNF-4073
Rev. 0

000 085

HNF-4073
Rev. 0

C00 086

HNF-4073
Rev. 0

000 087

HNF-4073
Rev. 0

000 088

HNF-4073
Rev. 0

C00 089

HNF-4073
Rev. 0

000 090

HNF-4073
Rev. 0

CGO 091

HNF-4073
Rev. 0

TST INITIAL
CALIBRATION – SAS
MIXTURE

BATCH FILE

69011901.b

C00 092

1/19/99

Initial calibration Using SAS Mixture

A six level initial calibration for the modified version of TVP-10 was prepared and run on 1/19/99. Source materials were provided by the SAS Laboratory in two 6 L Summa canisters. The two standards are: SAS polar mixture Scott-Marrin CC105523 and SAS nonpolar mixture Scott-Marrin CC105483. Gas tight syringes were used to aliquot equal amounts of each to precleaned tube as follows:

Level 6	200 ml
Level 1	100 ml
Level 2	50 ml
Level 3	20 ml
Level 4	5 ml
Level 5	2 ml

Each tube also contained 100 ml of internal standard mixture ALM064960 (Scott Specialty Gases).

Following autotune with PFTBA (HV=2471V), tubes were run in order of increasing concentration with a blank run last. BFB tune check was satisfactory.

The data files were transferred to the Target3 system to calibration response factor in method sas_std.m. A linear least squares regression fit forced through zero was used for all compounds. Level 2 was found not used because it did not fit the calibration line suggesting there had been an error in aliquoting. Five point calibration lines with correlation coefficients (R^2) of 0.98 or better were obtained for all compounds except: propane (0.990, 4 points), acetaldehyde (0.988, 4 points), ethanol (0.981, 4 points), propanol (0.995, 4 points), butanal (0.998, 3 points), pyridine (0.956, 2 points).

Internal standards showed good reproducibility for all five levels.

It should be noted for the record that the reports included in the data file show integrated areas which do not agree in detail in all cases with the calibration table itself. The differences were caused by manual reintegrations performed subsequent to the creation of the calibration table. The manual integrations were performed in an effort to make minor improvements in tailing peaks which were common in the polar component of the SAS standard. They are somewhat subjective and arbitrary in nature. The calibration table itself is correct with respect to final quantitation. A number of peaks primarily associated with low level polar compounds are affected.

SAMPLE INFORMATION SUMMARY

HNF-4073
Rev. 0

BATCH: /chem/hpdos6.i/69011901.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
69011901.d	19-JAN-99 07:28	Cal Level 5		1.00 hpdos6	sas_std.m	
69011902.d	19-JAN-99 08:58	Cal Level 4		1.00 hpdos6	sas_std.m	
69011903.d	19-JAN-1999 10:18	Cal Level 3		1.00 hpdos6	sas_std.m	
69011904.d	19-JAN-99 11:39	Cal Level 2		1.00 hpdos6	sas_std.m	
69011905.d	19-JAN-99 13:01	Cal Level 1		1.00 hpdos6	sas_std.m	
69011906.d	19-JAN-99 14:22	Cal Level 6		1.00 hpdos6	sas_std.m	
69011907.d	19-JAN-99 15:52	BLANK		1.00 hpdos6	sas_std.m	

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
69011901.d	GAS	VAPOR	TST System 6	SDGa18788		SDGa18788
69011902.d	GAS	VAPOR	TST System 6	SDGa18788		SDGa18788
69011903.d	GAS	VAPOR	TST System 6	SDGa18788		SDGa18788
69011904.d	GAS	VAPOR	TST System 6	SDGa18788		SDGa18788
69011905.d	GAS	VAPOR	TST System 6	SDGa18788		SDGa18788
69011906.d	GAS	VAPOR	TST System 6	SDGa18788		SDGa18788
69011907.d	GAS	VAPOR	TST System 6	SDGa18788		SDGa18788

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
69011901.d	all.sub		1038607	1038613	1038604	1038429
69011902.d	all.sub		1038608	1038613	1038604	1038429
69011903.d	all.sub		1038609	1038613	1038604	1038429
69011904.d	all.sub		1038610	1038613	1038604	1038429
69011905.d	all.sub		1038611	1038613	1038604	1038429
69011906.d	all.sub		1038612	1038613	1038604	1038429
69011907.d	all.sub		1038629	1038613	1038604	1038429

Instrument: 5971 - System 6
 Tue Jan 19 06:43:15 1999

C:\HPCHEM\1\5971\ATUNE.U

Scan: 10.00 - 650.00 Samples: 16 Thresh: 150 Step: 0.10
 144 peaks Base: 69.00 Abundance: 893184

C00 095

Data File : C:\HPCHEM\1\DATA\69011901.B\69011901.D
 Acq On : 19 Jan 99 7:28 am
 Sample : TST 1369 SAS Std LVL 5 2.0 cc
 Misc : 100 ml of ISTD

Vial: 1
 Operator: JCE
 Inst : 5971 - Sy
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\LOOP40.M
 Title : VOC mixture

Peak Apex is scan: 3066

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.6	15456	PASS
75	95	30	66	44.3	43821	PASS
95	95	100	100	100.0	98923	PASS
96	95	5	9	6.7	6590	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	81.9	81062	PASS
175	174	4	9	7.3	5921	PASS
176	174	93	101	97.2	78795	PASS
177	176	5	9	6.6	5201	PASS

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

Start Cal Date : 14-JAN-1999 14:23
 End Cal Date : 14-JAN-1999 15:45
 Quant Method : ISTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos6.i/sas_std.m
 Cal Date : 03-Feb-1999 13:59 John

Calibration File Names:

Level 1: /chem/hpdos6.i/69011901.b/69011905.d
 Level 2: /chem/hpdos6.i/69011901.b/69011904.d
 Level 3: /chem/hpdos6.i/69011901.b/69011903.d
 Level 4: /chem/hpdos6.i/69011901.b/69011902.d
 Level 5: /chem/hpdos6.i/69011901.b/69011901.d
 Level 6: /chem/hpdos6.i/69011901.b/69011906.d

HNF-4073
Rev. 0

Compound	100	50	20	5	2	0.0000	Curve	a0	a1	a2	1RS2 or R ²
1 Propene	2906684	45569	45569	157345	45569	5701918	LINEAR	0.00000	3.52497		0.99012
2 Propane	962300	45569	45569	137532	45569	1831230	LINEAR	0.00000	1.11705		0.99099
3 Dichlorodifluoromethane	7228391	45569	45569	990327	45569	13635636	LINEAR	0.00000	2.86714		0.99283
4 Chloromethane	2735499	45569	45569	276834	45569	4212070	LINEAR	0.00000	2.20130		0.99216
5 Acetaldehyde	423625	45569	45569	87422	45569	803992	LINEAR	0.00000	0.46058		0.99818
6 Butane	4369842	45569	45569	642337	45569	8366908	LINEAR	0.00000	3.80900		0.99197
7 Chloroethane	1360602	45569	45569	142616	45569	2698881	LINEAR	0.00000	1.15320		0.98725
8 Ethanol	1480434	45569	45569	247254	45569	3095620	LINEAR	0.00000	1.92694		0.98105
9 Acetonitrile	2020530	45569	45569	277977	45569	4186227	LINEAR	0.00000	2.66126		0.98423

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Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

Start Cal Date : 14-JAN-1999 14:23
 End Cal Date : 14-JAN-1999 15:45
 Quant Method : ISTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos6.i/sas std.m
 Cal Date : 03-Feb-1999 13:59 John

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve	a0	a1	a2	or R ²	MSD
10 Acetone	1914501	++++	260861	79716	29798	2865532	[LINR]	0.00000	1.35837			0.99795
11 Trichlorofluoromethane	5734767	++++	831865	27073	94424	9817791	[LINR]	0.00000	1.86871			0.99840
12 Isopropyl Alcohol	4275931	++++	730311	173856	5746	7653915	[LINR]	0.00000	3.42057			0.99707
13 Furan	3688263	++++	708362	157365	47917	7004303	[LINR]	0.00000	3.27697			0.99346
14 Pentane	4741992	++++	679850	225392	69723	8837640	[LINR]	0.00000	3.27697			0.99388
15 Methylene Chloride	2540748	++++	326428	114612	34905	4842207	[LINR]	0.00000	1.55229			0.99162
16 112trichloro122trifluoroethan	5065006	++++	742894	242201	83841	9572039	[LINR]	0.00000	1.34275			0.99298
17 Propanenitrile	1864054	++++	320875	70724	15552	3716550	[LINR]	0.00000	1.78548			0.98932
18 Propanol	3746787	++++	593538	87363	++++	6776538	[LINR]	0.00000	3.21792			0.99530
19 2-Methylpentane	5971643	++++	869769	274901	8326	11404203	[LINR]	0.00000	3.67240			0.99217
20 Butanal	++++	++++	59118	17378	6119	498072	[LINR]	0.00000	0.23866			0.99981
21 2-Butanone	5668856	++++	987924	209524	60330	9468783	[LINR]	0.00000	3.76070			0.99954
22 1-Hexene	2672479	++++	391037	122777	40747	497994	[LINR]	0.00000	1.66549			0.99394
24 Hexane	4003241	++++	587092	134518	63679	7334338	[LINR]	0.00000	2.36517			0.99513
25 Chloroform	5526956	++++	769073	251371	82605	10487273	[LINR]	0.00000	2.07703			0.99240
26 Tetrahydrofuran	1535344	++++	301475	67908	19811	2914634	[LINR]	0.00000	1.07773			0.99356
27 Butanenitrile	4258032	++++	476008	129940	50275	8165878	[LINR]	0.00000	1.02900			0.98593

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HNF-4073
Rev. 0

Report Date : 04-Feb-1999 07:12

Page 3

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

Start Cal Date : 14-JAN-1999 14:23
 End Cal Date : 14-JAN-1999 15:45
 Quant Method : ISTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdose6.i/sas std.m
 Cal Date : 03-Feb-1999 13:59 John

Compound	100	50	20	Level 3	5	Level 4	2	Level 5	Level 6	Curve	a0	a1	a2	MSD or R ²
28 1-Butanol	2165745	++++	644435	++++	442891	153450	++++	4362998	17221194	1.68007	0.00000	0.47476		0.99335
29 Benzene	9219462	++++	1359704	++++	442891	153450	++++	4362998	17221194	1.68007	0.00000	0.47476		0.99335
30 Carbon Tetrachloride	3768927	++++	494800	++++	150392	48851	7418998	1.68007	0.00000	0.35288	0.00000	0.35288		0.99771
32 2-Pentanol	7677943	++++	1481009	++++	200783	28695	14196858	1.68007	0.00000	1.24766	0.00000	1.24766		0.99966
33 3-Methylhexane	4861800	++++	755151	++++	246740	74433	8782958	1.68007	0.00000	0.67871	0.00000	0.67871		0.99902
34 1,4-Dioxane	2230331	++++	437628	++++	97399	26733	4246424	1.68007	0.00000	0.34793	0.00000	0.34793		0.99994
35 Heptane	2994555	++++	447492	++++	149840	49480	5392702	1.68007	0.00000	0.41317	0.00000	0.41317		0.99866
36 4-Methyl-2-pentanol	6594189	++++	1294277	++++	263895	74978	12138225	1.68007	0.00000	0.96736	0.00000	0.96736		0.95571
37 Pyridine	2724071	++++	++++	++++	++++	++++	6450196	1.68007	0.00000	0.33457	0.00000	0.33457		0.99903
38 1,1,2-Trichloroethane	2911800	++++	429667	++++	129465	41600	5386388	1.68007	0.00000	1.06474	0.00000	1.06474		0.99932
39 Toluene	5936887	++++	896616	++++	27995	90075	11003969	1.68007	0.00000	1.04873	0.00000	1.04873		0.99947
40 2-Hexanol	6141864	++++	1051046	++++	326622	91916	11363980	1.68007	0.00000	0.45556	0.00000	0.45556		0.99860
41 Octane	3245771	++++	507438	++++	158399	53004	5858997	1.68007	0.00000	0.38720	0.00000	0.38720		0.99928
42 Tetrachloroethylene	3720871	++++	571184	++++	176498	57400	6934340	1.68007	0.00000	1.12296	0.00000	1.12296		0.99924
44 Chlorobenzene	7175776	++++	1106642	++++	314387	103692	13302451	1.68007	0.00000	1.74310	0.00000	1.74310		0.99924
45 Ethylbenzene	1153394	++++	1786666	++++	520758	165552	21388478	1.68007	0.00000	0.58899	0.00000	0.58899		0.99720
46 p/m-Xylene	8141592	++++	1384126	++++	396030	133033	14229668	1.68007	0.00000					

HNF-4073

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C00 099

Report Date : 04-Feb-1999 07:12

Page 4

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

Start Cal Date : 14-JAN-1999 14:23
End Cal Date : 14-JAN-1999 15:45
Quant Method : ISTD
Origin : Force
Target Version : 3.10
Integrator : HP RTE
Method file : /chem/hpdos6.i/sas std.m
Cal Date : 03-Feb-1999 13:59 John

Compound	100		50		20		5		2		0.0000		Coefficients		RSD or R ²
	Level 1	Level 2	Level 1	Level 2	Level 1	Level 2	Level 1	Level 2	Level 1	Level 2	Level 1	Level 2	a0	a1	a2
47 3-Heptanone	5974560	++++	1163226	222462	75446	10018650	13996652	13996652	13996652	13996652	13996652	13996652	0.00000	0.81481	0.99412
48 2-Heptanone	7497516	++++	1152641	180026	83899	1417960	1417960	1417960	1417960	1417960	1417960	1417960	0.00000	1.58170	0.99909
49 Cyclohexanone	781051	++++	131092	11435	++++	12642870	12642870	12642870	12642870	12642870	12642870	12642870	0.00000	0.18562	0.99770
50 Styrene	6723466	++++	991800	233437	69070	1086872	1086872	1086872	1086872	1086872	1086872	1086872	0.00000	1.42800	0.99921
51 1,1,1,2,2-Tetrachloroethane	5863444	++++	95434	244429	69007	7234640	7234640	7234640	7234640	7234640	7234640	7234640	0.00000	0.73800	0.99912
52 o-Xylene	4002255	++++	664867	192985	59949	10725648	10725648	10725648	10725648	10725648	10725648	10725648	0.00000	0.84927	0.99814
53 Nonane	6128739	++++	975061	292078	105843	13716022	13716022	13716022	13716022	13716022	13716022	13716022	0.00000	1.13571	0.98622
55 2-Octanone	7184847	++++	997468	143637	24750	17712777	17712777	17712777	17712777	17712777	17712777	17712777	0.00000	1.38829	0.99891
56 1,2,4-Trimethylbenzene	9248036	++++	1557774	390729	122266	11015759	11015759	11015759	11015759	11015759	11015759	11015759	0.00000	1.65670	0.99988
57 Decane	6110228	++++	1126239	295353	87663								0.00000	0.88470	0.99808

Curve	Formula	Units
Linear	$y = a0 + (1/a1) * x$	Response

HNF-4073
Rev. 0

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Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69011901.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018

Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	521049	260524	1042098	427734	-17.91
31 Difluorobenzene (IS)	1891825	945912	3783650	1517064	-19.81
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	1307071	-18.90
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	842882	-22.85

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.90	19.40	20.40	19.91	0.07
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.35	0.03
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.46	0.01
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.21	0.05

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69011902.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
23 Bromochloromethane (	521049	260524	1042098	507145	-2.67
31 Difluorobenzene (IS)	1891825	945912	3783650	1855616	-1.91
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	1522952	-5.50
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	978007	-10.48

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
23 Bromochloromethane (	19.90	19.40	20.40	19.90	0.03
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.34	0.02
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.47	0.03
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.20	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69011903.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/25/99
Calibration Time: 0805

Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	306415	153208	612830	521049	70.05
31 Difluorobenzene (IS)	1067740	533870	2135480	1891825	77.18
43 Chlorobenzene-d5 (IS	889159	444580	1778318	1611664	81.26
54 1-Bromo-4-Fluorobenz	615477	307738	1230954	1092515	77.51

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.83	19.33	20.33	19.90	0.32
31 Difluorobenzene (IS)	23.27	22.77	23.77	23.34	0.30
43 Chlorobenzene-d5 (IS	32.38	31.88	32.88	32.46	0.23
54 1-Bromo-4-Fluorobenz	36.13	35.63	36.63	36.20	0.20

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69011904.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
23 Bromochloromethane (	521049	260524	1042098	592332	13.68
31 Difluorobenzene (IS)	1891825	945912	3783650	1911043	1.02
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	1711087	6.17
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	1217178	11.41

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
23 Bromochloromethane (	19.90	19.40	20.40	19.90	0.03
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.35	0.04
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.46	0.02
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.20	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69011905.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018

Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	521049	260524	1042098	587070	12.67
31 Difluorobenzene (IS)	1891825	945912	3783650	1902363	0.56
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	1685194	4.56
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	1201847	10.01

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.90	19.40	20.40	19.91	0.08
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.35	0.04
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.46	0.02
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.21	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69011906.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	521049	260524	1042098	472875	-9.25
31 Difluorobenzene (IS)	1891825	945912	3783650	1789987	-5.38
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1618917	0.45
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	1174051	7.46

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.90	19.40	20.40	19.91	0.05
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.35	0.06
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.47	0.04
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.22	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69011907.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018

Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	521049	260524	1042098	474632	-8.91
31 Difluorobenzene (IS)	1891825	945912	3783650	1679460	-11.23
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	1338766	-16.93
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	871597	-20.22

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.90	19.40	20.40	19.93	0.18
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.37	0.14
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.49	0.10
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.24	0.12

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS Std LVL 5 2.0 cc
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas_std.m
File : 69011901.d
Injection Date : 19-JAN-99 07:28 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_5

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.660	46569	3.27	0.0164	8.71	J
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242	8.221	108265	9.36	0.0468	8.67	J
Chloromethane	23	50.49	9.129	9.117	25655	2.89	0.0144	6.41	J
Acetaldehyde	23	44.05	9.818	9.953	26952	14.50	0.0725	36.87	J
Butane	23	58.12	11.000	10.976	67974	4.42	0.0221	8.52	J
Chloroethane	23	64.51	12.280	12.275	12570	2.70	0.0135	4.69	J
Ethanol	23	46.07	12.733				0.0043	2.12	U
Acetonitrile	23	41.05	13.246	13.652	27435	2.55	0.0128	6.97	J
Acetone	23	58.08	13.827	14.056	29798	5.44	0.0272	10.48	
Trichlorofluoromethane	23	137.37	14.281	14.262	94424	12.52	0.0626	10.21	
Isopropyl Alcohol	23	60.10	14.399	14.843	53746	3.89	0.0195	7.26	J
Furan	23	68.08	14.666	14.646	47917	4.28	0.0214	7.05	J
Pentane	23	72.00	15.070	15.059	69723	5.27	0.0264	8.20	J
Methylene Chloride	23	84.93	15.898	15.886	34905	5.57	0.0279	7.35	J
1,1,2-trichloro-1,2,2-trifluoroethane	23	187.38	16.422	16.418	83841	15.47	0.0774	9.25	J
Propanenitrile	23	55.08	17.152	17.313	15552	2.16	0.0108	4.39	J
Propanol	23	60.10	17.181				0.0058	2.16	U
2-Methylpentane	23	86.18	18.385	18.385	88326	5.96	0.0298	7.75	J
Butanal	23	72.11	18.523	18.553	6119	6.32	0.0316	9.82	J
2-Butanone	23	72.11	18.711	18.838	60330	3.98	0.0199	6.17	J
1-Hexene	23	84.16	19.372	19.370	40747	6.06	0.0303	8.07	J
Hexane	23	86.18	19.944	19.931	63679	6.67	0.0334	8.67	J
Chloroform	23	119.38	20.122	20.118	82605	9.87	0.0494	9.26	J
Tetrahydrofuran	23	72.11	20.852	20.945	19811	4.56	0.0228	7.08	J
Butanenitrile	31	69.11	21.927	22.067	50275	3.53	0.0177	5.72	J
1-Butanol	31	74.12	22.381				0.0270	8.16	U
Benzene	31	78.11	22.855	22.845	153450	6.38	0.0319	9.15	
Carbon Tetrachloride	31	153.82	23.131	23.121	48851	9.67	0.0484	7.04	J
2-Pentanone	31	86.13	23.438	23.693	28695	1.61	0.0080	2.09	J
3-Methylhexane	31	100.20	23.991	23.978	74433	7.66	0.0383	8.57	J
1,4-Dioxane	31	88.11	24.681	25.022	26733	5.37	0.0268	6.82	J
Heptane	31	100.20	25.215	25.209	49480	8.37	0.0418	9.35	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	25.199	74978	5.42	0.0271	6.06	J
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858	27.876	41600	9.57	0.0478	8.03	J
Toluene	43	92.14	28.489	28.486	90075	7.31	0.0366	8.89	
2-Hexanone	43	100.16	28.825	29.037	91916	7.58	0.0379	8.47	J
Octane	43	114.23	30.432	30.415	53004	10.06	0.0503	9.86	
Tetrachloroethylene	43	165.83	31.004	30.996	57420	12.82	0.0641	8.66	
Chlorobenzene	43	112.56	32.572	32.571	103692	7.98	0.0399	7.94	J
Ethylbenzene	43	106.17	33.401	33.398	165552	8.21	0.0411	8.66	J
p/m-Xylene	43	106.17	33.826	33.811	133033	19.53	0.0976	20.60	
3-Heptanone	43	114.19	33.835	33.930	75446	8.00	0.0400	7.85	J
2-Heptanone	54	114.19	33.964	34.176	83899	7.11	0.0356	6.97	J
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735	34.737	69070	6.48	0.0324	6.97	J
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.984	69807	12.68	0.0634	8.46	J
o-Xylene	54	106.17	35.033	35.033	59949	9.46	0.0473	9.98	
Nonane	54	128.26	35.379	35.378	105843	12.49	0.0625	10.91	
2-Octanone	54	128.21	38.774	39.325	24750	2.39	0.0120	2.09	J
1,2,4-Trimethylbenzene	54	120.19	39.850	39.857	122266	9.89	0.0495	9.22	J
Decane	54	142.20	40.009	40.015	87663	13.28	0.0664	10.46	
Bromochloromethane (IS)	23	129.40	19.915	19.911	427734	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.347	1517064	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.462	1307071	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.215	842882	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS Std LVL 5 2.0 cc 100 ml of ISTD

000 110

HP MS 69011901.d

HNF-4073
Rev. 0

Sample Info : TST 1369 SAS Std LVL 5 2.0 cc 100 ml of ISTD

C00 111

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS Std LVL 4 5.0 cc
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas std.m
File : 69011902.d
Injection Date : 19-JAN-99 08:58 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_4

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.670	157345	9.33	0.0466	24.83	
Propane	23	44.10	7.848	7.818	38871	7.27	0.0364	18.47	J
Dichlorodifluoromethane	23	120.91	8.242	8.212	341405	24.89	0.1244	23.05	
Chloromethane	23	50.49	9.129	9.118	99772	9.47	0.0474	21.01	
Acetaldehyde	23	44.05	9.818	9.896	60226	27.33	0.1367	69.49	J
Butane	23	58.12	11.000	10.969	212128	11.64	0.0582	22.43	
Chloroethane	23	64.51	12.280	12.259	63728	11.55	0.0578	20.05	
Ethanol	23	46.07	12.733	13.164	9519	1.03	0.0052	2.51	J
Acetonitrile	23	41.05	13.246	13.529	71728	5.63	0.0282	15.37	J
Acetone	23	58.08	13.827	13.982	79716	12.27	0.0613	23.65	
Trichlorofluoromethane	23	137.37	14.281	14.268	270373	30.24	0.1512	24.66	
Isopropyl Alcohol	23	60.10	14.399	14.672	173856	10.62	0.0531	19.80	J
Furan	23	68.08	14.666	14.652	157365	11.86	0.0593	19.52	
Pentane	23	72.00	15.070	15.056	225392	14.38	0.0719	22.36	
Methylene Chloride	23	84.93	15.898	15.893	114612	15.43	0.0772	20.35	
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.406	242201	37.70	0.1885	22.53	
Propanenitrile	23	55.08	17.152	17.263	70724	8.28	0.0414	16.83	
Propanol	23	60.10	17.181	17.381	87363	5.67	0.0284	10.57	J
2-Methylpentane	23	86.18	18.385	18.376	274901	15.65	0.0782	20.33	
Butanal	23	72.11	18.523	18.563	17378	15.14	0.0757	23.52	
2-Butanone	23	72.11	18.711	18.770	209524	11.64	0.0582	18.09	J
1-Hexene	23	84.16	19.372	19.361	122777	15.41	0.0770	20.51	
Hexane	23	86.18	19.944	19.943	194518	17.19	0.0859	22.34	
Chloroform	23	119.38	20.122	20.111	251371	25.34	0.1267	23.78	
Tetrahydrofuran	23	72.11	20.852	20.900	67908	13.17	0.0658	20.46	
Butanenitrile	31	69.11	21.927	23.383	129940	10.58	0.0529	17.14	
1-Butanol	31	74.12	22.381				0.0068	2.04	U
Benzene	31	78.11	22.855	22.841	442891	15.06	0.0753	21.59	
Carbon Tetrachloride	31	153.82	23.131	23.127	150392	24.35	0.1217	17.73	
2-Pentanone	31	86.13	23.438	23.522	200783	9.19	0.0460	11.95	
3-Methylhexane	31	100.20	23.991	23.975	246740	20.77	0.1038	23.21	
1,4-Dioxane	31	88.11	24.681	24.902	97399	15.99	0.0800	20.33	J
Heptane	31	100.20	25.215	25.198	149840	20.72	0.1036	23.16	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.488	263895	15.58	0.0779	17.43	
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858	27.847	129865	24.42	0.1221	20.50	
Toluene	43	92.14	28.489	28.487	279895	19.50	0.0975	23.71	
2-Hexanone	43	100.16	28.825	30.418	326622	23.11	0.1155	25.84	
Octane	43	114.23	30.432	30.418	158899	25.88	0.1294	25.37	
Tetrachloroethylene	43	165.83	31.004	30.999	176498	33.82	0.1691	22.84	
Chlorobenzene	43	112.56	32.572	32.575	314387	20.77	0.1039	20.67	
Ethylbenzene	43	106.17	33.401	33.403	520758	22.17	0.1108	23.38	
p/m-Xylene	43	106.17	33.826	33.837	396030	49.89	0.2495	52.63	
3-Heptanone	43	114.19	33.835	33.935	222962	20.30	0.1015	19.91	
2-Heptanone	54	114.19	33.964	34.083	180026	13.15	0.0658	12.90	
Cyclohexanone	54	98.14	34.281	34.389	11435	7.12	0.0356	8.12	J
Styrene	54	104.15	34.735	34.734	233437	18.89	0.0944	20.31	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.971	244429	38.27	0.1913	25.53	
o-Xylene	54	106.17	35.033	35.021	192985	26.26	0.1313	27.70	
Nonane	54	128.26	35.379	35.376	292078	29.71	0.1486	25.95	
2-Octanone	54	128.21	38.774	39.178	143637	11.95	0.0598	10.44	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.848	390729	27.25	0.1363	25.39	
Decane	54	142.20	40.009	40.015	295353	38.57	0.1929	30.38	
Bromochloromethane (IS)	23	129.40	19.915	19.904	507145	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.344	1855616	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.466	1522952	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.204	978007	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS Std LVL 4 5.0 cc 100 ml of ISTD

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS Std LVL 4 5.0 cc 100 ml of ISTD

C00 115

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS Std LVL 3 20 cc
100 ml of ISTD

Instrument ID : hpdos6.i
Method : sas std.m
File : 69011903.d
Injection Date : 19-JAN-1999 10:18 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_3

HNF-4073
Rev. 0

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.680	451479	26.06	0.1303	69.35	
Propane	23	44.10	7.848	7.858	137530	25.05	0.1252	63.61	
Dichlorodifluoromethane	23	120.91	8.242	8.242	990327	70.27	0.3513	65.09	
Chloromethane	23	50.49	9.129	9.128	276834	25.58	0.1279	56.75	
Acetaldehyde	23	44.05	9.818	9.896	130462	57.62	0.2881	146.51	
Butane	23	58.12	11.000	10.979	637504	34.05	0.1702	65.61	
Chloroethane	23	64.51	12.280	12.269	145469	25.66	0.1283	44.55	
Ethanol	23	46.07	12.733	12.880	325622	34.38	0.1719	83.57	
Acetonitrile	23	41.05	13.246	13.362	347344	26.55	0.1328	72.44	
Acetone	23	58.08	13.827	13.855	260861	39.07	0.1953	75.34	
Trichlorofluoromethane	23	137.37	14.281	14.269	831865	90.56	0.4528	73.84	
Isopropyl Alcohol	23	60.10	14.399	14.456	808607	48.09	0.2405	89.62	
Puran	23	68.08	14.666	14.653	733939	53.86	0.2693	88.60	
Pentane	23	72.00	15.070	15.067	679850	42.21	0.2110	65.65	
Methylene Chloride	23	84.93	15.898	15.885	326428	42.78	0.2139	56.42	
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.418	742894	112.55	0.5628	67.28	
Propanenitrile	23	55.08	17.152	17.177	322173	36.71	0.1835	74.64	
Propanol	23	60.10	17.181	17.236	686538	43.40	0.2170	80.88	
2-Methylpentane	23	86.18	18.385	18.380	867918	48.08	0.2404	62.48	
Butanal	23	72.11	18.523	18.527	73921	62.70	0.3135	97.38	
2-Butanone	23	72.11	18.711	18.725	987924	53.44	0.2672	83.01	
1-Hexene	23	84.16	19.372	19.365	395452	48.30	0.2415	64.28	
Hexane	23	86.18	19.944	19.938	584247	50.25	0.2513	65.31	
Chloroform	23	119.38	20.122	20.106	769073	75.47	0.3774	70.81	
Tetrahydrofuran	23	72.11	20.852	20.855	308105	58.16	0.2908	90.33	
Butanenitrile	31	69.11	21.927	21.929	717398	40.42	0.2021	65.50	
1-Butanol	31	74.12	22.381	22.530	225033	26.56	0.1328	40.13	J
Benzene	31	78.11	22.855	22.846	1359704	45.35	0.2267	65.02	
Carbon Tetrachloride	31	153.82	23.131	23.123	494800	78.56	0.3928	57.20	
2-Pentanone	31	86.13	23.438	23.439	1434892	64.44	0.3222	83.79	
3-Methylhexane	31	100.20	23.991	23.982	725605	59.90	0.2995	66.96	
1,4-Dioxane	31	88.11	24.681	24.682	421786	67.92	0.3396	86.34	
Heptane	31	100.20	25.215	25.195	448264	60.79	0.3039	67.95	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.377	1313835	76.10	0.3805	85.09	
Pyridine	31	79.10	26.615	27.214	172729	28.93	0.1446	40.96	J
1,1,2-Trichloroethane	31	133.40	27.858	27.845	429667	79.24	0.3962	66.53	
Toluene	43	92.14	28.489	28.476	896616	59.04	0.2952	71.77	
2-Hexanone	43	100.16	28.825	30.418	1031358	68.95	0.3448	77.10	
Octane	43	114.23	30.432	30.418	499499	76.88	0.3844	75.37	
Tetrachloroethylene	43	165.83	31.004	30.999	571184	103.43	0.5171	69.86	
Chlorobenzene	43	112.56	32.572	32.566	1100642	68.72	0.3436	68.38	
Ethylbenzene	43	106.17	33.401	33.394	1780666	71.62	0.3581	75.56	
p/m-Xylene	43	106.17	33.826	33.809	1384126	164.77	0.8238	173.82	
3-Heptanone	43	114.19	33.835	33.848	1138007	97.93	0.4896	96.05	
2-Heptanone	54	114.19	33.964	34.007	1189631	77.79	0.3890	76.30	
Cyclohexanone	54	98.14	34.281	34.313	157285	87.64	0.4382	100.02	
Styrene	54	104.15	34.735	34.727	991800	71.84	0.3592	77.25	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.965	952434	133.48	0.6674	89.07	
o-Xylene	54	106.17	35.033	35.024	664867	80.97	0.4049	85.42	
Nonane	54	128.26	35.379	35.370	969203	88.27	0.4413	77.08	
2-Octanone	54	128.21	38.774	38.818	995029	74.13	0.3707	64.76	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.844	1557774	97.26	0.4863	90.63	
Decane	54	142.20	40.009	40.002	1081064	126.39	0.6319	99.55	
Bromochloromethane (IS)	23	129.40	19.915	19.898	521049	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.340	1891825	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.457	1611664	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.198	1092515	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69011903.d

HNF-4073
Rev. 0

Sample Info : TST 1369 SAS Std LVL 3 20 cc 100 ml of ISTD

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69011903.d

HNF-4073
Rev. 0

Sample Info : TST 1369 SAS Std LVL 3 20 cc 100 ml of ISTD

C00 119

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS Std LVL 2 50 cc
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas_std.m
File : 69011904.d
Injection Date : 19-JAN-99 11:39 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_2

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.680	2985360	151.56	0.7578	403.39	
Propane	23	44.10	7.848	7.838	984814	157.77	0.7888	400.68	
Dichlorodifluoromethane	23	120.91	8.242	8.232	7126059	444.78	2.2239	412.00	
Chloromethane	23	50.49	9.129	9.119	2203523	179.13	0.8957	397.37	
Acetaldehyde	23	44.05	9.818	9.828	358814	139.41	0.6971	354.47	
Butane	23	58.12	11.000	10.990	4461558	209.61	1.0481	403.93	
Chloroethane	23	64.51	12.280	12.270	1299793	201.70	1.0085	350.19	
Ethanol	23	46.07	12.733	12.724	1697498	157.65	0.7882	383.25	
Acetonitrile	23	41.05	13.246	13.236	2050356	137.87	0.6894	376.17	
Acetone	23	58.08	13.827	13.827	1621472	213.62	1.0681	411.93	
Trichlorofluoromethane	23	137.37	14.281	14.271	5796116	555.05	2.7753	452.54	
Isopropyl Alcohol	23	60.10	14.399	14.389	4186234	219.01	1.0951	408.14	
Furan	23	68.08	14.666	14.656	3723493	240.35	1.2018	395.41	
Pentane	23	72.00	15.070	15.060	4808657	262.60	1.3130	408.49	
Methylene Chloride	23	84.93	15.898	15.888	2503245	288.58	1.4429	380.57	
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.412	5153707	686.86	3.4343	410.54	
Propanenitrile	23	55.08	17.152	17.142	1925190	192.96	0.9648	392.36	
Propanol	23	60.10	17.181	17.181	3704363	206.01	1.0300	383.90	
2-Methylpentane	23	86.18	18.385	18.375	6077186	296.14	1.4807	384.86	
Butanal	23	72.11	18.523	18.513	329088	245.53	1.2276	381.35	
2-Butanone	23	72.11	18.711	18.701	5188320	246.89	1.2344	383.46	
1-Hexene	23	84.16	19.372	19.362	2718259	292.07	1.4604	388.69	
Hexane	23	86.18	19.944	19.944	4084447	309.04	1.5452	401.63	
Chloroform	23	119.38	20.122	20.112	5588216	482.40	2.4120	452.58	
Tetrahydrofuran	23	72.11	20.852	20.842	1553973	258.03	1.2902	400.77	
Butanenitrile	31	69.11	21.927	21.927	4329460	241.46	1.2073	391.31	
1-Butanol	31	74.12	22.381	22.371	2237124	261.37	1.3068	394.94	
Benzene	31	78.11	22.855	22.845	9376282	309.56	1.5478	443.86	
Carbon Tetrachloride	31	153.82	23.131	23.131	3800028	597.30	2.9865	434.91	
2-Pentanone	31	86.13	23.438	23.428	7669102	340.95	1.7047	443.35	
3-Methylhexane	31	100.20	23.991	23.981	4960361	405.38	2.0269	453.12	
1,4-Dioxane	31	88.11	24.681	24.671	2265241	361.13	1.8056	459.04	
Heptane	31	100.20	25.215	25.205	3054159	410.01	2.0501	458.30	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.358	6661118	381.94	1.9097	427.09	
Pyridine	31	79.10	26.615	26.615	3017148	500.20	2.5010	708.25	
1,1,2-Trichloroethane	31	133.40	27.858	27.848	2982789	544.58	2.7229	457.22	
Toluene	43	92.14	28.489	28.489	6077053	376.93	1.8846	458.17	
2-Hexanone	43	100.16	28.825	28.815	6161733	388.01	1.9401	433.88	
Octane	43	114.23	30.432	30.422	3323365	481.76	2.4088	472.36	
Tetrachloroethylene	43	165.83	31.004	30.994	3808954	649.64	3.2482	438.76	
Chlorobenzene	43	112.56	32.572	32.562	7359681	432.81	2.1641	430.66	
Ethylbenzene	43	106.17	33.401	33.401	11771984	446.00	2.2300	470.49	
p/m-Xylene	43	106.17	33.826	33.816	8398637	941.69	4.7085	993.40	
3-Heptanone	43	114.19	33.835	33.826	6035586	489.18	2.4459	479.80	
2-Heptanone	54	114.19	33.964	33.954	7601589	446.18	2.2309	437.62	
Cyclohexanone	54	98.14	34.281	34.281	755960	378.10	1.8905	431.50	
Styrene	54	104.15	34.735	34.725	6918898	449.82	2.2491	483.72	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.963	6172976	776.54	3.8827	518.16	
o-Xylene	54	106.17	35.033	35.023	4162163	454.98	2.2749	479.97	
Nonane	54	128.26	35.379	35.379	6098210	498.49	2.4925	435.30	
2-Octanone	54	128.21	38.774	38.764	7527280	503.36	2.5168	439.72	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.841	9847577	551.84	2.7592	514.23	
Decane	54	142.20	40.009	40.010	6527234	684.95	3.4247	539.48	
Bromochloromethane (IS)	23	129.40	19.915	19.904	592332	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.349	1911043	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.463	1711087	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.200	1217178	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69011904.d

HNF-4073
Rev. 0

Sample Info : TST 1369 SAS Std LVL 2 50 cc 100 ml of ISTD

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS Std LVL 2 50 cc 100 ml of ISTD

C00 123

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1369 SAS Std LVL 1 100 cc
100 ml of ISTDInstrument ID : hpdos6.i
Method : sas_std.m
File : 69011905.d
Injection Date : 19-JAN-99 13:01 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_1

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.680	2906684	148.89	0.7444	396.28	
Propane	23	44.10	7.848	7.848	962300	155.54	0.7777	395.03	
Dichlorodifluoromethane	23	120.91	8.242	8.242	7228391	455.21	2.2760	421.66	
Chloromethane	23	50.49	9.129	9.129	2236499	183.45	0.9172	406.93	
Acetaldehyde	23	44.05	9.818	9.818	423625	166.07	0.8303	422.24	
Butane	23	58.12	11.000	11.000	4369842	207.14	1.0357	399.18	
Chloroethane	23	64.51	12.280	12.280	1360602	213.03	1.0652	369.86	
Ethanol	23	46.07	12.733	12.733	1480434	138.72	0.6936	337.24	
Acetonitrile	23	41.05	13.246	13.246	2020530	137.09	0.6854	374.02	
Acetone	23	58.08	13.827	13.827	1914501	254.48	1.2724	490.73	
Trichlorofluoromethane	23	137.37	14.281	14.281	5734767	554.10	2.7705	451.77	
Isopropyl Alcohol	23	60.10	14.399	14.399	4275831	225.70	1.1285	420.61	
Furan	23	68.08	14.666	14.666	3688263	240.21	1.2011	395.18	
Pentane	23	72.00	15.070	15.070	4741992	261.28	1.3064	406.43	
Methylene Chloride	23	84.93	15.898	15.898	2540748	295.53	1.4777	389.73	
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.422	5065006	681.08	3.4054	407.09	
Propanenitrile	23	55.08	17.152	17.152	1864054	188.50	0.9425	383.30	
Propanol	23	60.10	17.181	17.181	3746787	210.23	1.0512	391.78	
2-Methylpentane	23	86.18	18.385	18.385	5971643	293.60	1.4680	381.57	
Butanal	23	72.11	18.523	18.523	642683	483.80	2.4190	751.42	E
2-Butanone	23	72.11	18.711	18.711	5658856	271.69	1.3585	421.99	
1-Hexene	23	84.16	19.372	19.372	2672479	289.73	1.4486	385.57	
Hexane	23	86.18	19.944	19.944	4003241	305.61	1.5280	397.17	
Chloroform	23	119.38	20.122	20.122	5526956	481.39	2.4069	451.63	
Tetrahydrofuran	23	72.11	20.852	20.852	1535344	257.22	1.2861	399.52	
Butanenitrile	31	69.11	21.927	21.927	4258032	230.53	1.1527	373.60	
1-Butanol	31	74.12	22.381	22.381	2165745	254.18	1.2709	384.09	
Benzene	31	78.11	22.855	22.855	9219462	305.77	1.5288	438.43	
Carbon Tetrachloride	31	153.82	23.131	23.131	3768927	595.11	2.9756	433.32	
2-Pentanone	31	86.13	23.438	23.438	7677943	342.90	1.7145	445.89	
3-Methylhexane	31	100.20	23.991	23.991	4861800	399.14	1.9957	446.15	
1,4-Dioxane	31	88.11	24.681	24.681	2230331	357.19	1.7859	454.03	
Heptane	31	100.20	25.215	25.215	2994555	403.85	2.0192	451.41	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanol	31	100.16	26.368	26.368	6594189	379.83	1.8991	424.73	
Pyridine	31	79.10	26.615	26.615	2724077	453.68	2.2684	642.37	
1,1,2-Trichloroethane	31	133.40	27.858	27.858	2911800	534.04	2.6702	448.37	
Toluene	43	92.14	28.489	28.489	5936887	373.89	1.8695	454.48	
2-Hexanone	43	100.16	28.825	28.825	6141864	392.70	1.9635	439.13	
Octane	43	114.23	30.432	30.432	3245771	477.75	2.3887	468.42	
Tetrachloroethylene	43	165.83	31.004	31.004	3728087	645.62	3.2281	436.05	
Chlorobenzene	43	112.56	32.572	32.572	7175776	428.48	2.1424	426.35	
Ethylbenzene	43	106.17	33.401	33.401	11536394	443.79	2.2189	468.16	
p/m-Xylene	43	106.17	33.826	33.826	8141592	926.90	4.6345	977.80	
3-Heptanone	43	114.19	33.835	33.835	5974560	491.68	2.4584	482.25	
2-Heptanone	54	114.19	33.964	33.964	7497516	445.68	2.2284	437.13	
Cyclohexanone	54	98.14	34.281	34.281	781051	395.63	1.9782	451.51	
Styrene	54	104.15	34.735	34.735	6723466	442.69	2.2134	476.05	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.973	5869444	747.78	3.7389	498.96	
o-Xylene	54	106.17	35.033	35.033	4002255	443.09	2.2154	467.42	
Nonane	54	128.26	35.379	35.379	6128739	507.38	2.5369	443.06	
2-Octanone	54	128.21	38.774	38.774	7184847	486.59	2.4330	425.07	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.850	9248036	524.85	2.6243	489.09	
Decane	54	142.20	40.009	40.009	6110228	649.37	3.2468	511.46	
Bromochloromethane (IS)	23	129.40	19.915	19.915	587070	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.349	1902363	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.463	1685194	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.209	1201847	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69011905.d

HNF-4073
Rev. 0

Sample Info : TST 1369 SAS Std LVL 1 100 cc 100 ml of ISTD

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS Std LVL 1 100 cc 100 ml of ISTD

C00 127

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1369 SAS Std LVL 6 200 cc
100 ml of ISTDInstrument ID : hpdos6.i
Method : sas_std.m
File : 69011906.d
Injection Date : 19-JAN-99 14:22 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_6

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.680	5701918	362.60	1.8130	965.09	E
Propane	23	44.10	7.848	7.857	1831230	367.48	1.8374	933.27	E
Dichlorodifluoromethane	23	120.91	8.242	8.242	13635636	1066.07	5.3303	987.51	E
Chloromethane	23	50.49	9.129	9.129	4212070	428.92	2.1446	951.46	E
Acetaldehyde	23	44.05	9.818	9.808	803992	391.29	1.9565	994.89	E
Butane	23	58.12	11.000	11.020	8366908	492.40	2.4620	948.87	E
Chloroethane	23	64.51	12.280	12.281	2698881	524.61	2.6231	910.82	E
Ethanol	23	46.07	12.733	12.715	3095620	360.11	1.8006	875.46	E
Acetonitrile	23	41.05	13.246	13.227	4186227	352.61	1.7631	962.05	E
Acetone	23	58.08	13.827	13.838	2865532	472.88	2.3644	911.88	E
Trichlorofluoromethane	23	137.37	14.281	14.282	9817791	1177.69	5.8885	960.19	E
Isopropyl Alcohol	23	60.10	14.399	14.410	7653915	501.59	2.5079	934.74	E
Furan	23	68.08	14.666	14.667	7004303	566.35	2.8317	931.71	E
Pentane	23	72.00	15.070	15.071	8837640	604.54	3.0227	940.39	E
Methylene Chloride	23	84.93	15.898	15.900	4842207	699.25	3.4962	922.12	E
112trichloro122trifluoroethane	23	187.38	16.422	16.423	9572039	1597.97	7.9899	955.13	E
Propanenitrile	23	55.08	17.152	17.154	3716550	466.60	2.3330	948.79	E
Propanol	23	60.10	17.181	17.183	6776538	472.05	2.3603	879.70	E
2-Methylpentane	23	86.18	18.385	18.387	11404203	696.10	3.4805	904.66	E
Butanal	23	72.11	18.523	18.526	498072	465.48	2.3274	722.98	E
2-Butanone	23	72.11	18.711	18.713	9468783	564.40	2.8220	876.61	E
1-Hexene	23	84.16	19.372	19.374	4979944	670.26	3.3513	891.98	E
Hexane	23	86.18	19.944	19.947	7334335	695.12	3.4756	903.38	E
Chloroform	23	119.38	20.122	20.125	10487273	1134.01	5.6700	1063.90	E
Tetrahydrofuran	23	72.11	20.852	20.856	2914634	606.23	3.0311	941.58	E
Butanenitrile	31	69.11	21.927	21.941	8165878	486.23	2.4311	787.98	E
1-Butanol	31	74.12	22.381	22.385	4362998	544.21	2.7211	822.34	E
Benzene	31	78.11	22.855	22.858	17221194	607.01	3.0350	870.37	E
Carbon Tetrachloride	31	153.82	23.131	23.145	7418398	1244.90	6.2245	906.44	E
2-Pentanone	31	86.13	23.438	23.442	14196859	673.84	3.3692	876.23	E
3-Methylhexane	31	100.20	23.991	23.995	8782958	766.33	3.8316	856.57	E
1,4-Dioxane	31	88.11	24.681	24.686	4246424	722.76	3.6138	918.72	E
Heptane	31	100.20	25.215	25.219	5392702	772.92	3.8646	863.94	E

000 128

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.373	12128225	742.45	3.7122	830.21	
Pyridine	31	79.10	26.615	26.600	6450196	1141.67	5.7084	1616.53	E
1,1,2-Trichloroethane	31	133.40	27.858	27.863	5386388	1049.92	5.2496	881.49	
Toluene	43	92.14	28.489	28.495	11003969	721.37	3.6069	876.86	
2-Hexanone	43	100.16	28.825	28.831	11363980	756.35	3.7817	845.76	
Octane	43	114.23	30.432	30.439	5858997	897.69	4.4885	880.17	
Tetrachloroethylene	43	165.83	31.004	31.011	6934340	1250.04	6.2502	844.26	
Chlorobenzene	43	112.56	32.572	32.580	13302451	826.84	4.1342	822.73	
Ethylbenzene	43	106.17	33.401	33.409	21388678	856.48	4.2824	903.51	
p/m-Xylene	43	106.17	33.826	33.834	14229668	1686.33	8.4317	1778.93	
3-Heptanone	43	114.19	33.835	33.834	10018650	858.24	4.2912	841.78	
2-Heptanone	54	114.19	33.964	33.973	13996652	851.71	4.2586	835.38	
Cyclohexanone	54	98.14	34.281	34.289	1417960	735.26	3.6763	839.10	
Styrene	54	104.15	34.735	34.744	12642870	852.14	4.2607	916.37	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.982	10868721	1417.48	7.0874	945.83	
o-Xylene	54	106.17	35.033	35.042	7234640	819.90	4.0995	864.92	
Nonane	54	128.26	35.379	35.389	10725648	908.97	4.5448	793.73	
2-Octanone	54	128.21	38.774	38.775	13716022	950.91	4.7545	830.68	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.853	17712777	1029.05	5.1452	958.92	
Decane	54	142.20	40.009	40.012	11015759	1198.42	5.9921	943.90	
Bromochloromethane (IS)	23	129.40	19.915	19.908	472875	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.353	1789987	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.471	1618917	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.219	1174051	113.00	0.5650	72.74	

HNF-4073
Rev. 0

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69011906.d

HNF-4073
Rev. 0

Sample Info : TST 1369 SAS Std LVL 6 200 cc 100 ml of ISTD

C00 130

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69011906.d

HNF-4073
Rev. 0

Sample Info : TST 1369 SAS Std LVL 6 200 cc 100 ml of ISTD

C00 131

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1369 Method Blank
100 ml of ISTDInstrument ID : hpdos6.i
Method : sas std.m
File : 69011907.d
Injection Date : 19-JAN-99 15:52 Operator : JCE
Matrix : AIR Lab. Sample ID: TST System 6
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680				0.0018	0.94	U
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818				0.0190	9.66	U
Butane	23	58.12	11.000				0.0024	0.92	U
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733				0.0043	2.12	U
Acetonitrile	23	41.05	13.246				0.0043	2.32	U
Acetone	23	58.08	13.827				0.0024	0.93	U
Trichlorofluoromethane	23	137.37	14.281				0.0058	0.95	U
Isopropyl Alcohol	23	60.10	14.399				0.0062	2.29	U
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070				0.0029	0.92	U
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
112trichloro122trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152				0.0023	0.92	U
Propanol	23	60.10	17.181				0.0058	2.16	U
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523				0.0059	1.82	U
2-Butanone	23	72.11	18.711				0.0070	2.17	U
1-Hexene	23	84.16	19.372				0.0033	0.87	U
Hexane	23	86.18	19.944				0.0034	0.88	U
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927				0.0027	0.86	U
1-Butanol	31	74.12	22.381				0.0068	2.04	U
Benzene	31	78.11	22.855	22.860	16787	0.63	0.0032	0.90	J
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991				0.0039	0.86	U
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215				0.0039	0.87	U

000 132

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69011907.d

Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368				0.0037	0.83	U
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489				0.0036	0.89	U
2-Hexanone	43	100.16	28.825				0.0038	0.85	U
Octane	43	114.23	30.432				0.0046	0.89	U
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401	33.416	15201	0.74	0.0037	0.78	J
p/m-Xylene	43	106.17	33.826				0.0033	0.69	U
3-Heptanone	43	114.19	33.835				0.0044	0.87	U
2-Heptanone	54	114.19	33.964				0.0043	0.84	U
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033				0.0042	0.88	U
Nonane	54	128.26	35.379				0.0046	0.81	U
2-Octanone	54	128.21	38.774				0.0047	0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009				0.0061	0.96	U
Bromochloromethane (IS)	23	129.40	19.915	19.934	474632	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.373	1679460	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.490	1338766	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.241	871597	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively identified Compound

HNF-4073
Rev. 0

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 Method Blank

100 ml of ISTD

C00 134

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69011907.d

HNF-4073
Rev. 0

Sample Info : TST 1369 Method Blank 100 ml of ISTD

000 135

Pacific Northwest National Laboratory

HNF-4073

COMPOUND LISTING

Rev. 0

Method file : /chem/hpdos6.i/sas_std.m
 Quant Method : ISTD
 Last Update : 03-Feb-1999 13:59
 Data Type : MS DATA

Target Version : 3.10
 Number of Cpnds : 57

Global Integrator : HP RTE

Chromat Events

Values

```

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Initial:Thresh Units      0.000000
Initial:Area Thresh      40000.000000
Initial:Max Peaks        200.000000
Initial:Bunching          1.000000
Initial:Smoothing         1.000000
Initial:Start Thresh      0.100000
Initial:Stop Thresh       0.000000
Initial:Baseline Reset    5.000000
Initial:Set Valley        100.000000
  
```

Compound	RT	RT Window	RF	Mass
1 Propene	7.680	7.180-8.180	3.525	41.00
	7.680	7.180-8.180	0.000	42.00
	7.680	7.180-8.180	0.000	42.08
2 Propane	7.848	7.348-8.348	1.117	43.00
	7.848	7.348-8.348	0.000	43.00
	7.848	7.348-8.348	0.000	44.10
3 Dichlorodifluoromethane	8.242	8.042-8.442	2.867	85.00
	8.242	8.042-8.442	0.000	87.00
	8.242	8.042-8.442	0.000	120.91
4 Chloromethane	9.129	8.429-9.829	2.201	50.00
	9.129	8.429-9.829	0.000	52.00
	9.129	8.429-9.829	0.000	50.49
5 Acetaldehyde	9.818	9.318-10.318	0.461	43.00
	9.818	9.318-10.318	0.000	42.00
	9.818	9.318-10.318	0.000	44.05
6 Butane	11.000	10.500-11.500	3.809	43.00
	11.000	10.500-11.500	0.000	58.00
	11.000	10.500-11.500	0.000	58.12
7 Chloroethane	12.280	11.580-12.980	1.153	64.00
	12.280	11.580-12.980	0.000	66.00
	12.280	11.580-12.980	0.000	64.51
8 Ethanol	12.733	12.233-13.233	1.927	31.00
	12.733	12.233-13.233	0.000	45.00
	12.733	12.233-13.233	0.000	46.07

C00 136

Pacific Northwest National Laboratory

HNF-4073

COMPOUND LISTING

Rev. 0

Method file : /chem/hpdos6.i/sas_std.m

Compound	RT	RT Window	RF	Mass
9 Acetonitrile	13.246	12.746-13.746	2.661	41.00
	13.246	12.746-13.746	0.000	39.00
	13.246	12.746-13.746	0.000	41.05
10 Acetone	13.827	13.327-14.327	1.358	58.00
	13.827	13.327-14.327	0.000	43.00
	13.827	13.327-14.327	0.000	58.08
11 Trichlorofluoromethane	14.281	13.581-14.981	1.869	101.00
	14.281	13.581-14.981	0.000	103.00
	14.281	13.581-14.981	0.000	137.37
12 Isopropyl Alcohol	14.399	13.899-14.899	3.421	45.00
	14.399	13.899-14.899	0.000	43.00
	14.399	13.899-14.899	0.000	60.10
13 Furan	14.666	14.166-15.166	2.772	68.00
	14.666	14.166-15.166	0.000	39.00
	14.666	14.166-15.166	0.000	68.08
14 Pentane	15.070	14.570-15.570	3.277	43.00
	15.070	14.570-15.570	0.000	57.00
	15.070	14.570-15.570	0.000	72.00
15 Methylene Chloride	15.898	15.198-16.598	1.552	84.00
	15.898	15.198-16.598	0.000	49.00
	15.898	15.198-16.598	0.000	84.93
16 1,1,2-trichloro-2,2,2-trifluoroethane	16.422	15.722-17.122	1.343	151.00
	16.422	15.722-17.122	0.000	103.00
	16.422	15.722-17.122	0.000	187.38
17 Propanenitrile	17.152	16.652-17.652	1.785	54.00
	17.152	16.652-17.652	0.000	52.00
	17.152	16.652-17.652	0.000	55.08
18 Propanol	17.181	16.681-17.681	3.218	31.00
	17.181	16.681-17.681	0.000	42.00
	17.181	16.681-17.681	0.000	60.10
19 2-Methylpentane	18.385	17.885-18.885	3.672	43.00
	18.385	17.885-18.885	0.000	71.00
	18.385	17.885-18.885	0.000	86.18
20 Butanal	18.523	18.023-19.023	0.240	72.00
	18.523	18.023-19.023	0.000	57.00
	18.523	18.023-19.023	0.000	72.11
21 2-Butanone	18.711	18.211-19.211	3.761	43.00
	18.711	18.211-19.211	0.000	72.00
	18.711	18.211-19.211	0.000	72.11
22 1-Hexene	19.372	18.872-19.872	1.665	56.00
	19.372	18.872-19.872	0.000	41.00
	19.372	18.872-19.872	0.000	84.16

Pacific Northwest National Laboratory

COMPOUND LISTING

HNF-4073
Rev. 0

Method file : /chem/hpdos6.i/sas_std.m

Compound	RT	RT Window	RF	Mass
* 23 Bromochloromethane (IS)	19.915	19.415-20.415	4950	49.00
	19.915	19.415-20.415	0.000	130.00
	19.915	19.415-20.415	0.000	129.40
24 Hexane	19.944	19.444-20.444	2.365	57.00
	19.944	19.444-20.444	0.000	43.00
	19.944	19.444-20.444	0.000	86.18
25 Chloroform	20.122	19.622-20.622	2.073	83.00
	20.122	19.622-20.622	0.000	85.00
	20.122	19.622-20.622	0.000	119.38
26 Tetrahydrofuran	20.852	20.352-21.352	1.078	72.00
	20.852	20.352-21.352	0.000	42.00
	20.852	20.352-21.352	0.000	72.11
27 Butanenitrile	21.927	21.427-22.427	1.029	41.00
	21.927	21.427-22.427	0.000	52.00
	21.927	21.427-22.427	0.000	69.11
28 1-Butanol	22.381	21.881-22.881	0.475	56.00
	22.381	21.881-22.881	0.000	41.00
	22.381	21.881-22.881	0.000	74.12
29 Benzene	22.855	22.355-23.355	1.680	78.00
	22.855	22.355-23.355	0.000	77.00
	22.855	22.355-23.355	0.000	78.11
30 Carbon Tetrachloride	23.131	22.631-23.631	0.353	117.00
	23.131	22.631-23.631	0.000	119.00
	23.131	22.631-23.631	0.000	153.82
* 31 Difluorobenzene (IS)	23.349	22.849-23.849	17187	114.00
	23.349	22.849-23.849	0.000	114.00
	23.349	22.849-23.849	0.000	114.00
32 2-Pentanone	23.438	22.938-23.938	1.248	43.00
	23.438	22.938-23.938	0.000	86.00
	23.438	22.938-23.938	0.000	86.13
33 3-Methylhexane	23.991	23.491-24.491	0.679	43.00
	23.991	23.491-24.491	0.000	71.00
	23.991	23.491-24.491	0.000	100.20
34 1,4-Dioxane	24.681	24.181-25.181	0.348	88.00
	24.681	24.181-25.181	0.000	58.00
	24.681	24.181-25.181	0.000	88.11
35 Heptane	25.215	24.715-25.715	0.413	71.00
	25.215	24.715-25.715	0.000	57.00
	25.215	24.715-25.715	0.000	100.20
36 4-Methyl-2-pentanone	26.368	25.868-26.868	0.967	43.00
	26.368	25.868-26.868	0.000	58.00
	26.368	25.868-26.868	0.000	100.16

Pacific Northwest National Laboratory

COMPOUND LISTING

HNF-4073
Rev. 0

Method file : /chem/hpdos6.i/sas_std.m

Compound	RT	RT Window	RF	Mass
37 Pyridine	26.615	26.115-27.115	0.335	79.00
	26.615	26.115-27.115	0.000	52.00
	26.615	26.115-27.115	0.000	79.10
38 1,1,2-Trichloroethane	27.858	27.358-28.358	0.304	83.00
	27.858	27.358-28.358	0.000	97.00
	27.858	27.358-28.358	0.000	133.40
39 Toluene	28.489	27.989-28.989	1.065	92.00
	28.489	27.989-28.989	0.000	91.00
	28.489	27.989-28.989	0.000	92.14
40 2-Hexanone	28.825	28.325-29.325	1.049	43.00
	28.825	28.325-29.325	0.000	58.00
	28.825	28.325-29.325	0.000	100.16
41 Octane	30.432	29.932-30.932	0.456	85.00
	30.432	29.932-30.932	0.000	57.00
	30.432	29.932-30.932	0.000	114.23
42 Tetrachloroethylene	31.004	30.504-31.504	0.387	164.00
	31.004	30.504-31.504	0.000	129.00
	31.004	30.504-31.504	0.000	165.83
* 43 Chlorobenzene-d5 (IS)	32.463	31.963-32.963	13808	117.00
	32.463	31.963-32.963	0.000	119.00
	32.463	31.963-32.963	0.000	119.56
44 Chlorobenzene	32.572	32.072-33.072	1.123	112.00
	32.572	32.072-33.072	0.000	114.00
	32.572	32.072-33.072	0.000	112.56
45 Ethylbenzene	33.401	33.051-33.751	1.743	91.00
	33.401	33.051-33.751	0.000	106.00
	33.401	33.051-33.751	0.000	106.17
46 p/m-Xylene	33.826	33.326-34.326	0.589	106.00
	33.826	33.326-34.326	0.000	91.00
	33.826	33.326-34.326	0.000	106.17
47 3-Heptanone	33.835	33.335-34.335	0.815	57.00
	33.835	33.335-34.335	0.000	85.00
	33.835	33.335-34.335	0.000	114.19
48 2-Heptanone	33.964	33.464-34.464	1.582	43.00
	33.964	33.464-34.464	0.000	58.00
	33.964	33.464-34.464	0.000	114.19
49 Cyclohexanone	34.281	33.781-34.781	0.186	41.00
	34.281	33.781-34.781	0.000	56.00
	34.281	33.781-34.781	0.000	98.14
50 Styrene	34.735	34.235-35.235	1.428	104.00
	34.735	34.235-35.235	0.000	78.00
	34.735	34.235-35.235	0.000	104.15

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos6.i/sas_std.m

Compound	RT	RT Window	RF	Mass
51 1,1,2,2-Tetrachloroethane	34.973	34.473-35.473	0.738	83.00
	34.973	34.473-35.473	0.000	85.00
	34.973	34.473-35.473	0.000	167.85
52 o-Xylene	35.033	34.533-35.533	0.849	106.00
	35.033	34.533-35.533	0.000	91.00
	35.033	34.533-35.533	0.000	106.17
53 Nonane	35.379	34.879-35.879	1.136	57.00
	35.379	34.879-35.879	0.000	71.00
	35.379	34.879-35.879	0.000	128.26
* 54 1-Bromo-4-Fluorobenzene (I	36.209	35.709-36.709	9745	95.00
	36.209	35.709-36.709	0.000	174.00
	36.209	35.709-36.709	0.000	174.00
	38.774	38.274-39.274	1.388	43.00
55 2-Octanone	38.774	38.274-39.274	0.000	58.00
	38.774	38.274-39.274	0.000	128.21
	39.850	39.350-40.350	1.657	105.00
56 1,2,4-Trimethylbenzene	39.850	39.350-40.350	0.000	120.00
	39.850	39.350-40.350	0.000	120.19
	40.009	39.509-40.509	0.885	43.00
57 Decane	40.009	39.509-40.509	0.000	57.00
	40.009	39.509-40.509	0.000	142.20

1 Propene

HNF-4073
Rev. 0

COO 141

HNF-4073
Rev. 0

000 142

3 Dichlorodifluoromethane

HNF-4073
Rev. 0

C00 143

HNF-4073
Rev. 0

C00 144

HNF-4073
Rev. 0

C00 145

HNF-4073
Rev. 0

C00 146

HNF-4073
Rev. 0

COO 147

HNF-4073
Rev. 0

C00 148

HNF-4073
Rev. 0

HNF-4073
Rev. 0

C00 150

HNF-4073
Rev. 0

C00 151

HNF-4073
Rev. 0

C00 152

HNF-4073
Rev. 0

HNF-4073
Rev. 0

C00 154

HNF-4073
Rev. 0

C00 155

HNF-4073
Rev. 0

HNF-4073
Rev. 0

000 157

HNF-4073
Rev. 0

C00 158

HNF-4073
Rev. 0

C00 159

HNF-4073
Rev. 0

C00 160

HNF-4073
Rev. 0

C00 161

HNF-4073
Rev. 0

C00 162

HNF-4073
Rev. 0

C00 163

HNF-4073
Rev. 0

C00 164

HNF-4073
Rev. 0

C00 165

HNF-4073
Rev. 0

000 166

HNF-4073
Rev. 0

000 167

HNF-4073
Rev. 0

C00 168

HNF-4073
Rev. 0

C00 169

HNF-4073
Rev. 0

000 170

HNF-4073
Rev. 0

HNF-4073
Rev. 0

C00 172

HNF-4073
Rev. 0

C00 173

HNF-4073
Rev. 0

C00 174

HNF-4073
Rev. 0

Amount/ISTD Amount

C00 175

Area/ISTD Area

HNF-4073
Rev. 0

Amount/ISTD Amount

C00 176

Area/ISTD Area

HNF-4073
Rev. 0

C00 177

41 Octane

HNF-4073
Rev. 0

COO 178

HNF-4073
Rev. 0

HNF-4073
Rev. 0

CGO 180

HNF-4073
Rev. 0

C00 181

HNF-4073
Rev. 0

C00 182

HNF-4073
Rev. 0

C00 183

HNF-4073
Rev. 0

000 184

HNF-4073
Rev. 0

C00 185

HNF-4073
Rev. 0

000 186

HNF-4073
Rev. 0

000 187

HNF-4073
Rev. 0

C00 188

HNF-4073
Rev. 0

000 189

HNF-4073
Rev. 0

Amount/ISTD Amount

C00 190

Area/ISTD Area

HNF-4073
Rev. 0

HNF-4073
Rev. 0

Amount/ISTD Amount

C00 192

Area/ISTD Area

HNF-4073
Rev. 0

TST BATCH FILE

68122801.b

2/10/99

TST Analysis-Case Narrative
C-106 Sluicing Test
Samples Run on 12/28/98

Three samples were run on 12/2/98: VP006-099-1115, VP006-114-1308, VP006-134-1310. Following the autotune (2282V), the PNNL daily calibration checks and method blank were run. A large acetone peak was observed in the method blank apparently originating in the newly purchased 100 ml syringe used for addition of internal standard. The syringe barrel was removed and baked in a drying oven and the method blank rerun. This procedure appeared to be successful and the run was continued, however, since high acetone was then observed in the trip blank (VP006-134-1310) a further investigation was conducted showing slow release of acetone from the syringe in spite of repeated baking. The syringe was removed from further use for ISTD addition and an older 50 ml syringe substituted. Two injections were used with the smaller syringe to obtain the same result. No further acetone blank problems were seen after elimination of the contaminated syringe, however, the three samples in this run (and both standards) must be flagged (B) as having invalid acetone analysis. All compounds in the daily PNNL check standard showed satisfactory recovery (75-125%) except: acetone(215%, blank) and trans-1,3-dichloropropene (55%). Overall average recovery was 102% for the PNNL mixture. All compounds in the daily SAS check standard showed satisfactory recovery (75-125%) except: propane (128%), chloromethane (70%), chloroethane (72%), acetonitrile (1355), acetone(370%, blank), trichlorofluoromethane (127%), butanol (57%), pyridine (not detected), 1,1,2,2-tetrachloroethane (127%), and decane (144%). Overall average recovery was 110% for the SAS mixture. The method blank was clean except for acetone as discussed above and traces of benzene below the lower quantitation limit. Internal standard consistency was worse than expected and may be related to problems with the syringe.

Sequence Name: C:\HPCHEM\1\SEQUENCE\68122801.S

Comment:

Operator: JCE

Data Path: C:\HPCHEM\1\DATA\68122801.b\

Pre-Seq Cmd:

Post-Seq Cmd:

HNF-4073
Rev. 0

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

() Reprocessing Only () Don't Inject

Line Type Vial DataFile Method Sample Name

1 Calibration	5	68122801	TVP10	PNNL TST 1346 PNNL CCV
2 Calibration	7	68122802	TVP10	PNNL TST 1351 SAS CCV
3 Blank	8	68122803	TVP10	PNNL TST 1356 Method Blank
4 Sample	9	68122804	TVP10	TST 1115 VP006-099 BP @ 5.0 hr
5 Sample	10	68122805	TVP10	TST 1308 VP006-114 BP @ 6.0 hr
6 Sample	11	68122806	TVP10	TST 1310 VP006-134 Trip Blank
7 Blank	1	-----	BAKE	Shutdown

C00 195

Instrument: 5971 - System 6
 Mon Dec 28 10:23:45 1998

C:\HPCHEM\1\5971\ATUNE.U

Scan: 10.00 - 650.00 Samples: 16 Thresh: 150 Step: 0.10
 138 peaks Base: 69.05 Abundance: 1036608

C00 196

Data File : C:\HPCHEM\1\DATA\68122801.B\BSB\68122801.D Vial: 5
 Acq On : 28 Dec 98 10:43 am Operator: [BSB2]JCE
 Sample : PNNL TST 1346 PNNL CCV Inst : 5971 - Sy
 Misc : 100 ml of ISTD Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\LOOP40.M
 Title : VOC mixture

HNF-4073
 Rev. 0

Peak Apex is scan: 3432

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.4	21407	PASS
75	95	30	66	47.4	58418	PASS
95	95	100	100	100.0	123243	PASS
96	95	5	9	6.8	8321	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	81.8	100814	PASS
175	174	4	9	7.3	7346	PASS
176	174	93	101	93.4	94110	PASS
177	176	5	9	6.7	6269	PASS

600-197

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : PNNL TST 1346 PNNL CCV
100 ml of ISTDInstrument ID : hpdos6.i
Method : PNNL_std.m
File : 68122801.d
Injection Date : 28-DEC-1998 10:43 Operator : JCE
Matrix : AIR Lab. Sample ID: PNNL CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Dichlorodifluoromethane	19	120.91	8.242	8.320	1311970	102.74	5.6143	1040.11	
Chloromethane	19	50.49	9.128	9.187	488234	33.85	1.8498	820.67	
1,2-dichloro1,1,2,2-tetrafluoroethane	19	170.92	9.727	9.846	1484300	143.70	7.8526	1029.13	
Vinyl Chloride	19	62.50	10.150	10.260	455471	53.56	2.9269	1049.00	
Methanol	19	32.04	10.475	10.517	801888	98.04	5.3572	3745.34	
1,3-Butadiene	19	54.00	10.721	10.822	522861	73.42	4.0122	1664.32	
Chloroethane	19	64.51	12.269	12.289	184753	50.66	2.7681	961.19	
Ethanol	19	46.07	12.880	12.929	130089	29.95	1.6364	795.65	
Acetonitrile	19	41.05	13.362	13.323	589326	77.57	4.2390	2313.11	
Acetone	19	58.08	13.855	13.845	820275	305.67	16.7031	6441.95	
Trichlorofluoromethane	19	137.37	14.269	14.279	1026511	116.45	6.3632	1037.60	
Pentane	19	72.00	15.067	15.077	1944110	161.64	8.8329	2748.02	
1,1-Dichloroethene	19	96.94	15.586	15.658	412715	89.51	4.8914	1130.25	
Methylene Chloride	19	84.93	15.885	15.895	369999	71.02	3.8810	1023.60	
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418	16.418	675521	164.35	8.9809	1073.60	
1,1-Dichloroethane	19	98.96	18.009	18.074	797844	81.38	4.4470	1006.60	
2-Butanone	19	72.11	18.725	18.724	316586	145.10	7.9288	2462.98	
cis-1,2-Dichloroethene	19	96.94	19.536	19.591	423553	91.86	5.0198	1159.93	
Chloroform	19	119.38	20.106	20.114	925092	104.36	5.7027	1070.02	
1,2-Dichloroethane	19	98.96	21.418	21.474	503847	76.24	4.1663	943.06	
1,1,1-Trichloroethane	25	133.40	21.920	21.987	771749	112.59	6.1527	1033.14	
Benzene	25	78.11	22.846	22.845	1336084	71.43	3.9035	1119.43	
Carbon Tetrachloride	25	153.82	23.123	23.131	586659	103.96	5.6811	827.31	
1,2-Dichloropropane	25	112.99	24.285	24.354	508831	97.64	5.3357	1057.78	
Trichloroethene	25	131.39	24.719	24.778	641574	124.42	6.7989	1159.10	
cis-1,3-Dichloropropene	25	110.97	26.324	26.396	402213	67.95	3.7128	749.46	
trans-1,3-Dichloropropene	25	110.97	27.348	27.411	124027	45.14	2.4665	497.88	
1,1,2-Trichloroethane	25	133.40	27.845	27.864	534682	87.00	4.7542	798.30	
Toluene	34	92.14	28.476	28.496	916050	78.88	4.3104	1047.89	
1,2-Dibromomethane	34	187.86	29.947	30.023	520401	144.25	7.8825	939.90	
Tetrachloroethylene	34	165.83	30.999	31.009	616485	149.50	8.1692	1103.47	
Chlorobenzene	34	112.56	32.566	32.577	1064803	93.77	5.1242	1019.74	
Ethylbenzene	34	106.17	33.394	33.415	1968816	91.41	4.9951	1053.88	

C00 198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
p/m-Xylene	34	106.17	33.809	33.829	1421296	184.86	10.1018	2131.30	
Styrene	41	104.15	34.727	34.747	848341	75.69	4.1360	889.54	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.984	1046566	126.00	6.8850	918.82	
o-Xylene	41	106.17	35.024	35.043	657685	83.32	4.5529	960.58	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.606	1770374	103.09	5.6333	1049.89	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.879	1556388	94.03	5.1383	957.63	
1,3-Dichlorobenzene	41	147.00	40.328	40.422	1111359	109.51	5.9842	911.88	J
1,4-Dichlorobenzene	41	147.00	40.525	40.620	1289411	124.03	6.7776	1032.78	
1,2-Dichlorobenzene	41	147.00	41.658	41.755	1161928	113.19	6.1850	942.48	
1,2,4-Trichlorobenzene	41	181.45	47.866	47.993	713239	118.63	6.4822	800.23	
Hexachloro-1,3-butadiene	41	260.76	49.660	49.760	687938	195.57	10.6869	918.03	
Bromochloromethane (IS)	19	129.40	19.898	19.907	496349	121.00	6.6120	1144.58	
Difluorobenzene (IS)	25	114.00	23.340	23.348	1345959	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.468	1215086	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.237	703781	162.00	8.8525	1139.63	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1346 PNNL CCV

100 ml of ISTD

C00 200

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1346 PNNL CCV

100 ml of ISTD

C00 201

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1351 SAS CCV
100 ml of ISTD

Instrument ID : hpdos6.i
Method : sas_std.m
File : 68122802.d
Injection Date : 28-DEC-1998 12:02 Operator : JCE
Matrix : AIR Lab. Sample ID: SAS CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Propene	23	42.08	7.680	7.769	530506	40.64	2.2209	1182.24	
Propane	23	44.10	7.848	7.927	188426	45.55	2.4892	1264.38	
Dichlorodifluoromethane	23	120.91	8.242	8.311	1361599	128.25	7.0081	1298.33	
Chloromethane	23	50.49	9.129	9.198	236261	28.98	1.5838	702.68	
Acetaldehyde	23	44.05	9.818	10.015	58843	34.50	1.8853	958.71	J
Butane	23	58.12	11.000	11.019	785793	55.71	3.0444	1173.33	
Chloroethane	23	64.51	12.280	12.300	156544	36.66	2.0032	695.59	
Ethanol	23	46.07	12.733	12.910	195683	27.42	1.4986	728.64	
Acetonitrile	23	41.05	13.246	13.403	449518	45.62	2.4926	1360.17	
Acetone	23	58.08	13.827	13.856	890827	177.10	9.6778	3732.48	
Trichlorofluoromethane	23	137.37	14.281	14.280	1021227	147.58	8.0645	1315.03	
Isopropyl Alcohol	23	60.10	14.399	14.438	535019	42.24	2.3082	860.29	
Furan	23	68.08	14.666	14.665	514060	50.08	2.7363	900.32	
Pentane	23	72.00	15.070	15.069	835830	68.88	3.7640	1171.01	
Methylene Chloride	23	84.93	15.898	15.897	369763	64.33	3.5152	927.13	
1,1,2-trichloro-1,2,2-trifluoroethane	23	187.38	16.422	16.420	848350	170.62	9.3235	1114.56	
Propanenitrile	23	55.08	17.152	17.180	255543	38.65	2.1121	858.94	
Propanol	23	60.10	17.181	17.219	527486	44.27	2.4190	901.59	
2-Methylpentane	23	86.18	18.385	18.384	1043878	76.76	4.1947	1090.29	
Butanal	23	72.11	18.523	18.522	50562	56.93	3.1108	966.33	
2-Butanone	23	72.11	18.711	18.729	657484	47.21	2.5800	801.44	
1-Hexene	23	84.16	19.372	19.370	461416	74.82	4.0884	1088.16	
Hexane	23	86.18	19.944	19.943	664560	75.88	4.1464	1077.74	
Chloroform	23	119.38	20.122	20.111	922005	120.11	6.5634	1231.52	
Tetrahydrofuran	23	72.11	20.852	20.861	240842	60.35	3.2978	1024.41	
Butanenitrile	31	69.11	21.927	21.927	602794	41.60	2.2732	736.79	
1-Butanol	31	74.12	22.381	22.390	206326	30.86	1.6864	509.66	J
Benzene	31	78.11	22.855	22.844	1421620	60.09	3.2835	941.63	
Carbon Tetrachloride	31	153.82	23.131	23.131	630084	126.80	6.9287	1008.99	
2-Pentanone	31	86.13	23.438	23.447	1190518	67.76	3.7028	962.98	
3-Methylhexane	31	100.20	23.991	23.991	884401	92.53	5.0565	1130.39	
1,4-Dioxane	31	88.11	24.681	24.682	323236	65.97	3.6051	916.51	
Heptane	31	100.20	25.215	25.206	494191	84.94	4.6414	1037.60	

C00 202

02/03/99 13:30

68122802.d

Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
4-Methyl-2-pentanone	31	100.16	26.368	26.380	1090044	80.02	4.3726	977.90	
Pyridine	31	79.10	26.615				1.0900	308.67	U
1,1,2-Trichloroethane	31	133.40	27.858	27.849	519486	121.43	6.6353	1114.17	
Toluene	43	92.14	28.489	28.491	946907	77.45	4.2322	1028.89	
2-Hexanone	43	100.16	28.825	28.846	920269	76.42	4.1759	933.92	
Octane	43	114.23	30.432	30.435	546817	104.53	5.7121	1120.12	
Tetrachloroethylene	43	165.83	31.004	31.007	629366	141.55	7.7352	1044.85	
Chlorobenzene	43	112.56	32.572	32.577	1098954	85.23	4.6571	926.79	
Ethylbenzene	43	106.17	33.401	33.417	1893704	94.61	5.1700	1090.78	
p/m-Xylene	43	106.17	33.826	33.841	1413127	208.94	11.4177	2408.93	
3-Heptanone	43	114.19	33.835	33.861	965225	103.16	5.6374	1105.85	
2-Heptanone	54	114.19	33.964	34.020	1177438	92.19	5.0375	988.18	
Cyclohexanone	54	98.14	34.281	34.306	103268	68.90	3.7649	859.32	
Styrene	54	104.15	34.735	34.751	962677	83.48	4.5620	981.17	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.979	1086917	182.39	9.9666	1330.06	
o-Xylene	54	106.17	35.033	35.048	658345	96.00	5.2458	1106.77	
Nonane	54	128.26	35.379	35.405	1020954	111.33	6.0833	1062.43	
2-Octanone	54	128.21	38.774	38.898	835010	74.48	4.0702	711.11	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.886	1519299	113.57	6.2059	1156.60	
Decane	54	142.20	40.009	40.035	1258758	176.20	9.6283	1516.69	
Bromochloromethane (IS)	23	129.40	19.915	19.903	392514	106.00	5.7923	1002.69	
Difluorobenzene (IS)	31	114.00	23.349	23.348	1492693	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.468	1297553	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.235	912482	113.00	6.1749	794.92	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1351 SAS CCV

100 ml of ISTD

C00 204

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1351 SAS CCV

100 ml of ISTD

C00 205

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 2 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS C00-206 THRU PAGE C00- 467 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

SAS Calibration Mix
Run on 12/28/98
Initial Calibration on 1/19/99

HNF-4073
Rev. 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Propene	1020	1182	116%			
Propane	990	1264	128%		****	
Dichlorodifluoromethane	1048	1298	124%			
Chloromethane	1010	703	70%	****		
Acetaldehyde	1060	959	90%			
Butane	1006	1173	117%			
Chloroethane	960	696	72%	****		
Ethanol	920	729	79%			
Acetonitrile	1010	1360	135%		****	
Acetone	1010	3732	370%		****	B
Trichlorofluoromethane	1035	1315	127%		****	
Isopropyl Alcohol	1000	860	86%			
Furan	990	900	91%			
Pentane	998	1171	117%			
Methylene Chloride	978	927	95%			
112trichloro122trifluoroethane	1014	1115	110%			
Propanenitrile	1000	859	86%			
Propanol	940	902	96%			
2-Methylpentane	959	1090	114%			
Butanal	790	966	122%			
2-Butanone	950	801	84%			
1-Hexene	949	1088	115%			
Hexane	963	1078	112%			
Chloroform	1129	1232	109%			
Tetrahydrofuran	1000	1024	102%			
Butanenitrile	940	737	78%			
1-Butanol	890	510	57%	****		
Benzene	950	942	99%			
Carbon Tetrachloride	979	1009	103%			
2-Pentanone	960	963	100%			
3-Methylhexane	942	1130	120%			
1,4-Dioxane	1000	917	92%			
Heptane	951	1038	109%			
4-Methyl-2-pentanone	910	978	107%			
Pyridine	852			****		U
1,1,2-Trichloroethane	964	1114	116%			
Toluene	963	1029	107%			
2-Hexanone	930	934	100%			
Octane	973	1120	115%			
Tetrachloroethylene	930	1045	112%			
Chlorobenzene	900	927	103%			
Ethylbenzene	990	1091	110%			
p/m-Xylene	1983	2409	121%			
3-Heptanone	950	1106	116%			
2-Heptanone	920	988	107%			
Cyclohexanone	930	859	92%			

C00 206

SAS Calibration Mix
Run on 12/28/98
Initial Calibration on 1/19/99

HNF-4073
Rev. 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Styrene	1007	981	97%			
1,1,2,2-Tetrachloroethane	1044	1330	127%		****	
o-Xylene	960	1107	115%			
Nonane	888	1062	120%			
2-Octanone	910	711	78%			
1,2,4-Trimethylbenzene	1051	1157	110%			
Decane	1053	1517	144%		****	
Average recovery			110%			

C00 207

TST Daily Calibration
 PNNL Calibration Mix
 Run on 12/28/98
 Initial Calibration on 12/14/98

HNF-4073
 Rev. 0

Compound Name	Expected PPB	Amount Found	%Recovery	Flags	
				Low	High CLP
Dichlorodifluoromethane	1000	1040	104%		
Chloromethane	1000	821	82%		
12dichloro122-tetrafluoroeth	1000	1029	103%		
Vinyl Chloride	1000	1049	105%		
Methanol	3100	3745	121%		
1,3-Butadiene	1600	1664	104%		
Chloroethane	1000	961	96%		
Ethanol	700	796	114%		
Acetonitrile	2400	2313	96%		
Acetone	3000	6442	215%	****	B
Trichlorofluoromethane	1000	1038	104%		
Pentane	2500	2748	110%		
1,1-Dichloroethene	1000	1130	113%		
Methylene Chloride	1000	1024	102%		
112trichloro122trifluoroethane	1000	1074	107%		
1,1-Dichloroethane	1000	1007	101%		
2-Butanone	2400	2463	103%		
cis-1,2-Dichloroethene	1000	1160	116%		
Chloroform	1000	1070	107%		
1,2-Dichloroethane	1000	943	94%		
1,1,1-Trichloroethane	1000	1033	103%		
Benzene	1000	1119	112%		
Carbon Tetrachloride	1000	827	83%		
1,2-Dichloropropane	1000	1058	106%		
Trichloroethene	1000	1159	116%		
cis-1,3-Dichloropropene	900	749	83%		
trans-1,3-Dichloropropene	900	497	55%	****	
1,1,2-Trichloroethane	1000	798	80%		
Toluene	1000	1048	105%		
1,2-Dibromoethane	1000	940	94%		
Tetrachloroethylene	1000	1103	110%		
Chlorobenzene	1000	1020	102%		
Ethylbenzene	1000	1054	105%		
p/m-Xylene	2000	2131	107%		
Styrene	1000	890	89%		
1,1,2,2-Tetrachloroethane	1000	919	92%		
o-Xylene	1000	961	96%		
1,3,5-Trimethylbenzene	1000	1050	105%		
1,2,4-Trimethylbenzene	1000	958	96%		
1,3-Dichlorobenzene	1000	912	91%		
1,4-Dichlorobenzene	1000	1033	103%		
1,2-Dichlorobenzene	1000	942	94%		
1,2,4-Trichlorobenzene	1000	800	80%		
Hexachloro-1,3-butadiene	1000	918	92%		

Average recovery

102%

C00 208

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1356 Method Blank
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.1
Method : PNNL_std.m
File : 68122803.d
Injection Date : 28-DEC-98 14:08 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242				0.0050	0.92	U
Chloromethane	19	50.49	9.128				0.0021	0.91	U
1,2-dichloro-1,1,2,2-tetrafluoroethane	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475				0.0100	6.99	U
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269				0.0027	0.92	U
Ethanol	19	46.07	12.880				0.0130	6.32	U
Acetonitrile	19	41.05	13.362				0.0040	2.21	U
Acetone	19	58.08	13.855	14.135	17089	7.70	0.0385	14.84	J
Trichlorofluoromethane	19	137.37	14.269				0.0056	0.91	U
Pentane	19	72.00	15.067				0.0073	2.29	U
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885				0.0035	0.92	U
1,1,2-trichloro-1,2,2-trifluoroethane	19	187.38	16.418				0.0076	0.91	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.92	U
2-Butanone	19	72.11	18.725				0.0070	2.19	U
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106				0.0049	0.92	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846	22.898	6847	0.38	0.0019	0.55	J
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719				0.0054	0.92	U
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0100	2.02	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476				0.0037	0.91	U
1,2-Dibromoethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394				0.0043	0.92	U

C00 209

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
p/m-Xylene	34	106.17	33.809				0.0087	1.84	U
Styrene	41	104.15	34.727				0.0043	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024				0.0043	0.92	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.913	410682	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.371	1294850	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.506	1089124	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.276	550541	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1356 Method Blank 100 ml of ISTD

C00 211

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1356 Method Blank 100 ml of ISTD

C00 212

#####

HCL-LPD

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HNF-4073
Rev. 0

User: john@vapor

#####

Title: B

#####

Class: vapor

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Printed: Wed Feb 03 11:39:46 1999

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Job Name: lj1-4504

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Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1356 Method Blank
100 ml of ISTD

Instrument ID : hpdos6.i
Method : sas_std.m
File : 68122803.d
Injection Date : 28-DEC-98 14:08 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Propene	23	42.08	7.680				0.0018	0.94	U
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818				0.0190	9.66	U
Butane	23	58.12	11.000				0.0024	0.92	U
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733				0.0043	2.12	U
Acetonitrile	23	41.05	13.246				0.0043	2.32	U
Acetone	23	58.08	13.827	14.135	17284	3.40	0.0170	6.56	J
Trichlorofluoromethane	23	137.37	14.281				0.0058	0.95	U
Isopropyl Alcohol	23	60.10	14.399				0.0062	2.29	U
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070				0.0029	0.92	U
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152				0.0023	0.92	U
Propanol	23	60.10	17.181				0.0058	2.16	U
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523				0.0059	1.82	U
2-Butanone	23	72.11	18.711				0.0070	2.17	U
1-Hexene	23	84.16	19.372				0.0033	0.87	U
Hexane	23	86.18	19.944				0.0034	0.88	U
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927				0.0027	0.86	U
1-Butanol	31	74.12	22.381				0.0270	8.16	U
Benzene	31	78.11	22.855				0.0030	0.87	U
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991				0.0039	0.86	U
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215				0.0039	0.87	U

C00 214

02/03/99 13:52

68122803.d

Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368				0.0037	0.83	U
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489				0.0036	0.89	U
2-Hexanone	43	100.16	28.825				0.0038	0.85	U
Octane	43	114.23	30.432				0.0046	0.89	U
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401				0.0043	0.91	U
p/m-Xylene	43	106.17	33.826				0.0033	0.69	U
3-Heptanone	43	114.19	33.835				0.0044	0.87	U
2-Heptanone	54	114.19	33.964				0.0043	0.84	U
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033				0.0042	0.88	U
Nonane	54	128.26	35.379				0.0046	0.81	U
2-Octanone	54	128.21	38.774				0.0047	0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009				0.0061	0.96	U
Bromochloromethane (IS)	23	129.40	19.915	19.913	396338	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.371	1280460	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.506	1110576	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.276	703915	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1356 Method Blank 100 ml of ISTD

C00 216

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : PNNL TST 1356 Method Blank 100 ml of ISTD

C00 217

□(s10H
Data File: /chem/hpdos6.i/68122801_PNNL.b/68122801.d
Report Date: 03-Feb-1999 11:55

Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 68122801.d
Lab Smp Id: PNNL CCV
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: PNNL CCV
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	521049	260524	1042098	496349	-4.74
25 Difluorobenzene (IS)	1891825	945912	3783650	1345959	-28.85
34 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1215086	-24.61
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	703781	-35.58

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	19.90	19.40	20.40	19.91	0.05
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.35	0.03
34 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.47	0.03
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.24	0.11

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

□(s10H

Data File: /chem/hpdos6.i/68122801_SAS.b/68122802.d

Page 1

Report Date: 26-Jan-1999 16:25

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 68122802.d
Lab Smp Id: SAS CCV
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: SAS CCV
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	521049	260524	1042098	392514	-24.67
31 Difluorobenzene (IS)	1891825	945912	3783650	1492693	-21.10
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1297553	-19.49
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	912482	-16.48

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	19.90	19.40	20.40	19.90	0.03
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.35	0.04
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.47	0.03
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.23	0.10

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

□(s10H

Data File: /chem/hpdos6.i/68122801_PNNL.b/68122803.d

Page 1

Report Date: 03-Feb-1999 11:57

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
 Lab File ID: 68122803.d
 Lab Smp Id: Method Blank
 Analysis Type: VAPOR
 Quant Type: ISTD
 Operator: JCE
 Method File: /chem/hpdos6.i/PNNL_std.m
 Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
 Calibration Time: 1018
 Client Smp ID: Method Blank
 Level: LOW
 Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	521049	260524	1042098	410682	-21.18
25 Difluorobenzene (IS)	1891825	945912	3783650	1294850	-31.56
34 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1089124	-32.42
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	550541	-49.61

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	19.90	19.40	20.40	19.91	0.08
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.37	0.13
34 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.51	0.15
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.28	0.21

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

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Data File: /chem/hpdos6.i/68122801_PNNL.b/68122804.d
Report Date: 30-Dec-1998 15:48

Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARYInstrument ID: hpdos6.i
Lab File ID: 68122804.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCECalibration Date: 12/28/98
Calibration Time: 1043Level: LOW
Sample Type: AIRMethod File: /chem/hpdos6.i/68122801_PNNL.b/PNNL_std.m
Misc Info: 100 ml of ISTD

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	283736	141868	567472	224320	-20.94
25 Difluorobenzene (IS)	1345959	672980	2691918	1415581	5.17
34 Chlorobenzene-d5 (IS)	1199153	599576	2398306	1258369	4.94
41 1-Bromo-4-Fluorobenz	689501	344750	1379002	768200	11.41

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	19.91	19.41	20.41	19.90	-0.02
25 Difluorobenzene (IS)	23.35	22.85	23.85	23.34	-0.04
34 Chlorobenzene-d5 (IS)	32.47	31.97	32.97	32.47	-0.01
41 1-Bromo-4-Fluorobenz	36.24	35.74	36.74	36.21	-0.07

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

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Data File: /chem/hpdos6.i/68122801_PNNL.b/68122805.d
Report Date: 30-Dec-1998 14:20

Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARYInstrument ID: hpdos6.i
Lab File ID: 68122805.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCECalibration Date: 12/28/98
Calibration Time: 1043Level: LOW
Sample Type: AIRMethod File: /chem/hpdos6.i/68122801_PNNL.b/PNNL_std.m
Misc Info: 100 ml of ISTD

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	283736	141868	567472	269437	-5.04
25 Difluorobenzene (IS)	1345959	672980	2691918	1385439	2.93
34 Chlorobenzene-d5 (IS)	1199153	599576	2398306	1176750	-1.87
41 1-Bromo-4-Fluorobenz	689501	344750	1379002	671348	-2.63

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	19.91	19.41	20.41	19.91	-0.01
25 Difluorobenzene (IS)	23.35	22.85	23.85	23.35	0.03
34 Chlorobenzene-d5 (IS)	32.47	31.97	32.97	32.48	0.03
41 1-Bromo-4-Fluorobenz	36.24	35.74	36.74	36.24	0.00

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 222

□(s10H

Data File: /chem/hpdos6.i/68122801_PNNL.b/68122806.d

Page 1

Report Date: 30-Dec-1998 14:20

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i

Calibration Date: 12/28/98

Lab File ID: 68122806.d

Calibration Time: 1043

Lab Smp Id: TST System 6

Analysis Type: VAPOR

Level: LOW

Quant Type: ISTD

Sample Type: AIR

Operator: JCE

Method File: /chem/hpdos6.i/68122801_PNNL.b/PNNL_std.m

Misc Info: 100 ml of ISTD

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	283736	141868	567472	253723	-10.58
25 Difluorobenzene (IS)	1345959	672980	2691918	1369553	1.75
34 Chlorobenzene-d5 (IS)	1199153	599576	2398306	1101037	-8.18
41 1-Bromo-4-Fluorobenz	689501	344750	1379002	548017	-20.52

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	19.91	19.41	20.41	19.90	-0.04
25 Difluorobenzene (IS)	23.35	22.85	23.85	23.37	0.09
34 Chlorobenzene-d5 (IS)	32.47	31.97	32.97	32.51	0.12
41 1-Bromo-4-Fluorobenz	36.24	35.74	36.74	36.27	0.08

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : VP006-099 BP @ 5.0 hr
100 ml of ISTDInstrument ID : hpdos6.i
Method : sas std.m
File : 68122804.d
Injection Date : 28-DEC-1998 15:28 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-099
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.769	1365431	107.67	0.5383	286.57	
Propane	23	44.10	7.848	7.917	388729	96.73	0.4837	245.67	
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818	9.926	126348	76.25	0.3812	193.86	
Butane	23	58.12	11.000	11.019	4541485	331.41	1.6571	638.65	
Chloroethane	23	64.51	12.280	12.291	5558	1.34	0.0067	2.33	J
Ethanol	23	46.07	12.733	12.833	528963	76.30	0.3815	185.49	
Acetonitrile	23	41.05	13.246	13.375	109455	11.43	0.0572	31.19	
Acetone	23	58.08	13.827	13.848	489711	100.24	0.5012	193.29	
Trichlorofluoromethane	23	137.37	14.281	14.272	37594	5.59	0.0280	4.56	J
Isopropyl Alcohol	23	60.10	14.399	14.528	32369	2.63	0.0132	4.90	J
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070	15.071	1281049	108.66	0.5433	169.03	
Methylene Chloride	23	84.93	15.898	15.889	13733	2.46	0.0123	3.24	J
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152	17.181	142562	22.20	0.1110	45.14	
Propanol	23	60.10	17.181	17.250	187140	16.16	0.0808	30.12	
2-Methylpentane	23	86.18	18.385	18.374	181264	13.72	0.0686	17.83	
Butanal	23	72.11	18.523	18.522	70008	81.11	0.4056	125.99	
2-Butanone	23	72.11	18.711	18.729	285129	21.07	0.1054	32.73	
1-Hexene	23	84.16	19.372	19.360	1226947	204.83	1.0242	272.59	
Hexane	23	86.18	19.944	19.933	859797	101.05	0.5053	131.33	
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852	20.861	20190	5.21	0.0260	8.09	J
Butanenitrile	31	69.11	21.927	21.936	566981	41.26	0.2063	66.87	
1-Butanol	31	74.12	22.381	22.380	265314	41.84	0.2092	63.23	J
Benzene	31	78.11	22.855	22.824	90494	4.03	0.0202	5.78	J
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438	23.456	277618	16.66	0.0833	21.66	
3-Methylhexane	31	100.20	23.991	23.980	52711	5.82	0.0291	6.50	J
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215	25.195	2304545	417.63	2.0882	466.82	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.341	81005	6.27	0.0314	7.01	J
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489	28.475	348340	29.37	0.1469	35.70	
2-Hexanone	43	100.16	28.825	28.821	779817	66.76	0.3338	74.65	
Octane	43	114.23	30.432	30.421	357536	70.47	0.3524	69.09	
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572	32.575	10954	0.88	0.0044	0.87	J
Ethylbenzene	43	106.17	33.401	33.405	23901	1.23	0.0062	1.30	J
p/m-Xylene	43	106.17	33.826	33.781	12616	1.92	0.0096	2.03	J
3-Heptanone	43	114.19	33.835	33.830	22085015	2433.98	12.1699	2387.30	E
2-Heptanone	54	114.19	33.964	33.959	5946472	353.83	1.7692	347.05	
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033	35.037	4540	0.50	0.0025	0.53	J
Nonane	54	128.26	35.379	35.383	644016	53.37	0.2668	46.60	
2-Octanone	54	128.21	38.774	38.766	275047	18.65	0.0933	16.30	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009	40.013	2108969	224.40	1.1220	176.74	
Bromochloromethane (IS)	23	129.40	19.915	19.893	381350	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.338	1415581	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.466	1258369	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.223	1200416	113.00	0.5650	72.74	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1-Propene, 2-methyl-	23	56	115-11-7	10.713	10317903	206.74	1.0337	413.48	NJ
1-Butene	23	56	106-98-9	11.384	590139	11.82	0.0591	23.65	NJ
1-Butene, 2-methyl-	23	70	563-46-2	14.864	537449	10.77	0.0538	17.23	NJ
Butanenitrile, 2-methylene-	31	81	1647-11-6	23.634	561883	16.20	0.0810	22.40	NJ
1-Heptene	31	98	592-76-7	24.592	3294119	94.98	0.4749	108.55	NJ
(Z)-3-Heptene	31	98	7642-10-6	25.047	22161799	638.99	3.1949	730.27	NJ
2-Heptene	31	98	592-77-8	25.403	26459138	762.89	3.8145	871.88	NJ
Pentanenitrile	31	83	110-59-8	27.398	1326129	38.24	0.1912	51.60	NJ
3,4-Heptadiene	31	96	2454-31-1	27.586	5773117	166.46	0.8323	194.20	NJ
2-Heptyne	43	96	1119-65-9	28.682	6146197	159.35	0.7967	185.91	NJ
2-Hexanone	43	100	591-78-6	28.821	1705027	44.20	0.2210	49.51	NJ
4-Octene, (E)-	43	112	14850-23-8	28.939	2486426	64.46	0.3223	64.46	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.127	12950265	335.75	1.6788	329.86	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.779	16354730	424.02	2.1201	424.02	NJ
2-Octene, (E)-	43	112	13389-42-9	30.125	904673	23.45	0.1173	23.45	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.253	3655126	94.76	0.4738	94.76	NJ
2-Octene	43	112	111-67-1	30.560	1635117	42.39	0.2120	42.39	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.827	2997123	77.70	0.3885	77.70	NJ
3-Hexanone, 5-methyl-	43	114	623-56-3	31.390	635615	16.48	0.0824	16.19	NJ
Hexanenitrile	43	97	628-73-9	32.753	773763	20.06	0.1003	23.16	NJ
4-Heptanone	43	114	123-19-3	33.207	13529794	350.78	1.7539	344.62	NJ

C00 225

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
n-Butyl ether	43	130	142-96-1	34.147	3445593	89.33	0.4467	76.96	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128	0-00-0	36.718	7324733	104.36	0.5218	91.31	NJ
Unknown	54	126		36.807	11596647	165.22	0.8261	146.06	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	99		36.926	9900230	141.05	0.7053	159.57	NJ
3-Octen-2-one, (E)-	54	126	18402-82-9	37.183	10915638	155.52	0.7776	138.24	NJ
Unknown	54	128		37.362	2192476	31.24	0.1562	27.33	NJ
Heptanenitrile	54	111	629-08-3	37.737	2382125	33.94	0.1697	34.24	NJ
4-Octanone	54	128	589-63-9	38.064	1975699	28.15	0.1407	24.63	NJ
Unknown	54	124		39.459	9248741	131.77	0.6588	119.02	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		40.132	3597399	51.25	0.2563	41.00	J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.657	19871030	283.11	1.4155	243.91	NJ
Nonane, 2,6-dimethyl-	54	156	17302-28-2	41.132	2380171	33.91	0.1696	24.35	NJ
Decane, 3-methyl-	54	156	13151-34-3	41.904	860134	12.25	0.0613	8.80	NJ
Cyclohexane, butyl-	54	140	1678-93-9	42.022	1609615	22.93	0.1147	18.35	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		42.260	1029995	14.67	0.0734	11.74	J
Octanenitrile	54	125	124-12-9	42.389	1505511	21.45	0.1072	19.22	NJ
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.606	1014463	14.45	0.0723	11.73	NJ
Unknown	54	154		43.903	4141592	59.01	0.2950	42.91	J
Undecane	54	156	1120-21-4	44.319	22057845	314.26	1.5713	225.62	NJ
Unknown	54	168		44.874	4016642	57.23	0.2861	38.15	J
Decane, 3,6-dimethyl-	54	170	17312-53-7	45.131	1062980	15.14	0.0757	9.98	NJ
Unknown C11 Alkane (mw 156)	54	156		45.577	1994456	28.42	0.1421	20.40	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.003	1979313	28.20	0.1410	20.78	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.369	2376211	33.85	0.1693	24.62	NJ
Heptane, 3-ethyl-2-methyl-	54	142	14676-29-0	46.578	1585982	22.60	0.1130	17.82	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.746	3671226	52.30	0.2615	38.54	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.944	1958295	27.90	0.1395	18.38	NJ
Undecane, 3-methyl-	54	170	1002-43-3	47.252	1327538	18.91	0.0946	12.46	NJ
6-Dodecene, (E)-	54	168	7206-17-9	47.916	1624364	23.14	0.1157	15.43	NJ
Dodecane	54	170	112-40-3	48.323	54031942	769.80	3.8490	507.17	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.948	10329827	147.17	0.7359	89.58	NJ
Cyclododecane	54	168	294-62-2	50.367	4134685	58.91	0.2945	39.27	NJ
Unknown C12 Alkane (mw 170)	54	0		50.625	1423718	20.28	0.1014		J
Unknown C12 Alkane (mw 170)	54	170		50.774	1543355	21.99	0.1099	14.49	J
Unknown C12 Alkane (mw 170)	54	170		51.201	8448898	120.37	0.6019	79.30	J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.678	4525132	64.47	0.3224	39.67	J
Tridecane	54	184	629-50-5	52.066	99309955	1414.89	7.0745	861.24	NJ
Tetradecane	54	198	629-59-4	55.553	22185997	316.09	1.5804	178.80	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	5290220
Diffuorobenzene (IS)	31	3676361
Chlorobenzene-d5 (IS)	43	4358531
1-Bromo-4-Fluorobenzene (IS)	54	7931373

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

C00 226

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : VP006-099 BP @ 5.0 hr

100 ml of ISTD

C00 227

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : VP006-099 BP @ 5.0 hr

100 ml of ISTD

C00 228

Data File: /chem/hpdos6.1/SAS.b/68122804.d

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

HNF-4073
Rev. 0

Page 1

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

C00 229

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

1 Propene

Data File: /chem/hpdos6.1/SAS.b/68122804.d

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

2 Propane

C00 231

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

5 Acetaldehyde

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

6 Butane

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

7 Chloroethane

C00 234

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

8 Ethanol

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

HNF-4073
Rev. 0

Page 8

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

9 Acetonitrile

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Acetone

C00 237

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Date: 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

14 Pentane

COO 239

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Instrument: hpdos6.i

Sample Info: VP006-099 BP @ 5.0 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

15 Methylene Chloride

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

17 Propanenitrile

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

18 Propanol

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

19 2-Methylpentane

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

20 Butanal

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

21 2-Butanone

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

22 1-Hexene

C00 246

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WF006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Hexane

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

27 Butanenitrile

C00 249

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

28 1-Butanol

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Benzene

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

33 3-Methylhexane

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

35 Heptane

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

HNF-4073

Page 26

Rev. 0

Instrument: hpdos6.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

36 4-Methyl-2-pentanone

Scan 2466 (26.341 min) of 68122804.d

Scan 2466 (26.341 min) of 68122804.d (Subtracted)

36 4-Methyl-2-pentanone (Reference Spectrum)

Scan 2466 (26.341 min) of 68122804.d (% DIFFERENCE)

C00 254

Ion 43.00

Ion 58.00

Ion 100.15

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 Toluene

C00 255

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

40 2-Hexanone

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

41 Octane

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

44 Chlorobenzene

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

45 Ethylbenzene

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

46 p/m-Xylene

Date: 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

47 3-Heptanone

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 2-Heptanone

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

52 o-Xylene

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

53 Nonane

C00 264

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

55 2-Octanone

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

57 Decane

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	83	C4H8	56
1-Butene	106-98-9	nbs75k.1	62307	87	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	87	C4H8	56

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62308	86	C4H8	56
1-Butene	106-98-9	nbs75k.1	62307	86	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	86	C4H8	56

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.l	62309	87	C4H8	56
1-Butene	106-98-9	nbs75k.l	62308	87	C4H8	56
1-Butene	106-98-9	nbs75k.l	62307	87	C4H8	56

C00 269

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

1-Butene, 2-methyl-
Cyclopropane, 1,2-dimethyl-, trans-
1-Butene, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
563-46-2	nbs75k.1	62458	87	C5H10	70
2402-06-4	nbs75k.1	62459	87	C5H10	70
563-46-2	WILEY138.1	116340	87	C5H10	70

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
627-20-3	nbs75k.1	62456	91	C5H10	70
563-46-2	nbs75k.1	62457	91	C5H10	70
627-20-3	nbs75k.1	224	91	C5H10	70

1-Butene, 2-methyl-

2-Pentene, (Z)-

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Butanenitrile, 2-methylene-
2-Pentenitrile
2-Pentenitrile

CAS Number	Library	Entry	Quality	Formula	Weight
1647-11-6	nbs75k.1	445	94	C5H7N	81
13284-42-9	nbs75k.1	447	72	C5H7N	81
13284-42-9	WILEY138.1	116729	58	C5H7N	81

C00 272

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	96	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	93	C7H14	98
1-Heptene	592-76-7	WILEY138.1	897	93	C7H14	98

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98
3-Heptene	592-78-9	WILEY138.1	901	94	C7H14	98

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	96	C7H14	98

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WF006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentanenitrile	110-59-8	WILEY138.1	116798	56	C5H9N	83
Pentanenitrile	110-59-8	nbs75k.1	62698	39	C5H9N	83
Pentanenitrile	110-59-8	nbs75k.1	514	38	C5H9N	83

C00 276

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
2454-31-1	nbs75k.1	1112	83	C7H12	96
1120-73-6	nbs75k.1	63117	81	C6H8O	96
1120-73-6	WILEY138.1	593	81	C6H8O	96

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	96	C7H12	96
Cyclopropane, trimethylmethylene-	34462-28-7	nbs75k.1	63123	70	C7H12	96
1,3-Pentadiene, 2,4-dimethyl-	1000-86-8	nbs75k.1	63137	64	C7H12	96

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	63384	90	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63386	90	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117990	90	C6H12O	100

C00 279

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	90	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	90	C8H16	112
2-Octene, (Z)-	7642-04-8	WILEY138.1	2640	90	C8H16	112

C00 280

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	94	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	94	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64031	87	C8H16	112

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64022	30	C8H16	112
Cyclohexanone, 2-methyl-	583-60-8	nbs75k.1	63979	47	C7H12O	112
1,6-Octadiene, (E)-	19036-81-8	WILEY138.1	2222	47	C8H14	110

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	86	C8H16	112
3-HEXENE, 3,4-DIMETHYL-	0-00-0	WILEY138.1	2683	80	C8H16	112
5-Methyl-3-heptene	0-00-0	nbs75k.1	2641	78	C8H16	112

C00 283

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	WILEY138.1	119054	93	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	90	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	90	C8H16	112

C00 284

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C8H16	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	90	C8H16	112
1-PENTENE, 2-ETHYL-4-METHYL-	0-00-0	WILEY138.1	2686	83	C8H16	112

C00 285

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	68	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64194	64	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	64	C7H14O	114

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Hexanenitrile

628-73-9

WILEY138.1

117637

78

C6H11N

97

Hexanenitrile

628-73-9

WILEY138.1

117636

74

C6H11N

97

1,7-Octadiene

3710-30-3

WILEY138.1

118886

72

C8H14

110

C00 287

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

4-Heptanone

123-19-3

nbs75k.1

64150

91

C7H14O

114

4-Heptanone

123-19-3

WILEY138.1

119313

91

C7H14O

114

4-Heptanone

123-19-3

nbs75k.1

64153

90

C7H14O

114

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

n-Butyl ether

142-96-1

nbs75k.1

65307

72

C8H18O

130

Butane, 1,1'-oxybis-

142-96-1

WILEY138.1

121218

50

C8H18O

130

Butane, 1,1'-oxybis-

142-96-1

WILEY138.1

121219

50

C8H18O

130

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane (isomer)	0-00-0	WILEY138.1	6005	53	C8H16O	128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	64	C6H13BO2	128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	WILEY138.1	5771	64	C6H13BO2	128

C00 290

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
Unknown	nbs75k.1	4673	10		126
1-Methyl-2-cyclopenten-1-ol	WILEY138.1	844	56	C6H10O	98
1-Hexyn-3-ol	nbs75k.1	1263	36	C6H10O	98

C00 291

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane (isomer)	WILEY138.1	996	64	C5H9NO	99
1-Ethylcyclohexanol	1940-18-7 WILEY138.1	6017	59	C8H16O	128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3 nbs75k.1	4896	56	C6H13BO2	128

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

3-Octen-2-one, (E)-
3,6-DIHYDRO-6,6-DIMETHYL-2H-PYRAN-2-ONE
Oxazole, trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
18402-82-9	nbs75k.1	4533	32	C8H14O	126
72649-03-7	WILEY138.1	5218	38	C7H10O2	126
20662-84-4	WILEY138.1	2343	38	C6H9NO	111

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
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Unknown	nbs75k.1	67148	38		128
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	43	C8H16O	128
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	65086	C8H16O	128

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63907	90	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63909	59	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	2359	59	C7H13N	111

C00 295

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.l	5058	90	C8H16O	128
4-Octanone	589-63-9	nbs75k.l	65062	90	C8H16O	128
4-Octanone	589-63-9	nbs75k.l	65061	90	C8H16O	128

C00 296

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown		WILEY138.1	699	83		124
1-Buten-4-yl methacrycate	0-00-0	WILEY138.1	9179	42	C8H12O2	140
Hexanenitrile	628-73-9	WILEY138.1	117636	42	C6H11N	97

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

Cycloheptane

Formic acid, octyl ester

1-Nonanol

CAS Number	Library	Entry	Quality	Formula	Weight
291-64-5	nbs75k.1	63231	46	C7H14	98
112-32-3	nbs75k.1	11985	43	C9H18O2	158
143-08-8	WILEY138.1	122958	43	C9H20O	144

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1-Hexanol, 2-ethyl-
1-Hexanol, 2-ethyl-
1-Hexanol, 2-ethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
104-76-7	nbs75k.1	5518	90	C8H18O	130
104-76-7	WILEY138.1	121202	90	C8H18O	130
104-76-7	WILEY138.1	121193	90	C8H18O	130

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WF006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Nonane, 2,6-dimethyl-
Nonane, 2,6-dimethyl-
Decane, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
17302-28-2	nbs75k.1	11598	94	C11H24	156
17302-28-2	WILEY138.1	15630	94	C11H24	156
2847-72-5	nbs75k.1	67323	90	C11H24	156

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	50	C11H24	156
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	70270	50	C15H32	212
Nonane, 3,7-dimethyl-	17302-32-8	nbs75k.1	11601	50	C11H24	156

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WF006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66057	83	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	7540	72	C10H20	140
Cyclohexane, butyl-	1678-93-9	WILEY138.1	9501	72	C10H20	140

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

Undecane, 5,6-dimethyl-

Undecane, 5,6-dimethyl-

Dodecane, 2,5-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
17615-91-7	nbs75k.1	19004	50	C13H28	184
17615-91-7	WILEY138.1	27763	50	C13H28	184
56292-65-0	nbs75k.1	22531	47	C14H30	198

Date: 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	64	C8H15N	125
Octanenitrile	124-12-9	WILEY138.1	5025	64	C8H15N	125
1H-Imidazole, 2-methyl-	693-98-1	nbs75k.1	62663	47	C4H6N2	82

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Undecane, 5,7-dimethyl-

17312-83-3

nbs75k.1

19013

50

C13H28

184

Ether, heptyl hexyl

7289-40-9

nbs75k.1

23013

50

C13H28O

200

Hexane, 2,2,3,3-tetramethyl-

13475-81-5

nbs75k.1

8106

50

C10H22

142

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67322	95	C11H24	156
Decane, 2-methyl-	6975-98-0	WILEY138.1	124554	81	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.1	67321	74	C11H24	156

C00 306

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122343	98	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122341	97	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	7108	96	C10H18	138

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

HNF-4073
Rev. 0

Page 88

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
2-ETHYL-5-PENTYL-5-PYRROLINE	61772-94-9	WILEY138.1	19967	50	C11H21N	167
3-Buten-2-one, 4-(1-aziridinyl)-	18277-57-1	WILEY138.1	2342	49	C6H9NO	111
3-Buten-2-one, 4-(1-aziridinyl)-	18277-57-1	nbs75k.1	2425	47	C6H9NO	111

C00 308

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	WILEY138.1	124548	91	C11H24	156
Tridecane	629-50-5	nbs75k.1	69019	91	C13H28	184
Undecane	1120-21-4	nbs75k.1	67318	90	C11H24	156

C00 309

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

4(3H)-Pyrimidinone

7-Oxabicyclo[4.1.0]heptane, 2-methyl-

4(3H)-Pyrimidinone

CAS Number	Library	Entry	Quality	Formula	Weight
51953-17-4	nbs75k.1	1060	46	C4H4N2O	96
5410-22-0	nbs75k.1	2607	43	C7H12O	112
51953-17-4	WILEY138.1	548	43	C4H4N2O	96

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WF006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3,6-dimethyl-	17312-53-7	nbs75k.1	15348	93	C12H26	170
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	93	C12H26	170
3,6-Dimethyldecane	17312-53-7	WILEY138.1	21664	93	C12H26	170

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Nonane, 5-(1-methylpropyl)-

Nonane, 5-(1-methylpropyl)-

Hexane, 3,3-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
62185-54-0	nbs75k.1	19016	64	C13H28	184
62185-54-0	WILEY138.1	27795	64	C13H28	184
563-16-6	nbs75k.1	64223	59	C8H18	114

C00 312

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	91	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	91	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	91	C11H20	152

C00 313

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
4292-92-6	nbs75k.1	11044	90	C11H22	154
29949-27-7	nbs75k.1	11054	90	C11H22	154
4292-92-6	nbs75k.1	67185	90	C11H22	154

Cyclohexane, pentyl-

n-Amylcyclohexane

Cyclohexane, pentyl-

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.1	66211	72	C10H22	142
Heptane, 4-(1-methylethyl)-	52896-87-4	nbs75k.1	8084	72	C10H22	142
Heptane, 4-(1-methylethyl)-	52896-87-4	WILEY138.1	10258	72	C10H22	142

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	91	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	91	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	91	C11H20	152

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	90	C12H26	170
Undecane, 2-methyl-	7045-71-8	WILEY138.1	21649	90	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.1	68257	70	C12H26	170

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	83	C12H26	170
Undecane, 3-methyl-	1002-43-3	WILEY138.1	21651	83	C12H26	170
Decane, 3,8-dimethyl-	17312-55-9	nbs75k.1	68255	78	C12H26	170

C00 318

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
6-Dodecene, (E)-	7206-17-9	nbs75k.1	14720	96	C12H24	168
6-Dodecene, (E)-	7206-17-9	WILEY138.1	20670	96	C12H24	168
3-Dodecene, (Z)-	7239-23-8	nbs75k.1	68121	94	C12H24	168

C00 319

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	nbs75k.1	68251	94	C12H26	170
Dodecane	112-40-3	WILEY138.1	126000	94	C12H26	170

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Undecane, 2,6-dimethyl-

17301-23-4

nbs75k.1

19058

96

C13H28

184

Undecane, 2,6-dimethyl-

17301-23-4

nbs75k.1

69032

90

C13H28

184

Undecane, 2,6-dimethyl-

17301-23-4

WILEY138.1

127264

90

C13H28

184

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
------------	---------	-------	---------	---------	--------

Cyclododecane	294-62-2	nbs75k.1	68127	90	C12H24	168
Cyclododecane	294-62-2	WILEY138.1	125807	90	C12H24	168
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	86	C13H26	182

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Dodecane, 4-methyl-

Dodecane, 4-methyl-

DECAHYDRO-2-ETHYL-NAPHTHALENE

CAS Number

Library

Entry

Quality

Formula

Weight

6117-97-1

nbs75k.1

19025

27

C13H28

184

6117-97-1

WILEY138.1

27734

27

C13H28

184

0-00-0

WILEY138.1

19756

27

C12H22

166

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Hexatriacontane

Hexatriacontane

Dotriacontane

CAS Number	Library	Entry	Quality	Formula	Weight
630-06-8	nbs75k.1	74636	64	C36H74	507
630-06-8	WILEY138.1	136998	64	C36H74	507
544-85-4	nbs75k.1	74491	59	C32H66	451

Date: 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Octane, 2,3,7-trimethyl-

Octane, 2,3,7-trimethyl-

Tridecane, 7-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
62016-34-6	nbs75k.1	11603	83	C11H24	156
62016-34-6	WILEY138.1	15638	83	C11H24	156
26730-14-3	WILEY138.1	34139	80	C14H30	198

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C13 Alkene/Cycloalkane (mw 182)

7-Tetradecene, (E)-

7-Tetradecene, (Z)-

5-Tetradecene, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
41446-63-3	nbs75k.1	21980	86	C14H28	196
41446-60-0	nbs75k.1	21977	86	C14H28	196
41446-66-6	nbs75k.1	21965	86	C14H28	196

C00 326

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: WF006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	18989	96	C13H28	184
Tridecane	629-50-5	nbs75k.1	69017	96	C13H28	184
Tridecane	629-50-5	WILEY138.1	127252	96	C13H28	184

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	96	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69662	94	C14H30	198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : VP006-099 BP @ 5.0 hr
 100 ml of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : PNNL std.m
 File : 68122804.d
 Injection Date : 28-DEC-1998 15:28 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-099
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242				0.0050	0.92	U
Chloromethane	19	50.49	9.128				0.0021	0.91	U
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475				0.0100	6.99	U
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269				0.0027	0.92	U
Ethanol	19	46.07	12.880	12.833	531660	151.61	0.7581	368.58	E
Acetonitrile	19	41.05	13.362	13.375	128146	20.90	0.1045	57.01	
Acetone	19	58.08	13.855	13.848	491763	227.01	1.1350	437.75	
Trichlorofluoromethane	19	137.37	14.269	14.272	37594	5.28	0.0264	4.31	J
Pentane	19	72.00	15.067	15.071	1282159	132.06	0.6603	205.43	
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885	15.889	13725	3.26	0.0163	4.30	J
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418				0.0076	0.91	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.92	U
2-Butanone	19	72.11	18.725	18.729	70364	39.95	0.1997	62.05	
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106				0.0049	0.92	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846	22.824	90494	4.60	0.0230	6.60	J
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719	24.760	10063	1.86	0.0093	1.58	J
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348	27.576	3820	1.32	0.0066	1.33	J
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476	28.475	348340	28.96	0.1448	35.21	
1,2-Dibromoethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394	33.405	23901	1.07	0.0054	1.13	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.781	12627	1.59	0.0079	1.67	J
Styrene	41	104.15	34.727				0.0043	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024	35.037	4540	0.53	0.0026	0.56	J
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844	39.855	10680	0.59	0.0030	0.55	J
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.893	400675	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.338	1415581	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.466	1258369	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.213	768200	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 330

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 68122804.d

HNF-4073
Rev. 0

Sample Info : VP006-099 BP @ 5.0 hr

100 ml of ISTD

C00 331

02/08/99 09:50

68122804.d

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : VP006-099 BP @ 5.0 hr

100 ml of ISTD

C00 332

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

C00 333

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

8 Ethanol

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

9 Acetonitrile

Date: 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

C00 336

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

12 Pentane

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Methylene Chloride

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

17 2-Butanone

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

HNF-4073

Page 9

Rev. 0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

23 Benzene

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

27 Trichloroethene

Date: 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

29 trans-1,3-Dichloropropene

C00 343

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

31 Toluene

C00 344

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

36 Ethylbenzene

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

37 p/m-Xylene

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

40 o-Xylene

Date : 28-DEC-1998 15:28

Client ID: BP @ 5.0 hr

Sample Info: VP006-099 BP @ 5.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

44 1,2,4-Trimethylbenzene

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1308 VP006-114 BP @ 6.0 hr
 100. ml of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : sas_std.m
 File : 68122805.d
 Injection Date : 29-DEC-1998 08:58 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-114
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.799	191999	12.64	0.0632	33.65	
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242	8.331	23880	1.93	0.0097	1.79	J
Chloromethane	23	50.49	9.129	9.197	88685	9.35	0.0468	20.75	
Acetaldehyde	23	44.05	9.818	9.955	226202	113.99	0.5699	289.82	
Butane	23	58.12	11.000	11.048	500903	30.52	0.1526	58.82	
Chloroethane	23	64.51	12.280	12.319	5797	1.17	0.0058	2.03	J
Ethanol	23	46.07	12.733	12.732	5185049	624.52	3.1226	1518.27	
Acetonitrile	23	41.05	13.246	13.304	22955	2.00	0.0100	5.46	J
Acetone	23	58.08	13.827	13.845	1081775	184.89	0.9245	356.54	
Trichlorofluoromethane	23	137.37	14.281	14.289	34242	4.25	0.0213	3.47	J
Isopropyl Alcohol	23	60.10	14.399	14.447	275132	18.67	0.0933	34.79	
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070	15.078	203351	14.40	0.0720	22.40	
Methylene Chloride	23	84.93	15.898	15.896	38396	5.74	0.0287	7.57	J
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.408	5988	1.03	0.0052	0.62	J
Propanenitrile	23	55.08	17.152	17.206	21432	2.79	0.0139	5.67	J
Propanol	23	60.10	17.181	17.226	141249	10.19	0.0509	18.99	J
2-Methylpentane	23	86.18	18.385	18.211	104103	6.58	0.0329	8.55	J
Butanal	23	72.11	18.523	18.536	10257	9.92	0.0496	15.41	J
2-Butanone	23	72.11	18.711	18.753	58818	3.63	0.0181	5.64	J
1-Hexene	23	84.16	19.372	19.374	214075	29.84	0.1492	39.71	
Hexane	23	86.18	19.944	19.945	1352808	132.76	0.6638	172.54	
Chloroform	23	119.38	20.122	20.113	17329	1.94	0.0097	1.82	J
Tetrahydrofuran	23	72.11	20.852	20.882	3402	0.73	0.0037	1.14	J
Butanenitrile	31	69.11	21.927	21.966	78671	5.85	0.0292	9.48	
1-Butanol	31	74.12	22.381	22.438	57280	9.23	0.0462	13.95	J
Benzene	31	78.11	22.855	22.862	43968	2.00	0.0100	2.87	J
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438	23.483	44286	2.72	0.0136	3.53	J
3-Methylhexane	31	100.20	23.991	23.996	35027	3.95	0.0197	4.41	J
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215	25.219	321357	59.50	0.2975	66.51	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.403	14349	1.13	0.0057	1.27	J
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489	28.493	131152	11.83	0.0591	14.37	
2-Hexanone	43	100.16	28.825	28.858	81365	7.45	0.0372	8.33	J
Octane	43	114.23	30.432	30.447	122308	25.78	0.1289	25.28	
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401	33.415	13267	0.73	0.0037	0.77	J
p/m-Xylene	43	106.17	33.826	33.810	9906	1.62	0.0081	1.70	J
3-Heptanone	43	114.19	33.835	33.839	3351347	394.97	1.9748	387.39	
2-Heptanone	54	114.19	33.964	33.978	780244	63.19	0.3159	61.98	
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033	35.053	3212	0.48	0.0024	0.51	J
Nonane	54	128.26	35.379	35.408	80027	9.03	0.0451	7.88	J
2-Octanone	54	128.21	38.774				0.0047	0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009	40.039	322257	46.67	0.2333	36.76	
Bromochloromethane (IS)	23	129.40	19.915	19.906	456698	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.355	1385439	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.478	1176750	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.227	881998	113.00	0.5650	72.74	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	10.713	3145989	43.77	0.2189	87.54	NJ
1-Fluoro-1,1-dichloro-ethane	23	116	0-00-0	14.555	1303518	18.14	0.0907	17.51	NJ
Cyclopentane, methyl-	23	84	96-37-7	21.532	765467	10.65	0.0533	14.20	NJ
1-Heptene	31	98	592-76-7	24.607	516104	13.98	0.0699	15.97	NJ
(Z)-3-Heptene	31	98	7642-10-6	25.061	2978714	80.66	0.4033	92.18	NJ
2-Heptene	31	98	592-77-8	25.417	3713993	100.57	0.5029	114.94	NJ
3,4-Heptadiene	31	96	2454-31-1	27.605	722450	19.56	0.0978	22.82	NJ
Pentane, 3-ethyl-	43	100	617-78-7	28.118	835618	24.85	0.1242	27.83	NJ
2-Heptyne	43	96	1119-65-9	28.701	857673	25.50	0.1275	29.75	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.145	2033184	60.46	0.3023	59.40	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.776	6722985	199.91	0.9996	199.91	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.269	1202622	35.76	0.1788	35.76	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.841	1092894	32.50	0.1625	32.50	NJ
4-Heptanone	43	114	123-19-3	33.218	1900007	56.50	0.2825	55.51	NJ
3-Heptanol	54	116	589-82-2	34.491	1698388	43.49	0.2174	41.99	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.731	692702	17.74	0.0887	15.52	NJ
Unknown	54	126		36.820	1695843	43.42	0.2171	38.60	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.938	1936304	49.58	0.2479	43.38	NJ
3-Octen-2-one, (E)-	54	126	18402-82-9	37.205	1427022	36.54	0.1827	32.48	NJ
Unknown	54	128		37.373	980038	25.09	0.1255	21.96	NJ
Unknown	54	124		39.476	1078998	27.63	0.1381	24.95	NJ

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		40.147	605039	15.49	0.0775	12.39	J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.690	2918548	74.73	0.3736	64.38	NJ
Undecane	54	156	1120-21-4	44.332	3806429	97.46	0.4873	69.97	NJ
Dodecane	54	170	112-40-3	48.341	10162787	260.22	1.3011	171.44	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.965	1404662	35.97	0.1798	21.89	NJ
Unknown C12 Alkane (mw 170)	54	170		51.218	1183002	30.29	0.1515	19.96	J
Tridecane	54	184	629-50-5	52.069	25481547	652.45	3.2623	397.14	NJ
Tetradecane	54	198	629-59-4	55.572	6883879	176.26	0.8813	99.70	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	7618671
Difluorobenzene (IS)	31	3914493
Chlorobenzene-d5 (IS)	43	3800186
1-Bromo-4-Fluorobenzene (IS)	54	4413224

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HP MS 68122805.d

[illegible]

68122805.d

Page 4

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

C00 354

Data File: /chem/hpdos6.i/SAS.b/68122805.d
 Date : 29-DEC-1998 08:58
 Client ID: BP @ 6.0 hr
 Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 2

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

1 Propene

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

3 Dichlorodifluoromethane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Chloromethane

Data File: /chem/hpdos6.i/SAS.b/68122805.d
 Date : 29-DEC-1998 08:58
 Client ID: BP @ 6.0 hr
 Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

5 Acetaldehyde

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 6

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

6 Butane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

7 Chloroethane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

8 Ethanol

C00 361

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

9 Acetonitrile

Data File: /chem/hpdos6.i/SAS.b/68122805.d

Page 10

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Acetone

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Data File: /chem/hpdos6.i/SAS.b/68122805.d
 Date : 29-DEC-1998 08:58
 Client ID: BP @ 6.0 hr
 Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 12

Instrument: hpdos6.i

HNF-4073
 Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

12 Isopropyl Alcohol

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

15 Methylene Chloride

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 15

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

16 112trichloro122trifluoroethane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

17 Propanenitrile

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanol

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

19 2-Methylpentane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

20 Butanal

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 20

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

21 2-Butanone

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

22 1-Hexene

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Hexane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

25 Chloroform

C00 376

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 24

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 25

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

27 Butanenitrile

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

28 1-Butanol

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

29 Benzene

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

33 3-Methylhexane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

35 Heptane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 Toluene

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

40 2-Hexanone

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

41 Octane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

45 Ethylbenzene

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

46 p/m-Xylene

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

47 3-Heptanone

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 2-Heptanone

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

52 o-Xylene

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

53 Nonane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

57 Decane

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	87	C4H8	56
1-Butene	106-98-9	nbs75k.1	62307	87	C4H8	56

C00 393

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Fluoro-1,1-dichloro-ethane	0-00-0	WILEY138.1	3310	9	C2H3Cl2F	116
Ethanol, 2-amino-	141-43-5	WILEY138.1	116178	4	C2H7NO	61
Ethanol, 2-amino-	141-43-5	WILEY138.1	116177	4	C2H7NO	61

C00 394

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 44

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, methyl-	96-37-7	WILEY138.1	116926	90	C6H12	84
Cyclopentane, methyl-	96-37-7	WILEY138.1	116927	86	C6H12	84
Cyclohexane	110-82-7	rhs75k.1	62779	78	C6H12	84

C00 395

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	97	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117780	68	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117783	64	C7H14	98

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98
3-Heptene	592-78-9	WILEY138.1	901	94	C7H14	98

C00 397

Data File: /chem/hpdos6.i/SAS.b/68122805.d
 Date : 29-DEC-1998 08:58
 Client ID: BP @ 6.0 hr
 Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 48

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	97	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	97	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98

C00 398

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	89	C7H12	96
1'-Methyl-(2'-propenyl)cyclopropane	0-00-0	nbs75k.1	1100	59	C7H12	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	58	C6H8O	96

C00 399

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 3-ethyl-	617-78-7	nbs75k.1	1595	78	C7H16	100
Pentane, 2,3,4-trimethyl-	565-75-3	nbs75k.1	64229	78	C8H18	114
Heptane, 4-methyl-	589-53-7	nbs75k.1	3096	78	C8H18	114

Data File: /chem/hpdos6.1/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 51

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	96	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	91	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	91	C7H12	96

C00 401

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	83	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	83	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	72	C8H18	114

C00 402

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 55

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64032	72	C8H16	112
3-Octene, (Z)-	14850-22-7	nbs75k.1	2705	76	C8H16	112
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	nbs75k.1	2629	72	C7H12O	112

C00 403

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	90	C8H16	112
3-HEXENE, 2,4-DIMETHYL-	0-00-0	WILEY138.1	2680	87	C8H16	112
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	86	C8H16	112

C00 404

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	94	C8H16	112
61847-90-1	nbs75k.1	2732	83	C8H16	112
0-00-0	WILEY138.1	2686	83	C8H16	112

C00 405

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

4-Heptanone

123-19-3

nbs75k.1

64150

91

C7H14O

114

4-Heptanone

123-19-3

WILEY138.1

119313

91

C7H14O

114

4-Heptanone

123-19-3

nbs75k.1

64151

90

C7H14O

114

C00 406

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	WILEY138.1	119622	90	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64383	86	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64381	83	C7H16O	116

COO 407

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane (isomer)	nbs75k.1	4896	64		128
1,3,2-Dioxaborolane, 2,4-diethyl-	WILEY138.1	5771	64	C6H13B02	128
2,2'-Bioxepane	WILEY138.1	33981	64	C12H22O2	198

C00 408

Data File: /chem/hpdos6.i/SAS.b/68122805.d

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
Unknown	nbs75k.1	2727	53		126
Cyclopentane, 1-ethyl-1-methyl-	16747-50-5 WILEY138.1	2705	53	C8H16	112
2,4-Azetidinedione, 3,3-diethyl-	42282-85-9 WILEY138.1	122529	42	C7H11NO2	141

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane (isomer)		WILEY138.1	5771	80		128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	72	C6H13BO2	128
1,1'-Bicyclohexyl-1,1'-diol	2888-11-1	nbs75k.1	22423	56	C12H22O2	198

C00 410

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one, (E)-	18402-82-9	nbs75k.1	4533	33	C8H14O	126
3-Hepten-2-one, 4-methyl-	22319-25-1	nbs75k.1	4573	49	C8H14O	126
3-Hepten-2-one, 4-methyl-	22319-25-1	WILEY138.1	5304	49	C8H14O	126

COO 411

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown		nbs75k.1	62767	53		128
2-Pentene, 2-methyl-	625-27-4	nbs75k.1	595	53	C6H12	84
1-Butene, 2,3-dimethyl-	563-78-0	nbs75k.1	62761	53	C6H12	84

C00 412

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 68

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown		WILEY138.1	699	78		124
Hexanenitrile	628-73-9	nbs75k.1	63154	42	C6H11N	97
Hexanenitrile	628-73-9	WILEY138.1	117638	42	C6H11N	97

C00 413

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 69

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	nbs75k.1	2629	50	C7H12O	112
1-Heptene	592-76-7	nbs75k.1	63242	50	C7H14	98
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	WILEY138.1	2558	50	C7H12O	112

COO 414

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 WP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65294	83	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121201	83	C8H18O	130

C00 415

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	WILEY138.1	124548	90	C11H24	156
Decane, 2,3,6-trimethyl-	62238-12-4	nbs75k.1	19047	90	C13H28	184
Tetradecane	629-59-4	nbs75k.1	69661	90	C14H30	198

C00 416

Data File: /chem/hpdos6.i/SAS.b/68122805.d
 Date : 29-DEC-1998 08:58
 Client ID: BP @ 6.0 hr
 Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 72

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	nbs75k.1	68249	91	C12H26	170
Tetradecane	629-59-4	nbs75k.1	69661	90	C14H30	198

COO 417

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Undecane, 2,6-dimethyl-
Dodecane, 6-methyl-
Dodecane, 6-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
17301-23-4	nbs75k.1	19058	94	C13H28	184
6044-71-9	nbs75k.1	19006	90	C13H28	184
6044-71-9	WILEY138.1	27736	90	C13H28	184

C00 418

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Octane, 2,3,7-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	nbs75k.1	22538	87	C14H30	198
26730-14-3	WILEY138.1	128289	87	C14H30	198
62016-34-6	nbs75k.1	11603	78	C11H24	156

C00 419

Date : 29-DEC-1998 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	18989	93	C13H28	184
Tridecane	629-50-5	nbs75k.1	69020	91	C13H28	184
Hexadecane	544-76-3	nbs75k.1	70787	91	C16H34	226

C00 420

Data File: /chem/hpdos6.i/SAS.b/68122805.d
Date : 29-DEC-1998 08:58
Client ID: BP @ 6.0 hr
Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Page 77

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69661	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69659	96	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69657	95	C14H30	198

C00 421

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1308 VP006-114 BP @ 6.0 hr
 100 ml. of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : PNNL std.m
 File : 68122805.d
 Injection Date : 29-DEC-98 08:58 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-114
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
Dichlorodifluoromethane	19	120.91	8.242	8.331	23879	2.03	0.0102	1.88	J
Chloromethane	19	50.49	9.128				0.0021	0.91	U
12dichloro1122-tetrafluoroeth	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475	10.299	6192486	822.80	4.1140	2876.22	E
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269	12.319	5797	1.73	0.0086	3.00	J
Ethanol	19	46.07	12.880	12.732	5075171	1269.73	6.3486	3086.82	E
Acetonitrile	19	41.05	13.362	13.304	22843	3.27	0.0163	8.92	J
Acetone	19	58.08	13.855	13.845	1081775	438.11	2.1905	844.84	
Trichlorofluoromethane	19	137.37	14.269	14.289	34242	4.22	0.0211	3.44	J
Pentane	19	72.00	15.067	15.078	213729	19.31	0.0966	30.04	
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885	15.896	39596	8.26	0.0413	10.89	
112trichloro122trifluoroethane	19	187.38	16.418	16.408	5988	1.58	0.0079	0.95	J
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.92	U
2-Butanone	19	72.11	18.725	18.743	15039	7.49	0.0375	11.64	J
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106	20.113	17326	2.12	0.0106	1.99	J
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846	22.862	43968	2.27	0.0114	3.26	J
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719	24.785	551416	103.41	0.5170	88.15	
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0100	2.02	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476	28.493	134384	11.95	0.0597	14.52	
1,2-Dibromoethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394	33.415	13267	0.64	0.0032	0.67	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.810	9904	1.33	0.0067	1.40	J
Styrene	41	104.15	34.727	34.737	3658	0.34	0.0017	0.37	J
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024	35.053	3211	0.43	0.0021	0.45	J
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.906	456698	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.355	1391869	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.478	1176750	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.237	671348	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/08/99 09:50

68122805.d

HNF-4073
Rev. 0

Page 2

C00 424

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1308 VP006-114 BP @ 6.0 hr 100 ml of ISTD

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1308 VP006-114 BP @ 6.0 hr 100 ml of ISTD

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

C00 427

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

1 Dichlorodifluoromethane

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

5 Methanol

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

7 Chloroethane

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

8 Ethanol

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

9 Acetonitrile

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

C00 433

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

C00 434

Data File: /chem/hpdos6.i/PNNL.b/68122805.d

Page 9

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

12 Pentane

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Methylene Chloride

C00 436

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

15 112trichloro122trifluoroethane

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

17 2-Butanone

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

20 Chloroform

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

23 Benzene

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

27 Trichloroethene

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

31 Toluene

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

36 Ethylbenzene

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 p/m-Xylene

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

38 Styrene

Date : 29-DEC-98 08:58

Client ID: BP @ 6.0 hr

Sample Info: TST 1308 VP006-114 BP @ 6.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 o-Xylene

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1310 VP006-134 Trip Blank
 100 ml of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : sas_std.m
 File : 68122806.d
 Injection Date : 29-DEC-1998 10:18 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-134
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: FIELD BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680				0.0018	0.94	U
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818	10.032	42683	20.78	0.1039	52.84	J
Butane	23	58.12	11.000				0.0024	0.92	U
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733				0.0043	2.12	U
Acetonitrile	23	41.05	13.246				0.0043	2.32	U
Acetone	23	58.08	13.827	13.842	1437181	237.28	1.1864	457.56	
Trichlorofluoromethane	23	137.37	14.281	14.295	9561	1.15	0.0057	0.94	J
Isopropyl Alcohol	23	60.10	14.399				0.0062	2.29	U
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070				0.0029	0.92	U
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152				0.0023	0.92	U
Propanol	23	60.10	17.181				0.0058	2.16	U
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523				0.0059	1.82	U
2-Butanone	23	72.11	18.711	18.244	* 110301	6.58	0.0329	10.22	J
1-Hexene	23	84.16	19.372				0.0033	0.87	U
Hexane	23	86.18	19.944				0.0034	0.88	U
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927				0.0027	0.86	U
1-Butanol	31	74.12	22.381				0.0270	8.16	U
Benzene	31	78.11	22.855				0.0030	0.87	U
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991				0.0039	0.86	U
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215				0.0039	0.87	U

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368				0.0037	0.83	U
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489				0.0036	0.89	U
2-Hexanone	43	100.16	28.825				0.0038	0.85	U
Octane	43	114.23	30.432				0.0046	0.89	U
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401				0.0043	0.91	U
p/m-Xylene	43	106.17	33.826				0.0033	0.69	U
3-Heptanone	43	114.19	33.835				0.0044	0.87	U
2-Heptanone	54	114.19	33.964				0.0043	0.84	U
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033				0.0042	0.88	U
Nonane	54	128.26	35.379				0.0046	0.81	U
2-Octanone	54	128.21	38.774				0.0047	0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009				0.0061	0.96	U
Bromochloromethane (IS)	23	129.40	19.915	19.909	472657	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.368	1388033	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.506	1138605	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.267	747972	113.00	0.5650	72.74	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3-Buten-2-one	23	70	78-94-4	18.264	307016	18.45	0.0922	29.52	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	1764144
Difluorobenzene (IS)	31	3126881
Chlorobenzene-d5 (IS)	43	3253054
1-Bromo-4-Fluorobenzene (IS)	54	3018676

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1310 VP006-134 Trip Blank 100 ml of ISTD

C00 449

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1310 VP006-134 Trip Blank 100 ml of ISTD

C00 450

02/08/99 09:50

68122806.d

Page 4

Date : 29-DEC-1998 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

C00 451

Date : 29-DEC-1998 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

5 Acetaldehyde

Date : 29-DEC-1998 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

10 Acetone

Date : 29-DEC-1998 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

Date : 29-DEC-1998 10:18

Client ID: Trip Blank

Instrument: hpdos6.i

Sample Info: TST 1310 VP006-134 Trip Blank

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

21 2-Butanone

Date : 29-DEC-1998 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Carbon dioxide
Carbon dioxide

CAS Number	Library	Entry	Quality	Formula	Weight
124-38-9	WILEY138.1	115914	5	CO2	44
124-38-9	WILEY138.1	115915	5	CO2	44
124-38-9	WILEY138.1	115912	5	CO2	44

Date : 29-DEC-1998 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Buten-2-one	78-94-4	nbs75k.1	62447	72	C4H6O	70
3-Buten-2-one	78-94-4	WILEY138.1	116306	72	C4H6O	70
3-Buten-2-one	78-94-4	WILEY138.1	116307	72	C4H6O	70

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1310 VP006-134 Trip Blank
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 68122806.d
Injection Date : 29-DEC-98 10:18 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-134
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: FIELDBLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Dichlorodifluoromethane	19	120.91	8.242				0.0050	0.92	U
Chloromethane	19	50.49	9.128				0.0021	0.91	U
12dichloro1122-tetrafluoroeth	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475				0.0100	6.99	U
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269				0.0027	0.92	U
Ethanol	19	46.07	12.880				0.0130	6.32	U
Acetonitrile	19	41.05	13.362				0.0040	2.21	U
Acetone	19	58.08	13.855	13.842	1492184	605.74	3.0287	1168.09	
Trichlorofluoromethane	19	137.37	14.269	14.295	9560	1.18	0.0059	0.96	J
Pentane	19	72.00	15.067				0.0073	2.29	U
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885				0.0035	0.92	U
112trichloro122trifluoroethane	19	187.38	16.418				0.0076	0.91	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.91	U
2-Butanone	19	72.11	18.725				0.0070	2.19	U
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106				0.0049	0.92	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846	22.875	10631	0.56	0.0028	0.80	J
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719	24.797	8977	1.71	0.0086	1.46	J
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0100	2.02	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476	28.538	5716	0.54	0.0027	0.66	J
1,2-Dibromoethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394				0.0043	0.92	U

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
p/m-Xylene	34	106.17	33.809				0.0087	1.84	U
Styrene	41	104.15	34.727				0.0043	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024				0.0043	0.92	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.909	455632	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.368	1369553	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.506	1102997	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.267	591445	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1310 VP006-134 Trip Blank 100 ml of ISTD

C00 460

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1310 VP006-134 Trip Blank 100 ml of ISTD

C00 461

Date : 29-DEC-98 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

C00 462

Date : 29-DEC-98 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

Date : 29-DEC-98 10:18

Client ID: Trip Blank

Sample Info: TST 1310 WP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Date : 29-DEC-98 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

23 Benzene

Date : 29-DEC-98 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

27 Trichloroethene

Date : 29-DEC-98 10:18

Client ID: Trip Blank

Sample Info: TST 1310 VP006-134 Trip Blank

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

31 Toluene

C00 467

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 3 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS C00-468 THRU PAGE C00- 923 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

HNF-4073
Rev. 0

TST BATCH FILE

69012001.b

HCE
2/23/99

**TST Analysis-Case Narrative
C-106 Sluicing Test
Samples Run on 1/20/99**

**HNF-4073
Rev. 0**

Three samples were run on 1/20/99: VP006-043-1316, VP006-026-1327, VP006-091-1330. Following the autotune (2376V), the PNNL daily calibration checks and method blank were run. The BFB check showed satisfactory performance. All compounds in the daily PNNL check standard showed satisfactory recovery (75-125%) except: methanol (70%) chloroethane (126%), ethanol (61%), acetonitrile (51%), trans-1,3-dichloropropene (73%), and 1,1,2-trichloroethane (67%). Overall average recovery was 99% for the PNNL mixture. All compounds in the daily SAS check standard showed satisfactory recovery (75-125%) except: propene (62%), propane (62%), dichlorodifluoromethane (72%), chloromethane (65%), butane (67%), chloroethane (66%), acetonitrile (60%), pentane (68%), methylene chloride (67%), 1,1,2-trichloro-1,2,2-trifluoroethane (66%), 2-methylpentane (67%), butanol 9200%, 1-hexene (69%), hexane (69%), chloroform (69%), benzene (72%), pyridine (47%), butanol (53%), and carbon tetrachloride (69%). Overall average recovery was 82% for the SAS mixture. The method blank was clean. The third sample in the batch VP006-019-1330 required a rerun from the archive tube as a result of a shutdown of the cryocooling system. The archive tube was rerun following a complete GC bakeout to remove the previous sample from the column.

Internal standard consistency was excellent for standards, blank and the first two samples. The third sample showed lower internal standard values because it was rerun from a split.

Sample VP006-026-1327 exhibited an unusual chromatogram with generally low results for all compounds, few TICs and no analytes detected at all in the higher MW region. This suggest that the tube was sampled backwards in the field resulting in irreversible absorption on the molecular sieve which is normally the last bed. Because the internal standards including BFB showed a normal pattern, this must have occurred in the field. The sample is thus unusable and will not be reported.

Sequence Name: C:\HPCHEM\1\SEQUENCE\69012001.S

Comment:

Operator: JCE

Data Path: C:\HPCHEM\1\DATA\69012001.b\

Pre-Seq Cmd:

Post-Seq Cmd:

HNF-4073
Rev. 0

Method Sections To Run On A Barcode Mismatch
(X) Full Method (X) Inject Anyway
() Reprocessing Only () Don't Inject

Line Type Vial DataFile Method Sample Name

1 Calibration	1	69012001	TVP10	TST 1369 SAS CCV LvL 3 20 cc
2 Calibration	2	69012002	TVP10	TST 1369 PNML CCV LvL 3 20 cc
3 Blank	7	69012003	TVP10	TST 1369 Method Blank
4 Blank	8	69012004	TVP10	TST 1316 VP006-043 BP @1.5 hr ✓
5 Blank	9	69012005	TVP10	TST 1327 VP006-026 BP @1.5 hr 0.5 hr
6 Blank	10	69012006	TVP10	TST 1330 VP006-091 BP @1.5 hr 4.5 hr
7 Blank	11	69012007	TVP10	TST 1347 VP006-069 BP @1.5 hr 3.0 hr
8 Blank	1	-----	BAKE	Shutdown

not
run

JCE

2/4/99

JCE

2/4/99

C00 470

Instrument: 5971 - System 6
Wed Jan 20 07:35:30 1999

C:\HPCHEM\1\5971\ATUNE.U

Scan: 10.00 - 650.00 Samples: 16 Thresh: 150 Step: 0.10
124 peaks Base: 69.05 Abundance: 850688

C00 471

Data File : C:\HPCHEM\1\DATA\69012001.B\69012001.D
 Acq On : 20 Jan 99 8:51 am
 Sample : TST 1369 SAS CCV LVL 3 20 cc
 Misc : 100 ml of ISTD

Vial: 1
 Operator: JCE
 Inst : 5971 - Sy
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\LOOP40.M
 Title : VOC mixture

HNF-4073
 Rev. 0

Peak Apex is scan: 3053

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.9	15733	PASS
75	95	30	66	47.2	43989	PASS
95	95	100	100	100.0	93165	PASS
96	95	5	9	6.8	6304	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	80.5	74964	PASS
175	174	4	9	7.4	5566	PASS
176	174	93	101	94.6	70935	PASS
177	176	5	9	6.6	4674	PASS

CUO 472

TST Daily Calibration
 PNNL Calibration Mix
 Run on 12/28/98
 Initial Calibration on 12/14/98

1/20/99 8:54
 1/14/99

HNF-4073

Rev. 0

Compound Name	Expected PPB	Amount Found	%Recovery	Flags		
				Low	High	CLP
Dichlorodifluoromethane	1000	1060	106%			
Chloromethane	1000	1132	113%			
1,2-dichloro-1,1,2,2-tetrafluoroethane	1000	1133	113%			
Vinyl Chloride	1000	1162	116%			
Methanol	3100	2158	70%	****		
1,3-Butadiene	1600	1388	87%			
Chloroethane	1000	1259	126%		****	
Ethanol	700	424	61%	****		
Acetonitrile	2400	1222	51%	****		
Acetone	3000	2410	80%			
Trichlorofluoromethane	1000	1092	109%			
Pentane	2500	2228	89%			
1,1-Dichloroethene	1000	1246	125%			
Methylene Chloride	1000	1181	118%			
1,1,2-trichloro-1,2,2-trifluoroethane	1000	1217	122%			
1,1-Dichloroethane	1000	1117	112%			
2-Butanone	2400	2063	86%			
cis-1,2-Dichloroethene	1000	1242	124%			
Chloroform	1000	1161	116%			
1,2-Dichloroethane	1000	1049	105%			
1,1,1-Trichloroethane	1000	958	96%			
Benzene	1000	1110	111%			
Carbon Tetrachloride	1000	820	82%			
1,2-Dichloropropane	1000	1033	103%			
Trichloroethene	1000	1014	101%			
cis-1,3-Dichloropropene	900	788	88%			
trans-1,3-Dichloropropene	900	656	73%	****		
1,1,2-Trichloroethane	1000	670	67%	****		
Toluene	1000	1073	107%			
1,2-Dibromoethane	1000	925	93%			
Tetrachloroethylene	1000	1097	110%			
Chlorobenzene	1000	1060	106%			
Ethylbenzene	1000	1052	105%			
p/m-Xylene	2000	2203	110%			
Styrene	1000	990	99%			
1,1,2,2-Tetrachloroethane	1000	927	93%			
o-Xylene	1000	1060	106%			
1,3,5-Trimethylbenzene	1000	1039	104%			
1,2,4-Trimethylbenzene	1000	1001	100%			
1,3-Dichlorobenzene	1000	971	97%			
1,4-Dichlorobenzene	1000	1029	103%			
1,2-Dichlorobenzene	1000	978	98%			
1,2,4-Trichlorobenzene	1000	805	81%			
Hexachloro-1,3-butadiene	1000	917	92%			

Average recovery

99%

C00 473

SAS Calibration Mix
Run on 12/28/98 1/20/99
Initial Calibration on 1/19/99

1/20/99
JLE
1/4/99

HNF-4073
Rev. 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Propene	1020	628	62%	****		
Propane	990	611	62%	****		
Dichlorodifluoromethane	1048	758	72%	****		
Chloromethane	1010	652	65%	****		
Acetaldehyde	1060	1057	100%			
Butane	1006	678	67%	****		
Chloroethane	960	635	66%	****		
Ethanol	920	845	92%			
Acetonitrile	1010	601	60%	****		
Acetone	1010	867	86%			
Trichlorofluoromethane	1035	819	79%			
Isopropyl Alcohol	1000	960	96%			
Furan	990	837	85%			
Pentane	998	675	68%	****		
Methylene Chloride	978	653	67%	****		
1,1,2-trichloro-2,2,2-trifluoroethane	1014	667	66%	****		
Propanenitrile	1000	760	76%			
Propanol	940	818	87%			
2-Methylpentane	959	639	67%	****		
Butanal	790	1577	200%		****	
2-Butanone	950	895	94%			
1-Hexene	949	656	69%	****		
Hexane	963	668	69%	****		
Chloroform	1129	783	69%	****		
Tetrahydrofuran	1000	921	92%			
Butanenitrile	940	715	76%			
1-Butanol	890	471	53%	****		
Benzene	950	685	72%	****		
Carbon Tetrachloride	979	671	69%	****		
2-Pentanone	960	977	102%			
3-Methylhexane	942	742	79%			
1,4-Dioxane	1000	976	98%			
Heptane	951	732	77%			
4-Methyl-2-pentanone	910	936	103%			
Pyridine	852	936	110%			
1,1,2-Trichloroethane	964	739	77%			
Toluene	963	726	75%			
2-Hexanone	930	867	93%			
Octane	973	784	81%			
Tetrachloroethylene	930	748	80%			
Chlorobenzene	900	687	76%			
Ethylbenzene	990	777	79%			
p/m-Xylene	1983	1764	89%			
3-Heptanone	950	1109	117%			
2-Heptanone	920	806	88%			
Cyclohexanone	930	1016	109%			

COO 474

SAS Calibration Mix
Run on 12/28/98
Initial Calibration on 1/19/99

HNF-4073
new

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Styrene	1007	753	75%	*X		
1,1,2,2-Tetrachloroethane	1044	906	87%			
o-Xylene	960	872	91%			
Nonane	888	759	85%			
2-Octanone	910	698	77%			
1,2,4-Trimethylbenzene	1051	809	77%			
Decane	1053	901	86%			
Average recovery			83%			

OK
2/24/99

C00 475

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

HNF-4073
Rev. 0

Instrument ID: hpdos6.i
Lab File ID: 69012001.d
Lab Smp Id: SAS CCV
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: SAS CCV
Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	521049	260524	1042098	295358	-43.31
31 Difluorobenzene (IS)	1891825	945912	3783650	1004111	-46.92
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	859032	-46.70
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	583401	-46.60

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.90	19.40	20.40	19.93	0.18
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.38	0.17
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.50	0.12
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.25	0.15

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 476

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

HNF-4073
Rev. 0

Instrument ID: hpdos6.i
Lab File ID: 69012002.d
Lab Smp Id: TST System 6
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/20/99
Calibration Time: 1037

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (	343409	171704	686818	343409	0.00
25 Difluorobenzene (IS)	1130858	565429	2261716	1130858	0.00
34 Chlorobenzene-d5 (IS	949844	474922	1899688	949844	0.00
41 1-Bromo-4-Fluorobenz	520818	260409	1041636	520818	0.00

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (	19.94	19.44	20.44	19.94	0.00
25 Difluorobenzene (IS)	23.38	22.88	23.88	23.38	0.00
34 Chlorobenzene-d5 (IS	32.50	32.00	33.00	32.50	0.00
41 1-Bromo-4-Fluorobenz	36.25	35.75	36.75	36.25	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 477

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Data File: /chem/hpdos6.i/69012001_SAS.b/69012003.d

Report Date: 04-Feb-1999 07:40

Page 1

Pacific Northwest National Laboratory

HNF-4073

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Rev. 0

Instrument ID: hpdos6.i
Lab File ID: 69012003.d
Lab Smp ID: Method Blank
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: Method Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	521049	260524	1042098	342366	-34.29
31 Difluorobenzene (IS)	1891825	945912	3783650	1123255	-40.63
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	850202	-47.25
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	592690	-45.75

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	19.90	19.40	20.40	19.96	0.31
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.39	0.23
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.52	0.19
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.27	0.20

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 478

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Data File: /chem/hpdos6.i/SAS.b/69012004.d
Report Date: 08-Feb-1999 09:50

Page 1

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012004.d
Lab Smp Id: VP006-043
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP @1.5 hr
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	521049	260524	1042098	303458	-41.76
31 Difluorobenzene (IS)	1891825	945912	3783650	1097184	-42.00
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	929626	-42.32
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	750897	-31.27

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	19.90	19.40	20.40	19.95	0.27
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.40	0.26
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.51	0.18
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.26	0.18

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 479

□(s10H

Data File: /chem/hpdos6.i/SAS.b/69012005.d
Report Date: 04-Feb-1999 09:53

Page 1

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012005.d
Lab Smp Id: VP006-026
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP @0.5 hr
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	521049	260524	1042098	303753	-41.70
31 Difluorobenzene (IS)	1891825	945912	3783650	1022706	-45.94
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	847920	-47.39
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	556300	-49.08

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	19.90	19.40	20.40	19.97	0.34
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.40	0.27
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.53	0.23
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.28	0.23

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 480

□(s10H

Data File: /chem/hpdos6.i/SAS.b/69012006.d

Report Date: 04-Feb-1999 09:53

Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

HNF-4073
Rev. 0

Instrument ID: hpdos6.i
Lab File ID: 69012006.d
Lab Smp Id: VP006-091
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP @4.5 hr
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	521049	260524	1042098	219496	-57.87 <-
31 Difluorobenzene (IS)	1891825	945912	3783650	802272	-57.59 <-
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	681675	-57.70 <-
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	469035	-57.07 <-

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	19.90	19.40	20.40	19.99	0.45
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.42	0.36
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.54	0.27
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.30	0.28

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 481

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 SAS CCV LvL 3 20 cc
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas std.m
File : 690I2001.d
Injection Date : 20-JAN-1999 08:51 Operator : JCE
Matrix : AIR Lab. Sample ID: SAS CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.698	212073	21.59	1.1799	628.06	
Propane	23	44.10	7.848	7.875	68485	22.00	1.2024	610.74	
Dichlorodifluoromethane	23	120.91	8.242	8.259	597873	74.84	4.0897	757.66	
Chloromethane	23	50.49	9.129	9.145	164984	26.90	1.4700	652.18	
Acetaldehyde	23	44.05	9.818	9.922	49818	38.04	2.0786	1056.97	
Butane	23	58.12	11.000	11.004	341740	32.20	1.7595	678.13	
Chloroethane	23	64.51	12.280	12.293	107433	33.44	1.8273	634.51	
Ethanol	23	46.07	12.733	12.903	170699	31.79	1.7372	844.67	
Acetonitrile	23	41.05	13.246	13.415	149536	20.17	1.1021	601.37	
Acetone	23	58.08	13.827	13.887	155599	41.12	2.2471	866.63	
Trichlorofluoromethane	23	137.37	14.281	14.301	478938	91.97	5.0255	819.47	
Isopropyl Alcohol	23	60.10	14.399	14.498	449476	47.15	2.5767	960.36	
Furan	23	68.08	14.666	14.675	359743	46.58	2.5451	837.40	
Pentane	23	72.00	15.070	15.099	362604	39.71	2.1700	675.11	
Methylene Chloride	23	84.93	15.898	15.916	195995	45.32	2.4766	653.20	
112trichloro122trifluoroethane	23	187.38	16.422	16.448	382284	102.16	5.5823	667.33	
Propanenitrile	23	55.08	17.152	17.215	169986	34.18	1.8676	759.51	
Propanol	23	60.10	17.181	17.275	359935	40.14	2.1935	817.56	
2-Methylpentane	23	86.18	18.385	18.407	460542	45.01	2.4596	639.31	
Butanal	23	72.11	18.523	18.564	62103	92.91	5.0768	1577.03	
2-Butanone	23	72.11	18.711	18.752	552751	52.75	2.8823	895.33	
1-Hexene	23	84.16	19.372	19.401	209384	45.13	2.4662	656.41	
Hexane	23	86.18	19.944	19.973	309809	47.01	2.5690	667.74	
Chloroform	23	119.38	20.122	20.150	441165	76.38	4.1736	783.11	
Tetrahydrofuran	23	72.11	20.852	20.889	162975	54.26	2.9649	921.00	
Butanenitrile	31	69.11	21.927	21.971	393270	40.35	2.2047	714.59	
1-Butanol	31	74.12	22.381	22.542	128401	28.55	1.5600	471.46	J
Benzene	31	78.11	22.855	22.887	695433	43.70	2.3879	684.79	
Carbon Tetrachloride	31	153.82	23.131	23.163	282085	84.38	4.6111	673.49	
2-Pentanone	31	86.13	23.438	23.479	813091	68.78	3.7584	977.44	
3-Methylhexane	31	100.20	23.991	24.021	390586	60.75	3.3198	742.15	
1,4-Dioxane	31	88.11	24.681	24.720	231646	70.29	3.8410	976.49	
Heptane	31	100.20	25.215	25.232	234626	59.94	3.2756	732.27	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.413	701529	76.55	4.1832	935.55	
Pyridine	31	79.10	26.615	27.466	82228	25.94	1.4177	401.46	J
1,1,2-Trichloroethane	31	133.40	27.858	27.889	231781	80.54	4.4011	739.02	
Toluene	43	92.14	28.489	28.529	442731	54.68	2.9882	726.45	
2-Hexanone	43	100.16	28.825	28.884	565882	70.96	3.8776	867.21	
Octane	43	114.23	30.432	30.459	253287	73.13	3.9962	783.64	
Tetrachloroethylene	43	165.83	31.004	31.030	298277	101.33	5.5374	747.98	
Chlorobenzene	43	112.56	32.572	32.605	539055	63.14	3.4504	686.65	
Ethylbenzene	43	106.17	33.401	33.432	893209	67.41	3.6836	777.18	
p/m-Xylene	43	106.17	33.826	33.846	685195	153.03	8.3621	1764.26	
3-Heptanone	43	114.19	33.835	33.886	640640	103.43	5.6517	1108.67	
2-Heptanone	54	114.19	33.964	34.044	614118	75.19	4.1087	805.98	
Cyclohexanone	54	98.14	34.281	34.369	78047	81.45	4.4508	1015.88	
Styrene	54	104.15	34.735	34.774	472136	64.04	3.4994	752.64	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	35.011	473525	124.28	6.7912	906.30	
o-Xylene	54	106.17	35.033	35.060	331719	75.65	4.1340	872.20	
Nonane	54	128.26	35.379	35.415	466315	79.51	4.3447	758.78	
2-Octanone	54	128.21	38.774	38.850	523740	73.09	3.9938	697.77	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.884	679258	79.40	4.3388	808.63	
Decane	54	142.20	40.009	40.043	478195	104.69	5.7210	901.19	
Bromochloromethane (IS)	23	129.40	19.915	19.933	295358	106.00	5.7923	1002.69	
Difluorobenzene (IS)	31	114.00	23.349	23.380	1004111	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.497	859032	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.252	583401	113.00	6.1749	794.92	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 483

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012001.d

HNF-4073
Rev. 0

Sample Info : TST 1369 SAS CCV LvL 3 20 cc 100 ml of ISTD

02/04/99 07:47

69012001.d C00 484

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012001.d

HNF-4073
Rev. 0

Sample Info : TST 1369 SAS CCV LVL 3 20 cc 100 ml of ISTD

C00 485

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 PNNL CCV Lvl 3 20 cc
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL_std.m
File : 69012002.d
Injection Date : 20-JAN-1999 10:37 Operator : JCE
Matrix : AIR Lab. Sample ID: PNNL CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.249	925235	104.72	5.7226	1060.18	
Chloromethane	19	50.49	9.128	9.135	465880	46.69	2.5512	1131.85	
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727	9.805	1130452	158.19	8.6441	1132.85	
Vinyl Chloride	19	62.50	10.150	10.228	349180	59.35	3.2432	1162.36	
Methanol	19	32.04	10.475	10.553	319634	56.48	3.0864	2157.77	
1,3-Butadiene	19	54.00	10.721	10.799	301589	61.21	3.3449	1387.53	
Chloroethane	19	64.51	12.269	12.296	167435	66.35	3.6259	1259.04	
Ethanol	19	46.07	12.880	13.063	48009	15.97	0.8729	424.40	J
Acetonitrile	19	41.05	13.362	13.368	215469	40.99	2.2401	1222.37	
Acetone	19	58.08	13.855	13.900	212308	114.35	6.2485	2409.90	
Trichlorofluoromethane	19	137.37	14.269	14.294	747628	122.58	6.6984	1092.26	
Pentane	19	72.00	15.067	15.092	1090303	131.03	7.1599	2227.52	
1,1-Dichloroethene	19	96.94	15.586	15.683	314898	98.71	5.3942	1246.44	
Methylene Chloride	19	84.93	15.885	15.920	295373	81.95	4.4781	1181.07	
1,1,1-trichloro1,2,2,2-tetrafluoroethane	19	187.38	16.418	16.442	529630	186.24	10.1772	1216.61	
1,1-Dichloroethane	19	98.96	18.009	18.106	612411	90.29	4.9336	1116.75	
2-Butanone	19	72.11	18.725	18.776	183466	121.53	6.6412	2063.01	
cis-1,2-Dichloroethene	19	96.94	19.536	19.623	313772	98.36	5.3749	1241.98	
Chloroform	19	119.38	20.106	20.146	694194	113.19	6.1851	1160.55	
1,2-Dichloroethane	19	98.96	21.418	21.515	387933	84.85	4.6364	1049.48	
1,1,1-Trichloroethane	25	133.40	21.920	22.017	601418	104.43	5.7068	958.26	
Benzene	25	78.11	22.846	22.884	1113590	70.86	3.8723	1110.48	
Carbon Tetrachloride	25	153.82	23.123	23.160	488703	103.08	5.6327	820.26	
1,2-Dichloropropane	25	112.99	24.285	24.382	417302	95.31	5.2082	1032.52	
Trichloroethene	25	131.39	24.719	24.816	471690	108.87	5.9494	1014.28	
cis-1,3-Dichloropropene	25	110.97	26.324	26.431	355506	71.48	3.9059	788.43	
trans-1,3-Dichloropropene	25	110.97	27.348	27.455	137265	59.46	3.2490	655.83	
1,1,2-Trichloroethane	25	133.40	27.845	27.888	376768	72.97	3.9873	669.53	
Toluene	34	92.14	28.476	28.529	727136	80.76	4.4132	1072.89	
1,2-Dibromoethane	34	187.86	29.947	30.044	397070	141.97	7.7578	925.02	
Tetrachloroethylene	34	165.83	30.999	31.039	474996	148.57	8.1187	1096.66	
Chlorobenzene	34	112.56	32.566	32.605	857853	97.45	5.3249	1059.69	
Ethylbenzene	34	106.17	33.394	33.442	1523993	91.27	4.9873	1052.23	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.856	1138908	191.07	10.4411	2202.89	
Styrene	41	104.15	34.727	34.772	698853	84.25	4.6041	990.22	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	35.009	781204	127.09	6.9447	926.79	
o-Xylene	41	106.17	35.024	35.058	537263	91.97	5.0259	1060.37	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.612	1296748	102.04	5.5758	1039.17	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.882	1204205	98.31	5.3722	1001.23	
1,3-Dichlorobenzene	41	147.00	40.328	40.434	875460	116.57	6.3700	970.67	J
1,4-Dichlorobenzene	41	147.00	40.525	40.632	951017	123.62	6.7550	1029.33	
1,2-Dichlorobenzene	41	147.00	41.658	41.764	892482	117.48	6.4197	978.24	
1,2,4-Trichlorobenzene	41	181.45	47.866	47.983	531193	119.38	6.5237	805.35	
Hexachloro-1,3-butadiene	41	260.76	49.660	49.766	508293	195.26	10.6701	916.59	
Bromochloromethane (IS)	19	129.40	19.898	19.939	343409	121.00	6.6120	1144.58	
Difluorobenzene (IS)	25	114.00	23.340	23.377	1130858	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.496	942027	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.250	520818	162.00	8.8525	1139.63	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 487

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 PNNL CCV Lvl 3 20 cc 100 ml of ISTD

C00 488

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012002.d

HNF-4073
Rev. 0

Sample Info : TST 1369 PNNL CCV Lvl 3 20 cc 100 ml of ISTD

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 Method Blank
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas_std.m
File : 69012003.d
Injection Date : 20-JAN-99 11:59 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m^3	ppbv	Flags
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Propene	23	42.08	7.680				0.0018	0.94	U
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818				0.0190	9.66	U
Butane	23	58.12	11.000				0.0024	0.92	U
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733				0.0043	2.12	U
Acetonitrile	23	41.05	13.246				0.0043	2.32	U
Acetone	23	58.08	13.827				0.0024	0.93	U
Trichlorofluoromethane	23	137.37	14.281				0.0058	0.95	U
Isopropyl Alcohol	23	60.10	14.399				0.0062	2.29	U
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070				0.0029	0.92	U
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
1,1,2-trichloro-1,2,2-trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152				0.0023	0.92	U
Propanol	23	60.10	17.181				0.0058	2.16	U
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523				0.0059	1.82	U
2-Butanone	23	72.11	18.711				0.0070	2.17	U
1-Hexene	23	84.16	19.372				0.0033	0.87	U
Hexane	23	86.18	19.944				0.0034	0.88	U
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927				0.0027	0.86	U
1-Butanol	31	74.12	22.381				0.0270	8.16	U
Benzene	31	78.11	22.855				0.0030	0.87	U
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991				0.0039	0.86	U
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215				0.0039	0.87	U

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69012003.d

C00 490

Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on column	ng/L	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368					0.0037 0.83	U
Pyridine	31	79.10	26.615					0.1000 28.32	U
1,1,2-Trichloroethane	31	133.40	27.858					0.0052 0.88	U
Toluene	43	92.14	28.489					0.0036 0.89	U
2-Hexanone	43	100.16	28.825					0.0038 0.85	U
Octane	43	114.23	30.432					0.0046 0.89	U
Tetrachloroethylene	43	165.83	31.004					0.0063 0.85	U
Chlorobenzene	43	112.56	32.572					0.0042 0.83	U
Ethylbenzene	43	106.17	33.401					0.0043 0.91	U
p/m-Xylene	43	106.17	33.826					0.0033 0.69	U
3-Heptanone	43	114.19	33.835					0.0044 0.87	U
2-Heptanone	54	114.19	33.964					0.0043 0.84	U
Cyclohexanone	54	98.14	34.281					0.0094 2.13	U
Styrene	54	104.15	34.735					0.0043 0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973					0.0071 0.95	U
o-Xylene	54	106.17	35.033					0.0042 0.88	U
Nonane	54	128.26	35.379					0.0046 0.81	U
2-Octanone	54	128.21	38.774					0.0047 0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850					0.0052 0.96	U
Decane	54	142.20	40.009					0.0061 0.96	U
Bromochloromethane (IS)	23	129.40	19.915	19.960	342366	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.394	1123255	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.519	850202	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.269	592690	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 Method Blank

100 ml of ISTD

C00 492

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012003.d

HNF-4073
Rev. 0

Sample Info : TST 1369 Method Blank

100 ml of ISTD

C00 493

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 Method Blank
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL_std.m
File : 69012003.d
Injection Date : 20-JAN-99 11:59 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242			0.0050	0.92	U	
Chloromethane	19	50.49	9.128			0.0021	0.91	U	
1,2-dichloro1,1,2,2-tetrafluoroethane	19	170.92	9.727			0.0070	0.92	U	
Vinyl Chloride	19	62.50	10.150			0.0025	0.91	U	
Methanol	19	32.04	10.475			0.0100	6.99	U	
1,3-Butadiene	19	54.00	10.721			0.0035	1.47	U	
Chloroethane	19	64.51	12.269			0.0027	0.92	U	
Ethanol	19	46.07	12.880			0.0130	6.32	U	
Acetonitrile	19	41.05	13.362			0.0040	2.21	U	
Acetone	19	58.08	13.855			0.0071	2.76	U	
Trichlorofluoromethane	19	137.37	14.269			0.0056	0.91	U	
Pentane	19	72.00	15.067			0.0073	2.29	U	
1,1-Dichloroethene	19	96.94	15.586			0.0040	0.91	U	
Methylene Chloride	19	84.93	15.885			0.0035	0.92	U	
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418			0.0076	0.91	U	
1,1-Dichloroethane	19	98.96	18.009			0.0040	0.92	U	
2-Butanone	19	72.11	18.725			0.0070	2.19	U	
cis-1,2-Dichloroethene	19	96.94	19.536			0.0040	0.91	U	
Chloroform	19	119.38	20.106			0.0049	0.92	U	
1,2-Dichloroethane	19	98.96	21.418			0.0040	0.92	U	
1,1,1-Trichloroethane	25	133.40	21.920			0.0054	0.92	U	
Benzene	25	78.11	22.846			0.0032	0.92	U	
Carbon Tetrachloride	25	153.82	23.123			0.0063	0.91	U	
1,2-Dichloropropane	25	112.99	24.285			0.0046	0.91	U	
Trichloroethene	25	131.39	24.719			0.0054	0.92	U	
cis-1,3-Dichloropropene	25	110.97	26.324			0.0100	2.02	U	
trans-1,3-Dichloropropene	25	110.97	27.348			0.0100	2.02	U	
1,1,2-Trichloroethane	25	133.40	27.845			0.0037	0.63	U	
Toluene	34	92.14	28.476			0.0037	0.91	U	
1,2-Dibromoethane	34	187.86	29.947			0.0077	0.92	U	
Tetrachloroethylene	34	165.83	30.999			0.0077	1.04	U	
Chlorobenzene	34	112.56	32.566			0.0046	0.92	U	
Ethylbenzene	34	106.17	33.394			0.0043	0.92	U	

C00 494

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809				0.0087	1.84	U
Styrene	41	104.15	34.727				0.0043	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024				0.0043	0.92	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.960	317725	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.394	1098227	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.519	877987	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.269	428229	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 495

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1369 Method Blank

100 ml of ISTD

C00 496

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012003.d

HNF-4073
Rev. 0

Sample Info : TST 1369 Method Blank

100 ml of ISTD

C00 497

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1316 VP006-043 BP @1.5 hr
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas_std.m
File : 69012004.d
Injection Date : 20-JAN-1999 13:18 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-043
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.718	896014	88.79	0.4439	236.32	
Propane	23	44.10	7.848	7.875	289598	90.56	0.4528	230.00	
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818	9.884	127604	96.77	0.4839	246.05	
Butane	23	58.12	11.000	11.026	2669079	244.77	1.2238	471.68	
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733	12.828	457678	82.96	0.4148	201.69	
Acetonitrile	23	41.05	13.246	13.390	109207	14.34	0.0717	39.11	
Acetone	23	58.08	13.827	13.902	151357	38.93	0.1947	75.08	
Trichlorofluoromethane	23	137.37	14.281	14.316	110716	20.69	0.1035	16.87	
Isopropyl Alcohol	23	60.10	14.399	14.552	31734	3.24	0.0162	6.04	J
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070	15.104	697857	74.39	0.3719	115.71	
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
1,1,2-trichloro-1,2,2-trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152	17.241	91388	17.88	0.0894	36.36	
Propanol	23	60.10	17.181	17.291	152542	16.56	0.0828	30.86	
2-Methylpentane	23	86.18	18.385	18.423	107911	10.27	0.0513	13.34	
Butanal	23	72.11	18.523	18.581	18167	26.45	0.1323	41.08	
2-Butanone	23	72.11	18.711	18.788	77736	7.22	0.0361	11.21	J
1-Hexene	23	84.16	19.372	19.409	642034	134.69	0.6735	179.25	
Hexane	23	86.18	19.944	19.990	491229	72.55	0.3628	94.29	
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927	21.991	293363	27.54	0.1377	44.64	
1-Butanol	31	74.12	22.381	22.434	232916	47.39	0.2370	71.61	J
Benzene	31	78.11	22.855	22.898	59395	3.42	0.0171	4.90	J
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438	23.509	116055	8.98	0.0449	11.68	
3-Methylhexane	31	100.20	23.991	24.022	40232	5.73	0.0286	6.40	J
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215	25.255	1171766	273.97	1.3699	306.24	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.400	28706	2.87	0.0143	3.21	J
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489	28.539	167270	19.09	0.0955	23.21	
2-Hexanone	43	100.16	28.825	28.875	266166	30.84	0.1542	34.49	
Octane	43	114.23	30.432	30.473	173555	46.30	0.2315	45.40	
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401	33.442	13657	0.95	0.0048	1.00	J
p/m-Xylene	43	106.17	33.826				0.0033	0.69	U
3-Heptanone	43	114.19	33.835	33.876	7268942	1084.40	5.4220	1063.60	E
2-Heptanone	54	114.19	33.964	34.004	1723353	163.93	0.8197	160.79	
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033	35.050	2646	0.47	0.0023	0.49	J
Nonane	54	128.26	35.379	35.425	289609	38.36	0.1918	33.50	
2-Octanone	54	128.21	38.774	38.810	75178	8.15	0.0408	7.12	J
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009	40.054	884296	150.42	0.7521	118.47	
Bromochloromethane (IS)	23	129.40	19.915	19.951	303458	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.400	1097184	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.514	929626	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.263	750897	113.00	0.5650	72.74	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	10.710	6791241	220.59	1.1029	441.18	NJ
1-Butene	23	56	106-98-9	11.942	769399	24.99	0.1250	49.98	NJ
1-Butene, 2-methyl-	23	70	563-46-2	14.897	355933	11.56	0.0578	18.50	NJ
1-Heptene	31	98	592-76-7	24.653	1649662	67.19	0.3359	76.79	NJ
3-Heptene	31	98	592-78-9	25.107	10664180	434.33	2.1716	496.38	NJ
2-Heptene	31	98	592-77-8	25.463	12984615	528.84	2.6442	604.38	NJ
Pentanenitrile	31	83	110-59-8	27.454	611909	24.92	0.1246	33.63	NJ
3,4-Heptadiene	31	96	2454-31-1	27.642	2526226	102.89	0.5144	120.04	NJ
2-Heptyne	43	96	1119-65-9	28.737	2698688	99.10	0.4955	115.62	NJ
2-Hexanone	43	100	591-78-6	28.875	620179	22.77	0.1139	25.51	NJ
4-Octene, (E)-	43	112	14850-23-8	28.993	1284996	47.19	0.2359	47.19	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.181	6139908	225.46	1.1273	221.51	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.832	7117321	261.36	1.3068	261.36	NJ
2-Octene, (Z)-	43	112	7642-04-8	30.187	344889	12.66	0.0633	12.66	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.305	1661756	61.02	0.3051	61.02	NJ
2-Octene	43	112	111-67-1	30.611	663464	24.36	0.1218	24.36	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.868	1408529	51.72	0.2586	51.72	NJ
3-Hexanone, 5-methyl-	43	114	623-56-3	31.440	312845	11.49	0.0574	11.29	NJ
4-Heptanone	43	114	123-19-3	33.254	4296661	157.78	0.7889	155.01	NJ
n-Butyl ether	43	130	142-96-1	34.192	1325420	48.67	0.2434	41.93	NJ
3-Heptanol	54	116	589-82-2	34.527	2389877	62.73	0.3136	60.56	NJ

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Nonene	54	126	124-11-8	34.882	578785	15.19	0.0760	13.50	NJ
Unknown	54	126		36.846	6369376	167.17	0.8359	148.60	J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.965	3157936	82.88	0.4144	72.52	J
3-Octen-2-one, (E)-	54	126	18402-82-9	37.231	4253051	111.63	0.5581	99.22	NJ
Heptanenitrile	54	111	629-08-3	37.784	810287	21.27	0.1063	21.46	NJ
4-Octanone	54	128	589-63-9	38.129	792791	20.81	0.1040	18.21	NJ
2-Octanone	54	128	111-13-7	38.830	456906	11.99	0.0600	10.49	NJ
Unknown	54	124		39.491	3105650	81.51	0.4076	73.62	J
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		40.183	1314321	34.50	0.1725	27.60	J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.706	6255519	164.18	0.8209	141.45	NJ
Nonane, 2,6-dimethyl-	54	156	17302-28-2	41.170	1136895	29.84	0.1492	21.42	NJ
Decane, 3-methyl-	54	156	13151-34-3	41.940	472817	12.41	0.0620	8.91	NJ
Cyclohexane, butyl-	54	140	1678-93-9	42.059	842314	22.11	0.1105	17.69	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		42.306	507689	13.32	0.0666	10.66	J
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.629	611311	16.04	0.0802	13.02	NJ
Undecane	54	156	1120-21-4	44.341	9994641	262.32	1.3116	188.33	NJ
Unknown	54	168		44.914	1678464	44.05	0.2203	29.37	J
Unknown C12 Alkane (mw 170)	54	170		45.161	597092	15.67	0.0784	10.32	J
Unknown C12 Alkane (mw 170)	54	170		45.606	1059605	27.81	0.1391	18.32	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.041	1059467	27.81	0.1390	20.49	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.407	1299907	34.12	0.1706	24.81	NJ
Heptane, 3-ethyl-2-methyl-	54	142	14676-29-0	46.605	928657	24.37	0.1219	19.22	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.793	1951123	51.21	0.2560	37.73	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.971	1027946	26.98	0.1349	17.77	NJ
Undecane, 3-methyl-	54	170	1002-43-3	47.278	710802	18.66	0.0933	12.29	NJ
6-Dodecene, (E)-	54	168	7206-17-9	47.931	636181	16.70	0.0835	11.13	NJ
Unknown C12 Alkene/Cycloalkane (mw 168)	54	168		48.089	649840	17.06	0.0853	11.37	J
Dodecane	54	170	112-40-3	48.346	23550149	618.10	3.0905	407.22	NJ
Unknown C12 Alkene/Cycloalkane (mw 168)	54	168		48.624	476670	12.51	0.0626	8.34	J
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.970	6042073	158.58	0.7929	96.53	NJ
Cyclododecane	54	168	294-62-2	50.386	2319041	60.87	0.3043	40.58	NJ
Unknown C12 Alkane (mw 170)	54	170		50.644	792940	20.81	0.1041	13.71	J
Unknown C12 Alkane (mw 170)	54	170		50.783	920190	24.15	0.1208	15.91	J
Unknown C12 Alkane (mw 170)	54	170		51.209	4964221	130.29	0.6515	85.84	J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.685	1875676	49.23	0.2461	30.30	J
Tridecane	54	184	629-50-5	52.071	44202587	1160.15	5.8008	706.18	NJ
Unknown C15 Alkane (mw 212)	54	212		54.926	1848764	48.52	0.2426	25.63	J
Tetradecane	54	198	629-59-4	55.550	12521845	328.65	1.6433	185.90	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	3263406
Difluorobenzene (IS)	31	2602641
Chlorobenzene-d5 (IS)	43	3077242
1-Bromo-4-Fluorobenzene (IS)	54	4305375

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

C00 500

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1316 VP006-043 BP @1.5 hr 100 ml of ISTD

C00 501

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1316 VP006-043 BP @1.5 hr 100 ml of ISTD

C00 502

Data File: /chem/hpdos6.i/SAS.b/69012004.d

Page 1

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

C00 503

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

1 Propene

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Propane

C00 505

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

5 Acetaldehyde

Date: 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

6 Butane

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

8 Ethanol

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

9 Acetonitrile

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Acetone

C00 510

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

C00 512

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

17 Propanenitrile

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

18 Propanol

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

19 2-Methylpentane

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

20 Butanal

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

21 2-Butanone

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

22 1-Hexene

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpds6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Hexane

C00 519

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

27 Butanenitrile

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

28 1-Butanol

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

29 Benzene

Data File: /chem/hpdos6.1/SAS.b/69012004.d

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

33 3-Methylhexane

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

35 Heptane

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

36 4-Methyl-2-pentanone

C00 525

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 Toluene

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 2-Hexanone

C00 527

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

41 Octane

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

45 Ethylbenzene

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

47 3-Heptanone

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 2-Heptanone

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

52 o-Xylene

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

53 Nonane

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

55 2-Octanone

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

57 Decane

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
115-11-7	nbs75k.1	62306	87	C4H8	56
106-98-9	nbs75k.1	62309	83	C4H8	56
106-98-9	nbs75k.1	62307	83	C4H8	56

1-Propene, 2-methyl-

1-Butene

1-Butene

C00 536

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62307	90	C4H8	56
1-Butene	106-98-9	nbs75k.1	62308	90	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	90	C4H8	56

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
563-46-2	WILEY138.1	116339	91	C5H10	70
627-20-3	nbs75k.1	62456	91	C5H10	70
1630-94-0	WILEY138.1	116342	91	C5H10	70

1-Butene, 2-methyl-

2-Pentene, (Z)-

Cyclopropane, 1,1-dimethyl-

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	96	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	93	C7H14	98
1-Heptene	592-76-7	WILEY138.1	897	93	C7H14	98

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98
3-Heptene	592-78-9	WILEY138.1	901	94	C7H14	98
3-Heptene, (E)-	14696-14-7	nbs75k.1	1352	93	C7H14	98

COO 540

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	97	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	96	C7H14	98

C00 541

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match

Pentanenitrile
Pentanenitrile
Propanenitrile

CAS Number

Library

Entry

Quality

Formula

Weight

110-59-8

nbs75k.1

514

64

C5H9N

83

110-59-8

WILEY138.1

116798

56

C5H9N

83

107-12-0

WILEY138.1

115998

38

C3H5N

55

C00 542

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

3,4-Heptadiene

2-Cyclopenten-1-one, 2-methyl-

2-Cyclopenten-1-one, 2-methyl-

CAS Number

Library

Entry

Quality

Formula

Weight

2454-31-1

nbs75k.1

1112

72

C7H12

96

1120-73-6

nbs75k.1

63117

87

C6H8O

96

1120-73-6

WILEY138.1

593

87

C6H8O

96

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match

2-Heptyne
Cyclopropane, trimethylmethylene-
1-Chloro-4-methylcyclohexane

CAS Number	Library	Entry	Quality	Formula	Weight
1119-65-9	nbs75k.1	63138	97	C7H12	96
34462-28-7	nbs75k.1	63123	76	C7H12	96
931-68-0	nbs75k.1	5810	72	C7H13Cl	132

C00 544

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
591-78-6	nbs75k.1	63384	86	C6H12O	100
591-78-6	nbs75k.1	1556	86	C6H12O	100
591-78-6	WILEY138.1	1134	86	C6H12O	100

2-Hexanone

2-Hexanone

2-Hexanone

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	91	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119060	91	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	90	C8H16	112

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Heptane, 3-methyl-
Heptane, 3-methyl-
Heptane, 3-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
589-81-1	nbs75k.1	64227	90	C8H18	114
589-81-1	WILEY138.1	119370	90	C8H18	114
589-81-1	nbs75k.1	3099	72	C8H18	114

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	70	C8H16	112
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	86	C5H10	70
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	16883-48-0	nbs75k.1	2652	80	C8H16	112

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	55	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	60	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64042	60	C8H16	112

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
7300-03-0	nbs75k.1	64039	87	C8H16	112
0-00-0	WILEY138.1	2676	87	C8H16	112
0-00-0	nbs75k.1	2641	86	C8H16	112

3-Heptene, 3-methyl-

3-HEXENE, 3-ETHYL-

5-Methyl-3-heptene

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	90	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	64023	91	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	90	C8H16	112

C00 551

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

2-HEPTENE, 3-METHYL-
1-Pentene, 3-ethyl-4-methyl-
Heptane, 3-methylene-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	95	C8H16	112
61847-80-1	nbs75k.1	2732	80	C8H16	112
1632-16-2	nbs75k.1	2703	64	C8H16	112

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	53	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64194	52	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	50	C7H14O	114

C00 553

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64150	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119313	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119317	91	C7H14O	114

Date: 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
142-96-1	nbs75k.1	65306	64	C8H18O	130
142-96-1	WILEY138.1	121220	64	C8H18O	130
142-96-1	WILEY138.1	121219	64	C8H18O	130

n-Butyl ether

Butane, 1,1'-oxybis-

Butane, 1,1'-oxybis-

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64382	90	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64381	86	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64384	83	C7H16O	116

C00 556

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Nonene	124-11-8	nbs75k.1	64957	94	C9H18	126
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	nbs75k.1	4624	91	C9H18	126
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	WILEY138.1	120623	91	C9H18	126

C00 557

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

1-Hexyn-3-ol

1-Methyl-2-cyclopenten-1-ol

3-Penten-2-one, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
105-31-7	nbs75k.1	1263	59	C6H10O	98
40459-88-9	WILEY138.1	844	56	C6H10O	98
141-79-7	WILEY138.1	117727	42	C6H10O	98

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane (isomer)	41239-48-9	nbs75k.1	5105	72	C8H16O	128
Furan, 2,5-diethyltetrahydro-	74793-02-5	nbs75k.1	22401	72	C12H22O2	198
2,2'-Bioxepane	57633-63-3	nbs75k.1	4896	72	C6H13BO2	128

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one, (E)-	18402-82-9	nbs75k.1	4533	17	C8H14O	126
3,6-DIHYDRO-6,6-DIMETHYL-2H-PYRAN-2-ONE	72649-03-7	WILEY138.1	5218	38	C7H10O2	126
Oxazole, trimethyl-	20662-84-4	WILEY138.1	2343	38	C6H9NO	111

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (1-methylethyl)-	696-29-7	nbs75k.1	64964	38	C9H18	126
Cyclohexane, undecyl-	54105-66-7	nbs75k.1	31654	38	C17H34	238
Cyclohexane, (1-methylethyl)-	696-29-7	nbs75k.1	64963	38	C9H18	126

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	2435	70	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	118929	70	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	59	C7H13N	111

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65061	76	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65062	76	C8H16O	128
4-Octanone	589-63-9	WILEY138.1	120861	76	C8H16O	128

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octanone	111-13-7	nbs75k.1	5038	46	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	65044	46	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	65043	46	C8H16O	128

C00 564

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

2-Azabicyclo[2.2.1]heptane

1-Buten-4-yl methacrycate

Hexanenitrile

CAS Number	Library	Entry	Quality	Formula	Weight
279-24-3	WILEY138.1	699	83	C6H11N	97
0-00-0	WILEY138.1	9179	58	C8H12O2	140
628-73-9	nbs75k.1	63154	42	C6H11N	97

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

1-Heptene

Cyclopropane, 1-pentyl-2-propyl-

Cyclopropane, 1-ethyl-2-pentyl-

CAS Number	Library	Entry	Quality	Formula	Weight
592-76-7	nbs75k.1	63242	38	C7H14	98
41977-33-7	nbs75k.1	11090	35	C11H22	154
62238-08-8	nbs75k.1	7566	35	C10H20	140

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65294	83	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	5518	83	C8H18O	130

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nonane, 2,6-dimethyl-	17302-28-2	nbs75k.1	11598	83	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	67324	90	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	124557	90	C11H24	156

C00 568

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	59	C11H24	156
Dodecane, 2,5-dimethyl-	56292-65-0	nbs75k.1	22531	59	C14H30	198
Dodecane, 2,5-dimethyl-	56292-65-0	WILEY138.1	34140	59	C14H30	198

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	7540	59	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	66067	59	C10H20	140
Cyclohexane, octyl-	1795-15-9	nbs75k.1	21971	59	C14H28	196

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Instrument: hpdos6.i

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Operator: JCE

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

Octane, 2,3-dimethyl-

2,4,4-Trimethylpentyl 3,5,5-trimethylhex

1-Hexadecanol, 3,7,11,15-tetramethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
7146-60-3	nbs75k.1	66214	40	C10H22	142
0-00-0	WILEY138.1	63678	40	C17H34O2	270
645-72-7	WILEY138.1	133427	40	C20H42O	298

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 5-methyl-	13151-35-4	nbs75k.1	67316	86	C11H24	156
Decane, 5-methyl-	13151-35-4	WILEY138.1	124561	86	C11H24	156
Octane, 4-ethyl-	15869-86-0	nbs75k.1	8095	64	C10H22	142

Date: 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67322	72	C11H24	156
Dodecane, 2,6,11-trimethyl-	31295-56-4	nbs75k.1	70271	59	C15H32	212
Dodecane, 2,6,11-trimethyl-	31295-56-4	WILEY138.1	129244	59	C15H32	212

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Naphthalene, decahydro-, trans-
Naphthalene, decahydro-, trans-
Naphthalene, decahydro-, trans-

CAS Number

Library

Entry

Quality

Formula

Weight

493-02-7

WILEY138.1

122343

95

C10H18

138

493-02-7

nbs75k.1

7108

94

C10H18

138

493-02-7

nbs75k.1

65955

94

C10H18

138

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Instrument: hpdos6.i

Sample Info: TST 1316 VP006-043 BP @1.5 hr

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Buten-2-one, 4-(1-aziridinyl)-	18277-57-1	nbs75k.1	2425	49	C6H9NO	111
3-Buten-2-one, 4-(1-aziridinyl)-	18277-57-1	WILEY138.1	2342	47	C6H9NO	111
4(1H)-Pyridinone, 2,3-dihydro-1-methyl-	35488-00-7	nbs75k.1	2418	43	C6H9NO	111

C00 575

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	nbs75k.1	67319	94	C11H24	156
Undecane	1120-21-4	nbs75k.1	67318	91	C11H24	156
Undecane	1120-21-4	WILEY138.1	124547	91	C11H24	156

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

1-(2-Methylpropenyl)aziridine

Cyclohexanone, 2,6-diethyl-

Oxazole, 2,4-dimethyl-

CAS Number

Library

Entry

Quality

Formula

Weight

80839-93-6

WILEY138.1

693

46

C6H11N

97

16519-68-9

nbs75k.1

10866

38

C10H18O

154

7208-05-1

nbs75k.1

1168

38

C5H7NO

97

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Undecane, 5-methyl-

2,6-Dimethyldecane

Tetracosane, 2,6,10,15,19,23-hexamethyl-

CAS Number

Library

Entry

Quality

Formula

Weight

1632-70-8

WILEY138.1

126019

78

C12H26

170

13150-81-7

nbs75k.1

15357

72

C12H26

170

111-01-3

WILEY138.1

136351

72

C30H62

422

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Undecane, 4-methyl-

Undecane, 4-methyl-

Dodecane, 2,6,10-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
2980-69-0	nbs75k.1	68256	74	C12H26	170
2980-69-0	WILEY138.1	126017	74	C12H26	170
3891-98-3	nbs75k.1	70270	72	C15H32	212

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	87	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	87	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	87	C11H20	152

C00 580

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.l	67185	87	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.l	11054	87	C11H22	154
Cyclohexane, octyl-	1795-15-9	nbs75k.l	21971	78	C14H28	196

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.1	8080	59	C10H22	142
Heptane, 4-(1-methylethyl)-	52896-87-4	nbs75k.1	8084	72	C10H22	142
Heptane, 4-propyl-	3178-29-8	nbs75k.1	8079	72	C10H22	142

C00 582

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	86	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	86	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	86	C11H20	152

C00 583

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	90	C12H26	170
Undecane, 2-methyl-	7045-71-8	WILEY138.1	21649	90	C12H26	170
Undecane, 2-methyl-	7045-71-8	WILEY138.1	126011	87	C12H26	170

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	64	C12H26	170
Undecane, 3-methyl-	1002-43-3	WILEY138.1	126013	59	C12H26	170
Pentadecane	629-62-9	nbs75k.1	70276	53	C15H32	212

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
6-Dodecene, (E)-	7206-17-9	nbs75k.l	68115	93	C12H24	168
3-Dodecene, (Z)-	7239-23-8	nbs75k.l	14732	94	C12H24	168
3-Dodecene, (Z)-	7239-23-8	nbs75k.l	68121	94	C12H24	168

C00 586

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C12 Alkene/Cycloalkane (mw 168)

2-Undecene, 7-methyl-

2-UNDECENE, 7-METHYL-, CIS/TRANS

3-Hexene, 3-ethyl-2,5-dimethyl-

CAS Number

Library

Entry

Quality

Formula

Weight

0-00-0

nbs75k.1

14687

42

C12H24

168

0-00-0

WILEY138.1

20685

42

C12H24

168

62338-08-3

nbs75k.1

7530

30

C10H20

140

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	nbs75k.1	68251	94	C12H26	170
Dodecane	112-40-3	WILEY138.1	126000	94	C12H26	170

000 588

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C12 Alkene/Cycloalkane (mw 168)						
4-Undecene, 4-methyl-	61142-40-3	nbs75k.1	14748	58	C12H24	168
Cyclohexane, 1-methyl-4-(1-methylbutyl)-	54411-00-6	nbs75k.1	14802	49	C12H24	168
Cyclohexane, 1-methyl-4-(1-methylbutyl)-	54411-00-6	WILEY138.1	20768	49	C12H24	168

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	96	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69032	93	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	127264	93	C13H28	184

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclododecane	294-62-2	nbs75k.1	68126	91	C12H24	168
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	94	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68867	91	C13H26	182

C00 591

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

3,5-OCTADIENE, 4,5-DIETHYL-

3,5-Octadiene, 4,5-diethyl-, (E,Z)-

3,5-Octadiene, 4,5-diethyl-, (E,Z)-

CAS Number

Library

Entry

Quality

Formula

Weight

21293-02-7

WILEY138.1

19733

38

C12H22

166

21293-02-7

nbs75k.1

14171

27

C12H22

166

21293-02-7

WILEY138.1

19732

27

C12H22

166

C00 592

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Nonadecane, 2-methyl-

1-Iodoundecane

Octacosane

CAS Number	Library	Entry	Quality	Formula	Weight
1560-86-7	nbs75k.1	72322	72	C20H42	282
4282-44-4	nbs75k.1	39685	64	C11H23I	282
630-02-4	nbs75k.1	74211	64	C28H58	394

C00 593

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Tridecane, 7-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	nbs75k.1	22538	90	C14H30	198
26730-14-3	WILEY138.1	128289	90	C14H30	198
26730-14-3	WILEY138.1	34139	87	C14H30	198

C00 594

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C13 Alkene/Cycloalkane (mw 182)

4-Nonene, 5-butyl-

4-Nonene, 5-butyl-

1-Tridecene

CAS Number	Library	Entry	Quality	Formula	Weight
7367-38-6	nbs75k.1	18496	91	C13H26	182
7367-38-6	WILEY138.1	127047	91	C13H26	182
2437-56-1	WILEY138.1	127044	89	C13H26	182

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, propyl-	2040-96-2	nbs75k.1	2694	81	C8H16	112
Cyclopentane, propyl-	2040-96-2	WILEY138.1	2703	81	C8H16	112
6-Tridecene	24949-38-0	nbs75k.1	18487	64	C13H26	182

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	18989	96	C13H28	184
Tridecane	629-50-5	nbs75k.1	69019	95	C13H28	184
Tridecane	629-50-5	nbs75k.1	69017	94	C13H28	184

Date : 20-JAN-1999 13:18

Client ID: BP 01.5 hr

Sample Info: TST 1316 VP006-043 BP 01.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C15 Alkane (mw 212)						
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	25995	80	C15H32	212
Dodecane, 2,7,10-trimethyl-	74645-98-0	nbs75k.1	26005	80	C15H32	212
Dodecane, 2,6,10-trimethyl-	3891-98-3	WILEY138.1	40638	80	C15H32	212

C00 598

Date : 20-JAN-1999 13:18

Client ID: BP @1.5 hr

Sample Info: TST 1316 VP006-043 BP @1.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	96	C14H30	198
Tetradecane	629-59-4	WILEY138.1	128277	94	C14H30	198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1316 VP006-043 BP @1.5 hr
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL_std.m
File : 69012004.d
Injection Date : 20-JAN-99 13:18 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-043
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	19	120.91	8.242	8.240	2799	0.36	0.0018	0.33	J
Chloromethane	19	50.49	9.128	9.155	6435	0.73	0.0036	1.62	J
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475	10.336	1952371	390.41	1.9521	1364.74	
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269				0.0027	0.92	U
Ethanol	19	46.07	12.880	12.828	465931	175.43	0.8772	426.49	E
Acetonitrile	19	41.05	13.362	13.390	109207	23.51	0.1176	64.15	
Acetone	19	58.08	13.855	13.902	151380	92.27	0.4613	177.92	
Trichlorofluoromethane	19	137.37	14.269	14.316	110716	20.54	0.1027	16.75	
Pentane	19	72.00	15.067	15.104	697857	94.91	0.4745	147.63	
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885	15.922	5173	1.62	0.0081	2.14	J
1,1,2-Trichloroethane	19	187.38	16.418				0.0076	0.91	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.92	U
2-Butanone	19	72.11	18.725	18.788	22081	16.55	0.0828	25.71	
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106				0.0049	0.92	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846	22.898	59395	3.90	0.0195	5.59	J
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719	24.831	12824	3.05	0.0153	2.60	J
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0100	2.02	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476	28.539	167270	18.83	0.0941	22.88	
1,2-Dibromoethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394	33.442	13657	0.83	0.0041	0.87	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.836	8172	1.39	0.0069	1.47	J
Styrene	41	104.15	34.727				0.0043	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024				0.0043	0.92	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.951	303458	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.400	1097184	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.514	929626	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.263	532932	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1316 VP006-043 BP @1.5 hr 100 ml of ISTD

C00 602

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1316 VP006-043 BP @1.5 hr 100 ml of ISTD

C00 603

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1327 VP006-026 BP @0.5 hr
 100 ml of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : sas std.m
 File : 690I2005.d
 Injection Date : 20-JAN-1999 14:40 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-026
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 210 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.718	922073	91.28	0.4347	231.39	
Propane	23	44.10	7.848	7.885	232510	72.64	0.3459	175.70	
Dichlorodifluoromethane	23	120.91	8.242				0.0050	0.92	U
Chloromethane	23	50.49	9.129	9.194	4537	0.72	0.0034	1.52	J
Acetaldehyde	23	44.05	9.818	9.932	87186	66.06	0.3145	159.95	
Butane	23	58.12	11.000	11.016	315407	28.90	0.1376	53.03	
Chloroethane	23	64.51	12.280				0.0024	0.84	U
Ethanol	23	46.07	12.733	12.915	864761	156.60	0.7457	362.59	
Acetonitrile	23	41.05	13.246	13.457	42067	5.52	0.0263	14.33	J
Acetone	23	58.08	13.827	13.979	72772	18.70	0.0890	34.34	
Trichlorofluoromethane	23	137.37	14.281	14.324	18345	3.43	0.0163	2.66	J
Isopropyl Alcohol	23	60.10	14.399	14.876	42873	4.37	0.0208	7.76	J
Furan	23	68.08	14.666				0.0026	0.86	U
Pentane	23	72.00	15.070	15.112	35163	3.74	0.0178	5.55	J
Methylene Chloride	23	84.93	15.898				0.0032	0.85	U
112trichloro122trifluoroethane	23	187.38	16.422				0.0074	0.88	U
Propanenitrile	23	55.08	17.152				0.0022	0.87	U
Propanol	23	60.10	17.181				0.0055	2.06	U
2-Methylpentane	23	86.18	18.385				0.0032	0.84	U
Butanal	23	72.11	18.523				0.0056	1.73	U
2-Butanone	23	72.11	18.711				0.0067	2.07	U
1-Hexene	23	84.16	19.372	19.434	22302	4.67	0.0223	5.92	J
Hexane	23	86.18	19.944	19.996	296928	43.81	0.2086	54.23	
Chloroform	23	119.38	20.122				0.0052	0.98	U
Tetrahydrofuran	23	72.11	20.852				0.0028	0.87	U
Butanenitrile	31	69.11	21.927				0.0025	0.82	U
1-Butanol	31	74.12	22.381				0.0257	7.77	U
Benzene	31	78.11	22.855	22.920	45352	2.80	0.0133	3.82	J
Carbon Tetrachloride	31	153.82	23.131				0.0059	0.85	U
2-Pentanone	31	86.13	23.438	23.551	4947	0.41	0.0020	0.51	J
3-Methylhexane	31	100.20	23.991	23.768	3224	0.49	0.0023	0.52	J
1,4-Dioxane	31	88.11	24.681				0.0086	2.18	U
Heptane	31	100.20	25.215	25.265	14137	3.55	0.0169	3.77	J

C00 604

02/08/99 09:50

69012005.d

Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368				0.0035	0.79	U
Pyridine	31	79.10	26.615				0.0952	26.96	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0050	0.84	U
Toluene	43	92.14	28.489	28.553	26854	3.36	0.0160	3.89	J
2-Hexanone	43	100.16	28.825				0.0036	0.81	U
Octane	43	114.23	30.432	30.482	14823	4.34	0.0206	4.05	J
Tetrachloroethylene	43	165.83	31.004				0.0060	0.81	U
Chlorobenzene	43	112.56	32.572				0.0040	0.79	U
Ethylbenzene	43	106.17	33.401				0.0041	0.87	U
p/m-Xylene	43	106.17	33.826	33.869	1987	0.45	0.0021	0.45	J
3-Heptanone	43	114.19	33.835				0.0042	0.83	U
2-Heptanone	54	114.19	33.964				0.0041	0.80	U
Cyclohexanone	54	98.14	34.281				0.0089	2.03	U
Styrene	54	104.15	34.735				0.0041	0.88	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0068	0.91	U
o-Xylene	54	106.17	35.033				0.0040	0.83	U
Nonane	54	128.26	35.379	35.434	8066	1.44	0.0069	1.20	J
2-Octanone	54	128.21	38.774				0.0045	0.79	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0049	0.91	U
Decane	54	142.20	40.009				0.0058	0.92	U
Bromochloromethane (IS)	23	129.40	19.915	19.966	303753	106.00	0.5048	87.38	
Difluorobenzene (IS)	31	114.00	23.349	23.403	1022706	106.00	0.5048	99.18	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.530	847920	113.00	0.5381	100.81	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.280	556300	113.00	0.5381	69.27	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown hydrocarbon	43	0		29.793	438785	22.42	0.1068		J
1-Octene	43	112	111-66-0	29.901	456350	23.32	0.1110	22.21	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	2285392
Difluorobenzene (IS)	31	2226473
Chlorobenzene-d5 (IS)	43	2211738
1-Bromo-4-Fluorobenzene (IS)	54	2124681

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1327 VP006-026 BP @0.5 hr 100 ml of ISTD

C00 606

02/08/99 09:50

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Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1327 VP006-026 BP @0.5 hr 100 ml of ISTD

C00 607

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

C00 608

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

1 Propene

Date : 20-JAN-1999 14:20

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Propane

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

4 Chloromethane

C00 611

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

6 Butane

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Instrument: hpdos6.i

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

8 Ethanol

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

10 Acetone

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Instrument: hpdos6.i

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

12 Isopropyl Alcohol

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Pentane

Date : 20-JAN-1999 14:40

Client ID: BP 00.5 hr

Sample Info: TST 1327 VP006-026 BP 00.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

Date : 20-JAN-1999 14:40

Client ID: BP 00,5 hr

Sample Info: TST 1327 VP006-026 BP 00,5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Benzene

Date : 20-JAN-1999 14:40

Client ID: BP 00.5 hr

Sample Info: TST 1327 VF006-026 BP 00.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

35 Heptane

Date : 20-JAN-1999 14:40

Client ID: BP 00.5 hr

Sample Info: TST 1327 VP006-026 BP 00.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

39 Toluene

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

41 Octane

Date : 20-JAN-1999 14:40

Client ID: BP 00.5 hr

Sample Info: TST 1327 VP006-026 BP 00.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 p/m-Xylene

Date : 20-JAN-1999 14:40

Client ID: BP 00.5 hr

Instrument: hpdos6.i

Sample Info: TST 1327 VP006-026 BP 00.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

53 Nonane

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Instrument: hpdos6.i

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Hexane, 2,2,5-trimethyl-	3522-94-9	nbs75k.1	65129	45	C9H20	128
Hexane, 2,2,5-trimethyl-	3522-94-9	nbs75k.1	65127	39	C9H20	128
Hexane, 2,2,5-trimethyl-	3522-94-9	WILEY138.1	120930	39	C9H20	128

Date : 20-JAN-1999 14:40

Client ID: BP @0.5 hr

Sample Info: TST 1327 VP006-026 BP @0.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Octene	111-66-0	nbs75k.1	63996	94	C8H16	112
1-Octene	111-66-0	nbs75k.1	63995	91	C8H16	112
1-Octene	111-66-0	WILEY138.1	119048	91	C8H16	112

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1327 VP006-026 BP @0.5 hr
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 69012005.d
Injection Date : 20-JAN-99 14:40 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-026
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 210 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	19	120.91	8.242				0.0047	0.87	U
Chloromethane	19	50.49	9.128				0.0019	0.87	U
1,2-dichloro-1,1,2,2-tetrafluoroethane	19	170.92	9.727				0.0067	0.87	U
Vinyl Chloride	19	62.50	10.150				0.0024	0.87	U
Methanol	19	32.04	10.475	10.523	517147	103.31	0.4920	343.95	
1,3-Butadiene	19	54.00	10.721				0.0034	1.40	U
Chloroethane	19	64.51	12.269				0.0025	0.88	U
Ethanol	19	46.07	12.880		864761	325.29	1.5490	753.14	E
Acetonitrile	19	41.05	13.362	13.457	55264		0.0566	30.89	
Acetone	19	58.08	13.855	13.979	72774	44.31	0.2110	81.38	
Trichlorofluoromethane	19	137.37	14.269	14.324	18345	3.40	0.0162	2.64	J
Pentane	19	72.00	15.067	15.112	35163	4.78	0.0227	7.08	J
1,1-Dichloroethene	19	96.94	15.586				0.0038	0.87	U
Methylene Chloride	19	84.93	15.885	15.939	6523	2.05	0.0097	2.57	J
1,1,2-trichloro-1,2,2-trifluoroethane	19	187.38	16.418	16.471	2981	1.19	0.0056	0.67	J
1,1-Dichloroethane	19	98.96	18.009				0.0039	0.87	U
2-Butanone	19	72.11	18.725				0.0067	2.08	U
cis-1,2-Dichloroethene	19	96.94	19.536				0.0038	0.87	U
Chloroform	19	119.38	20.106				0.0047	0.88	U
1,2-Dichloroethane	19	98.96	21.418				0.0039	0.87	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0052	0.87	U
Benzene	25	78.11	22.846	22.920	45359	3.19	0.0152	4.36	J
Carbon Tetrachloride	25	153.82	23.123				0.0059	0.87	U
1,2-Dichloropropane	25	112.99	24.285				0.0044	0.87	U
Trichloroethene	25	131.39	24.719	24.841	40891	10.44	0.0497	8.47	J
cis-1,3-Dichloropropene	25	110.97	26.324				0.0095	1.92	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0095	1.92	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0036	0.60	U
Toluene	34	92.14	28.476	28.553	26859	3.49	0.0166	4.04	J
1,2-Dibromoethane	34	187.86	29.947				0.0073	0.87	U
Tetrachloroethylene	34	165.83	30.999				0.0073	0.99	U
Chlorobenzene	34	112.56	32.566				0.0044	0.87	U
Ethylbenzene	34	106.17	33.394	33.456	2457	0.17	0.0008	0.17	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Rev 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.869	1987	0.39	0.0019	0.39	J
Styrene	41	104.15	34.727				0.0040	0.87	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0065	0.87	U
o-Xylene	41	106.17	35.024				0.0041	0.87	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0047	0.87	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0047	0.87	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0571	8.70	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0057	0.87	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0057	0.87	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0071	0.88	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0100	0.86	U
Bromochloromethane (IS)	19	129.40	19.898	19.966	303753	121.00	0.5762	99.74	
Difluorobenzene (IS)	25	114.00	23.340	23.403	1022706	106.00	0.5048	99.18	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.530	805346	113.00	0.5381	100.81	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.270	412673	162.00	0.7714	99.31	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1327 VP006-026 BP @0.5 hr 100 ml of ISTD

C00 631

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1327 VP006-026 BP @0.5 hr 100 ml of ISTD

C00 632

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 VP006-091 BP @4.5 hr
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas_std.m
File : 69012006.d
Injection Date : 20-JAN-1999 17:01 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-091
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 220 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.718	131721	18.05	0.0820	43.66	
Propane	23	44.10	7.848	7.885	43617	18.86	0.0857	43.54	
Dichlorodifluoromethane	23	120.91	8.242	8.259	8109	1.37	0.0062	1.15	J
Chloromethane	23	50.49	9.129	9.155	21251	4.66	0.0212	9.40	
Acetaldehyde	23	44.05	9.818	9.893	110593	115.95	0.5271	268.02	
Butane	23	58.12	11.000	11.035	237461	30.11	0.1368	52.74	
Chloroethane	23	64.51	12.280				0.0023	0.81	U
Ethanol	23	46.07	12.733	12.777	2137308	535.63	2.4347	1183.78	
Acetonitrile	23	41.05	13.246	13.398	13698	2.49	0.0113	6.17	J
Acetone	23	58.08	13.827	13.929	113509	40.37	0.1835	70.76	
Trichlorofluoromethane	23	137.37	14.281	14.333	18160	4.69	0.0213	3.48	J
Isopropyl Alcohol	23	60.10	14.399				0.0056	2.08	U
Furan	23	68.08	14.666				0.0025	0.82	U
Pentane	23	72.00	15.070	15.132	64907	9.57	0.0435	13.53	
Methylene Chloride	23	84.93	15.898				0.0031	0.81	U
1,1,2-trichloro-1,2,2-trifluoroethane	23	187.38	16.422	16.491	4138	1.49	0.0068	0.81	J
Propanenitrile	23	55.08	17.152	17.357	1953	0.53	0.0024	0.98	J
Propanol	23	60.10	17.181	17.416	78580	11.79	0.0536	19.98	
2-Methylpentane	23	86.18	18.385				0.0031	0.80	U
Butanal	23	72.11	18.523				0.0053	1.65	U
2-Butanone	23	72.11	18.711	18.834	39353	5.05	0.0230	7.13	J
1-Hexene	23	84.16	19.372	19.455	89836	26.06	0.1184	31.52	
Hexane	23	86.18	19.944	20.026	839123	171.35	0.7788	202.44	
Chloroform	23	119.38	20.122	20.184	9201	2.14	0.0097	1.83	J
Tetrahydrofuran	23	72.11	20.852				0.0027	0.83	U
Butanenitrile	31	69.11	21.927	22.095	14669	1.88	0.0086	2.77	J
1-Butanol	31	74.12	22.381				0.0245	7.40	U
Benzene	31	78.11	22.855	22.932	56623	4.45	0.0202	5.80	J
Carbon Tetrachloride	31	153.82	23.131				0.0056	0.81	U
2-Pentanone	31	86.13	23.438	23.583	22990	2.43	0.0111	2.88	J
3-Methylhexane	31	100.20	23.991	23.790	2297	0.45	0.0020	0.45	J
1,4-Dioxane	31	88.11	24.681				0.0082	2.08	U
Heptane	31	100.20	25.215	25.288	115336	36.88	0.1676	37.48	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.491	4872	0.67	0.0030	0.68	J
Pyridine	31	79.10	26.615				0.0909	25.74	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0048	0.80	U
Toluene	43	92.14	28.489	28.580	82612	12.86	0.0584	14.21	
2-Hexanone	43	100.16	28.825	28.955	18001	2.84	0.0129	2.89	J
Octane	43	114.23	30.432	30.513	64810	23.58	0.1072	21.02	
Tetrachloroethylene	43	165.83	31.004				0.0057	0.77	U
Chlorobenzene	43	112.56	32.572				0.0038	0.75	U
Ethylbenzene	43	106.17	33.401	33.480	8774	0.83	0.0038	0.80	J
p/m-Xylene	43	106.17	33.826	33.895	14373	4.05	0.0184	3.88	J
3-Heptanone	43	114.19	33.835	33.925	1143857	232.71	1.0578	207.50	
2-Heptanone	54	114.19	33.964	34.073	513455	78.19	0.3554	69.72	
Cyclohexanone	54	98.14	34.281				0.0085	1.94	U
Styrene	54	104.15	34.735				0.0039	0.84	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0065	0.87	U
o-Xylene	54	106.17	35.033	35.118	1941	0.55	0.0025	0.53	J
Nonane	54	128.26	35.379	35.463	33635	7.13	0.0324	5.66	J
2-Octanone	54	128.21	38.774	40.077	101497	17.62	0.0801	13.99	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0047	0.87	U
Decane	54	142.20	40.009	40.077	101497	27.64	0.1256	19.79	
Bromochloromethane (IS)	23	129.40	19.915	19.987	219496	106.00	0.4818	83.41	
Difluorobenzene (IS)	31	114.00	23.349	23.425	802272	106.00	0.4818	94.67	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.543	681675	113.00	0.5136	96.23	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.301	469035	113.00	0.5136	66.12	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
(2)-3-Heptene	31	98	7642-10-6	25.130	896486	45.73	0.2079	47.51	NJ
2-Heptene	31	98	592-77-8	25.496	1099671	56.09	0.2550	58.28	NJ
2-Heptene, (E)-	31	98	14686-13-6	25.988	726814	37.07	0.1685	38.52	NJ
Pentane, 2,3,4-trimethyl-	43	114	565-75-3	28.205	568975	29.32	0.1333	26.18	NJ
2-Heptyne	43	96	1119-65-9	28.777	223631	11.52	0.0524	12.22	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.211	772244	39.79	0.1809	35.54	NJ
Unknown C8 Alkane (mw 114)	43	114		29.832	1957447	100.86	0.4584	90.08	J
1-Octene	43	112	111-66-0	29.921	2239761	115.40	0.5246	104.91	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.335	720262	37.11	0.1687	33.74	NJ
2-Octene	43	112	111-67-1	30.641	438235	22.58	0.1026	20.53	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.907	706568	36.41	0.1655	33.10	NJ
Unknown C8 Alkene/Cycloalkane (mw 112)	43	112		31.154	698194	35.97	0.1635	32.70	J
Hexane, 2,3,5-trimethyl-	43	128	1069-53-0	31.518	393568	20.28	0.0922	16.13	NJ
4-Heptanone	43	114	123-19-3	33.312	748724	38.58	0.1754	34.46	NJ
Unknown	54	0		36.883	761176	36.80	0.1673		J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		37.031	494414	23.91	0.1087	19.02	J
Unknown	54	128		37.278	352679	17.05	0.0775	13.56	J
Cyclotetrasiloxane, octamethyl-	54	296	556-67-2	39.417	333365	16.12	0.0733	5.54	NJ
Unknown	54	110		39.555	352578	17.05	0.0775	15.78	J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.797	576743	27.89	0.1268	21.84	NJ
Undecane	54	156	1120-21-4	44.376	1400444	67.71	0.3078	44.19	NJ

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dodecane	54	170	112-40-3	48.369	6378944	308.43	1.4019	184.73	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	49.000	1081897	52.31	0.2378	28.95	NJ
Cyclododecane	54	168		50.421	465905	22.53	0.1024	13.65	J
Unknown C12 Alkane (mw 170)	54	170		51.240	1283305	62.05	0.2820	37.16	J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.724	616781	29.82	0.1356	16.68	J
Tridecane	54	184	629-50-5	52.100	19916900	963.00	4.3773	532.88	NJ
Unknown C14 Alkane (mw 198)	54	198		54.954	595239	28.78	0.1308	14.80	J
Tetradecane	54	198	629-59-4	55.586	5166034	249.78	1.1354	128.45	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	4297567
Difluorobenzene (IS)	31	2078085
Chlorobenzene-d5 (IS)	43	2193093
1-Bromo-4-Fluorobenzene (IS)	54	2337089

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 VP006-091 BP @4.5 hr 100 ml of ISTD

C00 636

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Page 4

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 VP006-091 BP @4.5 hr 100 ml of ISTD
C00 637

C00 638

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Propene

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

2 Propane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

3 Dichlorodifluoromethane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Chloromethane

Date : 20-JAN-1999 17:01

Client ID: BP 04,5 hr

Sample Info: TST 1330 VP006-091 BP 04,5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

6 Butane

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

8 Ethanol

Date: 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

9 Acetonitrile

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Instrument: hpdos6.1

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

16 112trichloro122trifluoroethane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

17 Propanenitrile

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanol

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

20 Butanal

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

21 2-Butanone

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Hexane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

25 Chloroform

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

27 Butanenitrile

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Benzene

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

35 Heptane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

36 4-Methyl-2-pentanone

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 Toluene

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 2-Hexanone

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

41 Octane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

45 Ethylbenzene

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 p/m-Xylene

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

47 3-Heptanone

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

48 2-Heptanone

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

52 o-Xylene

C00 669

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

53 Nonane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

55 2-Octanone

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

57 Decane

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

HNF-4073
Rev. 0

Page 37

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	94	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Instrument: hpdos6.i

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	97	C7H14	98
2-Heptene	592-77-8	WILEY139.1	117785	97	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene	592-77-8	WILEY138.1	899	96	C7H14	98
2-Heptene, (E)-	14686-13-6	WILEY138.1	117784	96	C7H14	98

C00 675

Date : 20-JAN-1999 17:01

Client ID: BP 04,5 hr

Sample Info: TST 1330 VP006-091 BP 04,5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2,3,4-trimethyl-	565-75-3	nbs75k.1	64228	90	C8H18	114
Pentane, 2,3,4-trimethyl-	565-75-3	WILEY138.1	3208	90	C8H18	114
Pentane, 2,3,4-trimethyl-	565-75-3	nbs75k.1	64229	83	C8H18	114

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
1119-65-9	nbs75k.l	63138	97	C7H12	96
591-47-9	nbs75k.l	63127	64	C7H12	96
591-47-9	nbs75k.l	1125	64	C7H12	96

2-Heptyne
Cyclohexene, 4-methyl-
Cyclohexene, 4-methyl-

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	83	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	83	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119373	78	C8H18	114

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C8 Alkane (mw 114)

Hexane, 2,2,4-trimethyl-

Hexane, 2,2,5-trimethyl-

Hexane, 2,2,4-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
16747-26-5	nbs75k.1	65103	59	C9H20	128
3522-94-9	nbs75k.1	65128	59	C9H20	128
16747-26-5	WILEY138.1	120929	59	C9H20	128

Date : 20-JAN-1999 17:01

Client ID: BP 84.5 hr

Sample Info: TST 1330 VP006-091 BP 84.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Octene	111-66-0	nbs75k.1	63996	94	C8H16	112
Cyclooctane	292-64-8	nbs75k.1	2655	91	C8H16	112
Cyclooctane	292-64-8	WILEY138.1	2729	91	C8H16	112

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	83	C8H16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	80	C8H16	112
ETHYL-2 METHYL-3 PENTENE-1	0-00-0	WILEY138.1	2685	80	C8H16	112

C00 681

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	91	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	64023	97	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	95	C8H16	112

Date : 20-JAN-1999 17:01

Client ID: BP 04,5 hr

Sample Info: TST 1330 VP006-091 BP 04,5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C8H16	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	86	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64033	86	C8H16	112

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0Library Search Compound Match
Unknown C8 Alkene/Cycloalkane (mw 112)

2-Octene

Cyclotrisiloxane, hexamethyl-

2-Octene, (Z)-

CAS Number	Library	Entry	Quality	Formula	Weight
111-67-1	WILEY138.1	119056	86	C8H16	112
541-05-9	nbs75k.1	70586	53	C6H18O3Si3	222
7642-04-8	nbs75k.1	2713	46	C8H16	112

C00 684

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexane, 2,3,5-trimethyl-	1069-53-0	nbs75k.1	65140	87	C9H20	128
Hexane, 2,3,5-trimethyl-	1069-53-0	WILEY138.1	120933	87	C9H20	128
Hexane, 3-ethyl-	619-99-8	nbs75k.1	3094	78	C8H18	114

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64153	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64151	90	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	3092	90	C7H14O	114

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
1-Methyl-2-cyclopenten-1-ol	40459-88-9	WILEY138.1	844	53	C6H10O	98
3-Penten-2-one, 4-methyl-	141-79-7	nbs75k.1	63217	52	C6H10O	98
3-Penten-2-one, 4-methyl-	141-79-7	WILEY138.1	117726	52	C6H10O	98

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)
Ethyl ester of 2-bromo-1-ethencarboxylic
Furan, 2,5-diethyltetrahydro-
Furan, 2,5-diethyltetrahydro-

CAS Number	Library	Entry	Quality	Formula	Weight
31930-34-4	WILEY138.1	24351	74	C5H7BrO2	178
41239-48-9	nbs75k.1	5105	64	C8H16O	128
41239-48-9	WILEY138.1	6013	64	C8H16O	128

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0Library Search Compound Match
Unknown4-Methyl-2-methylenexepane
2,4,4-Trimethylbut-2-enolide
2-Undecene, 7-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
64507-65-9	WILEY138.1	5378	43	C8H14O	126
4182-41-6	nbs75k.1	4477	38	C7H10O2	126
0-00-0	nbs75k.1	14687	38	C12H24	168

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Cyclotetrasiloxane, octamethyl-
Cyclotetrasiloxane, octamethyl-
Cyclotetrasiloxane, octamethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
556-67-2	nbs75k.1	41966	91	C8H24O4Si4	296
556-67-2	WILEY138.1	133264	91	C8H24O4Si4	296
556-67-2	WILEY138.1	72213	91	C8H24O4Si4	296

Date : 20-JAN-1999 17:01

Client ID: BP @4.5 hr

Sample Info: TST 1330 VP006-091 BP @4.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
1,2-Nonadiene	22433-33-6	nbs75k.1	4223	33	C9H16	124
Hexanenitrile	628-73-9	WILEY138.1	117636	33	C6H11N	97
1,2-Nonadiene	22433-33-6	WILEY138.1	120434	33	C9H16	124

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Instrument: hpdos6.1

Sample Info: TST 1330 VP006-091 BP 04.5 hr

HNF-4073

Operator: JCE

Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	86	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	5518	78	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121193	78	C8H18O	130

C00 692

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	WILEY138.1	124548	91	C11H24	156
Tridecane	629-50-5	nbs75k.1	69019	90	C13H28	184
Tetradecane	629-59-4	WILEY138.1	128275	90	C14H30	198

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	WILEY138.1	126006	93	C12H26	170
Dodecane	112-40-3	nbs75k.1	68249	91	C12H26	170

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclododecane						
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	93	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	WILEY138.1	127048	93	C13H26	182
6-Tridecene	24949-38-0	nbs75k.1	18487	83	C13H26	182

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Octane, 2,3,7-trimethyl-

Octane, 2,3,7-trimethyl-

Decane, 2-methyl-

CRS Number

Library

Entry

Quality Formula

Weight

62016-34-6

nbs75k.1

11603

78

C11H24

156

62016-34-6

WILEY138.1

15638

78

C11H24

156

6975-98-0

nbs75k.1

67321

72

C11H24

156

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C13 Alkene/Cycloalkane (mw 182)

Cyclopentane, 1-pentyl-2-propyl-

Cyclopentane, 1-pentyl-2-propyl-

6-Dodecene, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
62199-51-3	nbs75k.1	18495	87	C13H26	182
62199-51-3	WILEY138.1	26864	87	C13H26	182
7206-17-9	nbs75k.1	14720	80	C12H24	168

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Instrument: hpdos6.i

Sample Info: TST 1330 VP006-091 BP 04.5 hr

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	69021	96	C13H28	184
Tridecane	629-50-5	WILEY138.1	127254	94	C13H28	184
Tridecane	629-50-5	nbs75k.1	18989	93	C13H28	184

Date : 20-JAN-1999 17:01

Client ID: BP 04.5 hr

Instrument: hpdos6.1

Sample Info: TST 1330 VP006-091 BP 04.5 hr

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	96	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69662	94	C14H30	198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 VP006-091 BP @4.5 hr
 100 ml. of ISTD.

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : PNNL std.m
 File : 69012006.d
 Injection Date : 20-JAN-99 17:01 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-091
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 220 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.259	8108	1.50	0.0068	1.26	J
Chloromethane	19	50.49	9.128	9.155	21252	3.48	0.0158	7.03	J
1,2-dichloro-1,1,2,2-tetrafluoroeth	19	170.92	9.727				0.0064	0.83	U
Vinyl Chloride	19	62.50	10.150				0.0023	0.83	U
Methanol	19	32.04	10.475	10.287	4154676	1201.28	5.4604	3817.49	E
1,3-Butadiene	19	54.00	10.721				0.0032	1.34	U
Chloroethane	19	64.51	12.269				0.0024	0.84	U
Ethanol	19	46.07	12.880	12.777	2137308	1163.60	5.2891	2571.65	E
Acetonitrile	19	41.05	13.362	13.398	21662	6.74	0.0307	16.73	J
Acetone	19	58.08	13.855	13.929	113508	100.03	0.4547	175.37	
Trichlorofluoromethane	19	137.37	14.269	14.333	18160	4.87	0.0221	3.61	J
Pentane	19	72.00	15.067	15.132	64907	12.76	0.0580	18.05	J
1,1-Dichloroethene	19	96.94	15.586				0.0036	0.83	U
Methylene Chloride	19	84.93	15.885	15.959	8559	3.89	0.0177	4.66	J
1,1,2-trichloro-1,2,2-trifluoroethane	19	187.38	16.418	16.491	4138	2.38	0.0108	1.29	J
1,1-Dichloroethane	19	98.96	18.009				0.0037	0.83	U
2-Butanone	19	72.11	18.725	18.834	9990	10.83	0.0492	15.29	J
cis-1,2-Dichloroethene	19	96.94	19.536				0.0036	0.83	U
Chloroform	19	119.38	20.106	20.184	9201	2.46	0.0112	2.09	J
1,2-Dichloroethane	19	98.96	21.418				0.0037	0.83	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0050	0.83	U
Benzene	25	78.11	22.846	22.932	57204	5.13	0.0233	6.69	J
Carbon Tetrachloride	25	153.82	23.123				0.0057	0.83	U
1,2-Dichloropropane	25	112.99	24.285				0.0042	0.83	U
Trichloroethene	25	131.39	24.719	24.864	342564	111.45	0.5066	86.37	
cis-1,3-Dichloropropene	25	110.97	26.324				0.0091	1.83	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0091	1.83	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0034	0.57	U
Toluene	34	92.14	28.476	28.580	82612	12.68	0.0576	14.01	
1,2-Dibromoethane	34	187.86	29.947				0.0070	0.83	U
Tetrachloroethylene	34	165.83	30.999				0.0070	0.95	U
Chlorobenzene	34	112.56	32.566				0.0042	0.83	U
Ethylbenzene	34	106.17	33.394	33.480	8774	0.73	0.0033	0.70	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.895	14373	3.33	0.0151	3.20	J
Styrene	41	104.15	34.727				0.0039	0.83	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0062	0.83	U
o-Xylene	41	106.17	35.024	35.118	2193	0.52	0.0024	0.50	J
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0044	0.83	U
1,2,4-Trimethylbenzene	41	120.19	39.844	39.929	5242	0.59	0.0027	0.50	J
1,3-Dichlorobenzene	41	147.00	40.328				0.0545	8.30	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0054	0.83	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0054	0.83	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0068	0.84	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0095	0.82	U
Bromochloromethane (IS)	19	129.40	19.898	19.987	209871	121.00	0.5500	95.21	
Difluorobenzene (IS)	25	114.00	23.340	23.425	802272	106.00	0.4818	94.67	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.543	681675	113.00	0.5136	96.23	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.301	376176	162.00	0.7364	94.80	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 701

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 VP006-091 BP @4.5 hr 100 ml of ISTD

C00 702

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 VP006-091 BP @4.5 hr 100 ml of ISTD

C00 703

HNF-4073

Rev. 0

TST BATCH FILE

69012101.b

C00 704

HNF-4073

Rev. 0

TST Analysis-Case Narrative
C-106 Sluicing Test
Samples Run on 1/21/992/1/99
2/23/99

Three samples were run on 1/21/99: VP006-069-1347, VP006-011-1378, VP006-003-1381. Following the autotune (2424V), the PNNL daily calibration checks and method blank were run. The BFB tune check showed satisfactory performance. All compounds in the daily PNNL check standard showed satisfactory recovery (75-125%) except: 1,3-butadiene (127%), ethanol (128%), acetone (127%), 2-butanone (139%), 1,1,1-trichloroethane (68%), carbon tetrachloride (57%), 1,2-dichloropropane (71%), cis-1,3-dichloropropene (64%), trans-1,3-dichloropropene (59%), 1,1,2-trichloroethane (49%), 1,2 dibromoethane (72%), 1,1,2,2-tetrachloroethane (68%), 1,2,4-trichlorobenzene (69%), and hexachlorobutadiene (65%). Overall average recovery was 85% for the PNNL mixture. All compounds in the daily SAS check standard showed satisfactory recovery (75-125%) except: propene (62%), propane (61%), dichlorodifluoromethane (70%), chloromethane (63%), acetaldehyde (151%), butane (62%), chloroethane (65%), acetonitrile (62%), pentane (62%), methylene chloride (64%), 1,1,2-trichloro-1,2,2-trifluoroethane (69%), 2-methylpentane (63%), butanal (215%), 1-hexene (66%), hexane (68%), chloroform (68%), butanol (58%), benzene (71%), carbon tetrachloride (65%), 3-methylhexane (72%), pyridine (69%), and 1,2,2-trichloroethane (74%). Overall average recovery was 83% for the SAS mixture. The method blank was clean.

Internal standard consistency was excellent for standards and samples. Internal standard was accidentally omitted from the method blank.

Sample VP006-069 showed a very large amount of methanol. It is likely that this sample had been compromised in some way during sampling or storage.

C00 705

Sequence Name: C:\HPCHEM\1\SEQUENCE\69012101.S

Comment:

Operator: JCE

Data Path: C:\HPCHEM\1\DATA\69012101.b\

Pre-Seq Cmd:

Post-Seq Cmd:

HNF-4073

Rev. 0

Method Sections To Run On A Barcode Mismatch
(X) Full Method (X) Inject Anyway
() Reprocessing Only () Don't Inject

Line Type	Vial	DataFile	Method	Sample Name
1 Calibration	1	69012101	TVP10	TST 1330 SAS CCV Lvl 3 20 cc
2 Calibration	2	69012102	TVP10	TST 1330 PNNL CCV Lvl 3 20 cc
3 Blank	7	69012103	TVP10	TST 1330 Method Blank
4 Blank	8	69012104	TVP10	TST 1347 VP006-069 BP @3.0 hr
5 Blank	9	69012105	TVP10	TST 1378 VP006-011 Baseline Stack
6 Blank	10	69012106	TVP10	TST 1378 VP006-003 Ambient Air
7 Blank	1	-----	BAKE	Shutdown

COO 706

Instrument: 5971 - System 6

Thu Jan 21 07:29:03 1999

C:\HPCHEM\1\5971\ATUNE.U

Scan: 10.00 - 650.00 Samples: 16 Thresh: 150 Step: 0.10
 136 peaks Base: 69.00 Abundance: 971392

C00 707

Data File : C:\HPCHEM\1\DATA\69012101.B\69012102.D
Acq On : 21 Jan 99 9:50 am
Sample : TST 1330 PNNL CCV LVL 3 20 cc
Misc : 100 ml of ISTD

Vial: 2
Operator: JCE
Inst : 5971 - Sy
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\LOOP40.M
Title : VOC mixture

HNF-4073
Rev. 0

Peak Apex is scan: 3061

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.1	18724	PASS
75	95	30	66	45.1	52356	PASS
95	95	100	100	100.0	116022	PASS
96	95	5	9	6.7	7803	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	81.0	93961	PASS
175	174	4	9	7.3	6825	PASS
176	174	93	101	97.2	91293	PASS
177	176	5	9	6.6	5983	PASS

C00 708

TST Daily Calibration
PNNL Calibration Mix
 Run on 1/21/99
 Initial Calibration on 12/14/98

HNF-4073
Rev. 0

Compound Name	Expected PPB	Amount Found	%Recovery	Flags	
				Low	High CLP
Dichlorodifluoromethane	1000	756	76%		
Chloromethane	1000	768	77%		
12dichloro1122-tetrafluoroeth	1000	793	79%		
Vinyl Chloride	1000	843	84%		
Methanol	3100	3647	118%		
1,3-Butadiene	1600	2035	127%		****
Chloroethane	1000	930	93%		
Ethanol	700	894	128%		****
Acetonitrile	2400	2715	113%		
Acetone	3000	3802	127%		****
Trichlorofluoromethane	1000	788	79%		
Pentane	2500	3137	125%		*** 2 IE
1,1-Dichloroethene	1000	883	88%		
Methylene Chloride	1000	808	81%		
112trichloro122trifluoroethane	1000	933	93%		
1,1-Dichloroethane	1000	785	79%		
2-Butanone	2400	3331	139%		****
cis-1,2-Dichloroethene	1000	865	87%		
Chloroform	1000	829	83%		
1,2-Dichloroethane	1000	780	78%		
1,1,1-Trichloroethane	1000	680	68%	****	
Benzene	1000	817	82%		
Carbon Tetrachloride	1000	573	57%	****	
1,2-Dichloropropane	1000	705	71%	****	
Trichloroethene	1000	795	80%		
cis-1,3-Dichloropropene	900	576	64%	****	
trans-1,3-Dichloropropene	900	532	59%	****	
1,1,2-Trichloroethane	1000	485	49%	****	
Toluene	1000	804	80%		
1,2-Dibromoethane	1000	716	72%	****	
Tetrachloroethylene	1000	829	83%		
Chlorobenzene	1000	830	83%		
Ethylbenzene	1000	823	82%		
p/m-Xylene	2000	1699	85%		
Styrene	1000	783	78%		
1,1,2,2-Tetrachloroethane	1000	682	68%	****	
o-Xylene	1000	812	81%		
1,3,5-Trimethylbenzene	1000	887	89%		
1,2,4-Trimethylbenzene	1000	835	84%		
1,3-Dichlorobenzene	1000	825	83%		
1,4-Dichlorobenzene	1000	906	91%		
1,2-Dichlorobenzene	1000	866	87%		
1,2,4-Trichlorobenzene	1000	686	69%	****	
Hexachloro-1,3-butadiene	1000	650	65%	****	
		1145			
Average recovery		1138	85%		

C00 709

SAS Calibration Mix
Run on 1/21/99
Initial Calibration on 1/19/99

HNF-4073
Rev. 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Propene	1020	631.14	62%	****		
Propane	990	601.51	61%	****		
Dichlorodifluoromethane	1048	736.95	70%	****		
Chloromethane	1010	633.09	63%	****		
Acetaldehyde	1060	1599.51	151%		****	
Butane	1006	627.37	62%	****		
Chloroethane	960	625.41	65%	****		
Ethanol	920	857.69	93%			
Acetonitrile	1010	625.59	62%	****		
Acetone	1010	905.19	90%			
Trichlorofluoromethane	1035	812.99	79%			
Isopropyl Alcohol	1000	919.05	92%			
Furan	990	907.87	92%			
Pentane	998	623.5	62%	****		
Methylene Chloride	978	626.16	64%	****		
112trichloro122trifluoroethane	1014	700.06	69%	****		
Propanenitrile	1000	796.59	80%			
Propanol	940	796.75	85%			
2-Methylpentane	959	605.06	63%	****		
Butanal	790	1701.28	215%		****	
2-Butanone	950	911.33	96%			
1-Hexene	949	627.59	66%	****		
Hexane	963	657.42	68%	****		
Chloroform	1129	767.45	68%	****		
Tetrahydrofuran	1000	922.85	92%			
Butanenitrile	940	702.41	75%	***		
1-Butanol	890	512.98	58%	****		
Benzene	950	678.97	71%	****		
Carbon Tetrachloride	979	634.83	65%	****		
2-Pentanone	960	954.76	99%			
3-Methylhexane	942	674.35	72%	****		
1,4-Dioxane	1000	956.95	96%			
Heptane	951	725.49	76%			
4-Methyl-2-pentanone	910	924.41	102%			
Pyridine	852	583.93	69%	****		
1,1,2-Trichloroethane	964	714.53	74%	****		
Toluene	963	719.35	75%	***		
2-Hexanone	930	907.23	98%			
Octane	973	787.58	81%			
Tetrachloroethylene	930	729.31	78%			
Chlorobenzene	900	698.36	78%			
Ethylbenzene	990	781.59	79%			
p/m-Xylene	1983	1743.17	88%			
3-Heptanone	950	1143.01	120%			
2-Heptanone	920	816.32	89%			
Cyclohexanone	930	1012.39	109%			

000 710

SAS Calibration Mix
Run on 1/21/99
Initial Calibration on 1/19/99

HNF-4073
Rev. 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Styrene	1007	753.83	75%	**X		
1,1,2,2-Tetrachloroethane	1044	898.95	86%			
o-Xylene	960	853.36	89%			
Nonane	888	752.91	85%			
2-Octanone	910	789.67	87%			
1,2,4-Trimethylbenzene	1051	911.77	87%			
Decane	1053	965.7	92%			
Average recovery			83%			

C00 711

Pacific Northwest National Laboratory

HNF-4073

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Rev. 0

Instrument ID: hpdos6.i
Lab File ID: 69012101.d
Lab Smp Id: SAS CCV
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: SAS CCV
Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	521049	260524	1042098	343246	-34.12
31 Difluorobenzene (IS)	1891825	945912	3783650	1204986	-36.31
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1053897	-34.61
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	727606	-33.40

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.90	19.40	20.40	19.93	0.15
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.37	0.11
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.48	0.06
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.23	0.09

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 712

□(s10H

Data File: /chem/hpdos6.i/69012101_PNNL.b/69012102.d

Report Date: 04-Feb-1999 08:13

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
 Lab File ID: 69012102.d
 Lab Smp Id: PNNL CCV
 Analysis Type: VAPOR
 Quant Type: ISTD
 Operator: JCE
 Method File: /chem/hpdos6.i/PNNL_std.m
 Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
 Calibration Time: 1018
 Client Smp ID: PNNL CCV
 Level: LOW
 Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	521049	260524	1042098	394840	-24.22
25 Difluorobenzene (IS)	1891825	945912	3783650	1328234	-29.79
34 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1121805	-30.39
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	633879	-41.98

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	19.90	19.40	20.40	19.90	0.02
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.35	0.04
34 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.46	0.00
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.20	0.01

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Pacific Northwest National Laboratory

HNF-4073

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Rev. 0

Instrument ID: hpdos6.i
Lab File ID: 69012103.d
Lab Smp Id: Method Blank
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: Method Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF	
		LOWER	UPPER			
=====	=====	=====	=====	=====	=====	
23 Bromochloromethane (	521049	260524	1042098	0	-100.00	<-
31 Difluorobenzene (IS)	1891825	945912	3783650	0	-100.00	<-
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	0	-100.00	<-
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	0	-100.00	<-

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF	
		LOWER	UPPER			
=====	=====	=====	=====	=====	=====	
23 Bromochloromethane (	19.90	19.40	20.40	0.00	-100.00	<-
31 Difluorobenzene (IS)	23.34	22.84	23.84	0.00	-100.00	<-
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	0.00	-100.00	<-
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	0.00	-100.00	<-

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 714

□(s10H

Data File: /chem/hpdos6.i/SAS.b/69012104.d

Report Date: 04-Feb-1999 12:22

HNF-4073

Rev. 0

Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS

AREA AND RT SUMMARY

Instrument ID: hpdos6.i

Lab File ID: 69012104.d

Lab Smp Id: VP006-069

Analysis Type: VAPOR

Quant Type: ISTD

Operator: JCE

Method File: /chem/hpdos6.i/sas_std.m

Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99

Calibration Time: 1018

Client Smp ID: BP 03.0 hr

Level: LOW

Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	521049	260524	1042098	361326	-30.65
31 Difluorobenzene (IS)	1891825	945912	3783650	1517836	-19.77
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1245743	-22.70
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	886897	-18.82

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	19.90	19.40	20.40	19.89	-0.04
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.33	-0.05
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.44	-0.04
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.19	-0.02

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 715

□(s10H

Data File: /chem/hpdos6.i/SAS.b/69012105.d
Report Date: 04-Feb-1999 14:49

HNF-4073

Rev. 0 Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i

Lab File ID: 69012105.d

Lab Smp Id: VP006-011

Analysis Type: VAPOR

Quant Type: ISTD

Operator: JCE

Method File: /chem/hpdos6.i/sas_std.m

Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99

Calibration Time: 1018

Client Smp ID: Baseline Stack

Level: LOW

Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	521049	260524	1042098	315369	-39.47
31 Difluorobenzene (IS)	1891825	945912	3783650	1169891	-38.16
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1003062	-37.76
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	682248	-37.55

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	19.90	19.40	20.40	19.89	-0.05
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.33	-0.06
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.45	-0.04
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.20	-0.01

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 716

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : TST 1330 SAS CCV Lvl 3 20 cc
100 ml of ISTD

Instrument ID : hpdos6.i
Method : sas std.m
File : 690I2101.d
Injection Date : 21-JAN-1999 08:24 Operator : JCE
Matrix : AIR Lab. Sample ID: SAS CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.679	247664	21.70	1.1856	631.14	
Propane	23	44.10	7.848	7.846	78386	21.67	1.1842	601.51	
Dichlorodifluoromethane	23	120.91	8.242	8.240	675823	72.80	3.9779	736.95	
Chloromethane	23	50.49	9.129	9.126	186120	26.11	1.4270	633.09	
Acetaldehyde	23	44.05	9.818	9.884	85854	57.56	3.1455	1599.51	
Butane	23	58.12	11.000	10.986	367420	29.79	1.6278	627.37	
Chloroethane	23	64.51	12.280	12.285	123061	32.96	1.8011	625.41	
Ethanol	23	46.07	12.733	12.865	201433	32.28	1.7640	857.69	
Acetonitrile	23	41.05	13.246	13.387	180779	20.98	1.1464	625.59	
Acetone	23	58.08	13.827	13.869	188872	42.95	2.3470	905.19	
Trichlorofluoromethane	23	137.37	14.281	14.273	552193	91.24	4.9858	812.99	
Isopropyl Alcohol	23	60.10	14.399	14.470	499882	45.12	2.4658	919.05	
Furan	23	68.08	14.666	14.667	453250	50.49	2.7593	907.87	
Pentane	23	72.00	15.070	15.071	389177	36.68	2.0041	623.50	
Methylene Chloride	23	84.93	15.898	15.898	218345	43.45	2.3741	626.16	
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.430	466054	107.17	5.8561	700.06	
Propanenitrile	23	55.08	17.152	17.189	207190	35.85	1.9588	796.59	
Propanol	23	60.10	17.181	17.248	407650	39.12	2.1377	796.75	
2-Methylpentane	23	86.18	18.385	18.390	506538	42.60	2.3279	605.06	
Butanal	23	72.11	18.523	18.538	77858	100.22	5.4767	1701.28	
2-Butanone	23	72.11	18.711	18.735	653850	53.69	2.9338	911.33	
1-Hexene	23	84.16	19.372	19.375	232646	43.15	2.3579	627.59	
Hexane	23	86.18	19.944	19.957	354472	46.29	2.5293	657.42	
Chloroform	23	119.38	20.122	20.124	502439	74.85	4.0901	767.45	
Tetrahydrofuran	23	72.11	20.852	20.873	189779	54.37	2.9708	922.85	
Butanenitrile	31	69.11	21.927	21.946	463900	39.66	2.1671	702.41	
1-Butanol	31	74.12	22.381	22.459	167658	31.06	1.6974	512.98	J
Benzene	31	78.11	22.855	22.863	827454	43.33	2.3676	678.97	
Carbon Tetrachloride	31	153.82	23.131	23.149	320039	79.78	4.3594	634.83	
2-Pentanone	31	86.13	23.438	23.455	953107	67.18	3.6711	954.76	
3-Methylhexane	31	100.20	23.991	24.007	425904	55.20	3.0165	674.35	
1,4-Dioxane	31	88.11	24.681	24.706	272427	68.88	3.7642	956.95	
Heptane	31	100.20	25.215	25.229	278956	59.39	3.2453	725.49	

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Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.390	831846	75.64	4.1334	924.41	
Pyridine	31	79.10	26.615	27.119	143530	37.73	2.0620	583.93	J
1,1,2-Trichloroethane	31	133.40	27.858	27.867	268934	77.87	4.2553	714.53	
Toluene	43	92.14	28.489	28.507	537851	54.15	2.9590	719.35	
2-Hexanone	43	100.16	28.825	28.852	726288	74.24	4.0566	907.23	
Octane	43	114.23	30.432	30.437	312306	73.50	4.0163	787.58	
Tetrachloroethylene	43	165.83	31.004	31.009	356809	98.81	5.3992	729.31	
Chlorobenzene	43	112.56	32.572	32.584	672616	64.22	3.5093	698.36	
Ethylbenzene	43	106.17	33.401	33.411	1102043	67.79	3.7045	781.59	
p/m-Xylene	43	106.17	33.826	33.825	830575	151.20	8.2621	1743.17	
3-Heptanone	43	114.19	33.835	33.865	810314	106.63	5.8268	1143.01	
2-Heptanone	54	114.19	33.964	34.023	775741	76.15	4.1614	816.32	
Cyclohexanone	54	98.14	34.281	34.329	97005	81.17	4.4355	1012.39	
Styrene	54	104.15	34.735	34.743	589765	64.14	3.5050	753.83	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.980	585780	123.27	6.7361	898.95	
o-Xylene	54	106.17	35.033	35.040	404775	74.02	4.0447	853.36	
Nonane	54	128.26	35.379	35.385	577077	78.89	4.3111	752.91	
2-Octanone	54	128.21	38.774	38.821	739230	82.71	4.5198	789.67	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.856	955209	89.53	4.8922	911.77	
Decane	54	142.20	40.009	40.024	639084	112.19	6.1305	965.70	
Bromochloromethane (IS)	23	129.40	19.915	19.927	343246	106.00	5.7923	1002.69	
Difluorobenzene (IS)	31	114.00	23.349	23.366	1204986	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.475	1053897	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.232	727606	113.00	6.1749	794.92	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 718

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 SAS CCV LVL 3 20 cc 100 ml of ISTD

02/04/99 07:48

C00 719
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Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 SAS CCV LvL 3 20 cc 100 ml of ISTD

C00 720

02/04/99 07:48

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Page 4

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1330 PNNL CCV LvL 3 20 cc
100 ml of ISTDInstrument ID : hpdos6.1
Method : PNNL std.m
File : 69012102.d
Injection Date : 21-JAN-1999 09:50 Operator : JCE
Matrix : AIR Lab. Sample ID: PNNL CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.220	758702	74.69	4.0814	756.12	
Chloromethane	19	50.49	9.128	9.116	363267	31.66	1.7302	767.60	
12dichloro1122-tetrafluoroeth	19	170.92	9.727	9.776	909776	110.72	6.0505	792.95	
Vinyl Chloride	19	62.50	10.150	10.209	291174	43.04	2.3522	843.02	
Methanol	19	32.04	10.475	10.475	621084	95.45	5.2160	3646.65	
1,3-Butadiene	19	54.00	10.721	10.771	508589	89.78	4.9060	2035.10	
Chloroethane	19	64.51	12.269	12.267	142196	49.01	2.6782	929.97	
Ethanol	19	46.07	12.880	12.956	116227	33.63	1.8379	893.62	
Acetonitrile	19	41.05	13.362	13.320	550256	91.05	4.9755	2715.01	
Acetone	19	58.08	13.855	13.852	385100	180.40	9.8577	3801.87	
Trichlorofluoromethane	19	137.37	14.269	14.266	619828	88.39	4.8300	787.60	
Pentane	19	72.00	15.067	15.064	1765378	184.52	10.0829	3136.91	
1,1-Dichloroethene	19	96.94	15.586	15.645	256597	69.96	3.8230	883.37	
Methylene Chloride	19	84.93	15.885	15.892	232255	56.04	3.0625	807.72	
112trichloro122trifluoroethane	19	187.38	16.418	16.414	466807	142.77	7.8016	932.63	
1,1-Dichloroethane	19	98.96	18.009	18.079	495003	63.47	3.4684	785.08	
2-Butanone	19	72.11	18.725	18.739	340632	196.25	10.7243	3331.36	
cis-1,2-Dichloroethene	19	96.94	19.536	19.586	251328	68.52	3.7445	865.23	
Chloroform	19	119.38	20.106	20.108	570444	80.90	4.4205	829.45	
1,2-Dichloroethane	19	98.96	21.418	21.487	331681	63.09	3.4478	780.42	
1,1,1-Trichloroethane	25	133.40	21.920	21.980	501193	74.10	4.0490	679.90	
Benzene	25	78.11	22.846	22.847	962099	52.13	2.8484	816.84	
Carbon Tetrachloride	25	153.82	23.123	23.123	400931	72.00	3.9344	572.94	
1,2-Dichloropropane	25	112.99	24.285	24.355	334807	65.11	3.5577	705.30	
Trichloroethene	25	131.39	24.719	24.779	434396	85.37	4.6648	795.28	
cis-1,3-Dichloropropene	25	110.97	26.324	26.393	305018	52.21	2.8532	575.94	
trans-1,3-Dichloropropene	25	110.97	27.348	27.417	130692	48.20	2.6337	531.64	
1,1,2-Trichloroethane	25	133.40	27.845	27.851	320657	52.87	2.8892	485.14	
Toluene	34	92.14	28.476	28.491	648829	60.52	3.3069	803.93	
1,2-Dibromoethane	34	187.86	29.947	30.017	365962	109.88	6.0042	715.93	
Tetrachloroethylene	34	165.83	30.999	30.992	427417	112.27	6.1347	828.67	
Chlorobenzene	34	112.56	32.566	32.567	800432	76.35	4.1723	830.30	
Ethylbenzene	34	106.17	33.394	33.395	1418653	71.34	3.8986	822.53	

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Page 1

Hamford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.828	1045842	147.34	8.0514	1698.70	
Styrene	41	104.15	34.727	34.724	672463	66.61	3.6400	782.88	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.961	699984	93.56	5.1128	682.31	
o-Xylene	41	106.17	35.024	35.021	500909	70.46	3.8500	812.28	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.359	1346650	87.06	4.7576	886.68	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.846	1222910	82.03	4.4826	835.42	
1,3-Dichlorobenzene	41	147.00	40.328	40.388	905925	99.11	5.4160	825.29	J
1,4-Dichlorobenzene	41	147.00	40.525	40.595	1018670	108.79	5.9450	905.90	
1,2-Dichlorobenzene	41	147.00	41.658	41.728	961341	103.97	5.6816	865.77	
1,2,4-Trichlorobenzene	41	181.45	47.866	47.937	550847	101.72	5.5584	686.19	
Hexachloro-1,3-butadiene	41	260.76	49.660	49.721	438655	138.45	7.5658	649.93	
Bromochloromethane (IS)	19	129.40	19.898	19.901	394840	121.00	6.6120	1144.58	
Difluorobenzene (IS)	25	114.00	23.340	23.350	1328234	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.458	1121805	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.202	633879	162.00	8.8525	1139.63	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

000 722

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 PNNL CCV LvL 3 20 cc 100 ml of ISTD

C00 723

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 PNNL CCV LvL 3 20 cc 100 ml of ISTD

C00 724

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 Method Blank
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas_std.m
File : 69012103.d
Injection Date : 21-JAN-99 11:46 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680				0.0018	0.94	U
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818				0.0190	9.66	U
Butane	23	58.12	11.000				0.0024	0.92	U
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733				0.0043	2.12	U
Acetonitrile	23	41.05	13.246				0.0043	2.32	U
Acetone	23	58.08	13.827				0.0024	0.93	U
Trichlorofluoromethane	23	137.37	14.281				0.0058	0.95	U
Isopropyl Alcohol	23	60.10	14.399				0.0062	2.29	U
Puran	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070				0.0029	0.92	U
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
1,1,2-trichloro-1,2,2-trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152				0.0023	0.92	U
Propanol	23	60.10	17.181				0.0058	2.16	U
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523				0.0059	1.82	U
2-Butanone	23	72.11	18.711				0.0070	2.17	U
1-Hexene	23	84.16	19.372				0.0033	0.87	U
Hexane	23	86.18	19.944				0.0034	0.88	U
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927				0.0027	0.86	U
1-Butanol	31	74.12	22.381				0.0270	8.16	U
Benzene	31	78.11	22.855				0.0030	0.87	U
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991				0.0039	0.86	U
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215				0.0039	0.87	U

C00 725

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Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368				0.0037	0.83	U
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489				0.0036	0.89	U
2-Hexanone	43	100.16	28.825				0.0038	0.85	U
Octane	43	114.23	30.432				0.0046	0.89	U
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401				0.0043	0.91	U
p/m-Xylene	43	106.17	33.826				0.0033	0.69	U
3-Heptanone	43	114.19	33.835				0.0044	0.87	U
2-Heptanone	54	114.19	33.964				0.0043	0.84	U
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033				0.0042	0.88	U
Nonane	54	128.26	35.379				0.0046	0.81	U
2-Octanone	54	128.21	38.774				0.0047	0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009				0.0061	0.96	U
Bromochloromethane (IS)	23	129.40	19.915				0.0050	0.87	U
Difluorobenzene (IS)	31	114.00	23.349				0.0050	0.98	U
Chlorobenzene-d5 (IS)	43	119.56	32.463				0.0050	0.94	U
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209				0.0050	0.64	U

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	---	-----	-----	-----	-----	-----

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 726

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 Method Blank

100 ml of ISTD

02/04/99 07:48

C00 727
69012103.d

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 Method Blank

100 ml of ISTD

C00 728

02/04/99 07:48

69012103.d

Page 4

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 Method Blank
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 69012103.d
Injection Date : 21-JAN-99 11:46 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242			0.0050	0.92	U	
Chloromethane	19	50.49	9.128			0.0021	0.91	U	
12dichloro1122-tetrafluoroeth	19	170.92	9.727			0.0070	0.92	U	
Vinyl Chloride	19	62.50	10.150			0.0025	0.91	U	
Methanol	19	32.04	10.475			0.0100	6.99	U	
1,3-Butadiene	19	54.00	10.721			0.0035	1.47	U	
Chloroethane	19	64.51	12.269			0.0027	0.92	U	
Ethanol	19	46.07	12.880			0.0130	6.32	U	
Acetonitrile	19	41.05	13.362			0.0040	2.21	U	
Acetone	19	58.08	13.855			0.0071	2.76	U	
Trichlorofluoromethane	19	137.37	14.269			0.0056	0.91	U	
Pentane	19	72.00	15.067			0.0073	2.29	U	
1,1-Dichloroethene	19	96.94	15.586			0.0040	0.91	U	
Methylene Chloride	19	84.93	15.885			0.0035	0.92	U	
112trichloro122trifluoroethane	19	187.38	16.418			0.0076	0.91	U	
1,1-Dichloroethane	19	98.96	18.009			0.0040	0.92	U	
2-Butanone	19	72.11	18.725			0.0070	2.19	U	
cis-1,2-Dichloroethene	19	96.94	19.536			0.0040	0.91	U	
Chloroform	19	119.38	20.106			0.0049	0.92	U	
1,2-Dichloroethane	19	98.96	21.418			0.0040	0.92	U	
1,1,1-Trichloroethane	25	133.40	21.920			0.0054	0.92	U	
Benzene	25	78.11	22.846			0.0032	0.92	U	
Carbon Tetrachloride	25	153.82	23.123			0.0063	0.91	U	
1,2-Dichloropropane	25	112.99	24.285			0.0046	0.91	U	
Trichloroethene	25	131.39	24.719			0.0054	0.92	U	
cis-1,3-Dichloropropene	25	110.97	26.324			0.0100	2.02	U	
trans-1,3-Dichloropropene	25	110.97	27.348			0.0100	2.02	U	
1,1,2-Trichloroethane	25	133.40	27.845			0.0037	0.63	U	
Toluene	34	92.14	28.476			0.0037	0.91	U	
1,2-Dibromoethane	34	187.86	29.947			0.0077	0.92	U	
Tetrachloroethylene	34	165.83	30.999			0.0077	1.04	U	
Chlorobenzene	34	112.56	32.566			0.0046	0.92	U	
Ethylbenzene	34	106.17	33.394			0.0043	0.92	U	

C00 729

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809				0.0087	1.84	U
Styrene	41	104.15	34.727				0.0043	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024				0.0043	0.92	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898				0.0250	4.33	U
Difluorobenzene (IS)	25	114.00	23.340				0.0250	4.91	U
Chlorobenzene-d5 (IS)	34	119.56	32.457				0.0250	4.68	U
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198				0.0250	3.22	U

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 730

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 Method Blank

100 ml of ISTD

C00 731

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 Method Blank

100 ml of ISTD

C00 732

02/04/99 08:14

69012103.d

Page 4

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1347 VP006-069 BP @3.0 hr
 100. ml of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : sas std.m
 File : 690I2104.d
 Injection Date : 21-JAN-1999 14:13 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-069
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 180 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.659	166777	13.88	0.0771	41.05	
Propane	23	44.10	7.848	7.837	61313	16.10	0.0895	45.44	
Dichlorodifluoromethane	23	120.91	8.242	8.212	27147	2.78	0.0154	2.86	J
Chloromethane	23	50.49	9.129				0.0023	1.03	U
Acetaldehyde	23	44.05	9.818	9.799	216779	138.07	0.7671	390.06	
Butane	23	58.12	11.000	10.952	417625	32.16	0.1787	68.87	
Chloroethane	23	64.51	12.280				0.0028	0.98	U
Ethanol	23	46.07	12.733	12.825	5010306	762.76	4.2376	2060.38	
Acetonitrile	23	41.05	13.246	13.268	53693	5.92	0.0329	17.94	J
Acetone	23	58.08	13.827	13.850	124730	26.94	0.1497	57.73	
Trichlorofluoromethane	23	137.37	14.281	14.254	4430737	695.46	3.8627	630.02	
Isopropyl Alcohol	23	60.10	14.399	14.520	161362	13.84	0.0769	28.65	
Furan	23	68.08	14.666				0.0031	1.01	U
Pentane	23	72.00	15.070	15.043	154741	13.85	0.0770	23.94	
Methylene Chloride	23	84.93	15.898	15.870	37435	7.08	0.0393	10.37	
112trichloro122trifluoroethane	23	187.38	16.422	16.392	7108	1.55	0.0086	1.03	J
Propanenitrile	23	55.08	17.152	17.180	12101	1.99	0.0110	4.49	J
Propanol	23	60.10	17.181	17.072	491840	44.84	0.2491	92.84	
2-Methylpentane	23	86.18	18.385				0.0038	0.98	U
Butanal	23	72.11	18.523	18.550	3465	4.24	0.0235	7.31	J
2-Butanone	23	72.11	18.711	18.737	29973	2.34	0.0130	4.03	J
1-Hexene	23	84.16	19.372	19.357	175525	30.93	0.1718	45.73	
Hexane	23	86.18	19.944	19.929	816152	101.24	0.5624	146.19	
Chloroform	23	119.38	20.122	20.097	17192	2.43	0.0135	2.54	J
Tetrahydrofuran	23	72.11	20.852	20.875	1375	0.37	0.0021	0.65	J
Butanenitrile	31	69.11	21.927	21.939	47206	3.20	0.0178	5.77	J
1-Butanol	31	74.12	22.381	22.451	29493	4.34	0.0241	7.28	J
Benzene	31	78.11	22.855	22.835	65652	2.73	0.0152	4.35	J
Carbon Tetrachloride	31	153.82	23.131	23.121	11176	2.21	0.0123	1.79	J
2-Pentanone	31	86.13	23.438	23.467	51101	2.86	0.0159	4.13	J
3-Methylhexane	31	100.20	23.991	23.969	29304	3.02	0.0168	3.74	J
1,4-Dioxane	31	88.11	24.681				0.0100	2.54	U
Heptane	31	100.20	25.215	25.191	321097	54.27	0.3015	67.40	

C00 733

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Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.354	12945	0.93	0.0052	1.16	J
Pyridine	31	79.10	26.615				0.1110	31.43	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0058	0.98	U
Toluene	43	92.14	28.489	28.473	154959	13.20	0.0733	17.83	
2-Hexanone	43	100.16	28.825	28.808	45245	3.91	0.0217	4.86	J
Octane	43	114.23	30.432	30.405	103013	20.51	0.1139	22.34	
Tetrachloroethylene	43	165.83	31.004				0.0070	0.95	U
Chlorobenzene	43	112.56	32.572				0.0046	0.92	U
Ethylbenzene	43	106.17	33.401	33.380	19229	1.00	0.0056	1.17	J
p/m-Xylene	43	106.17	33.826	33.775	20341	3.13	0.0174	3.67	J
3-Heptanone	43	114.19	33.835	33.814	1953111	217.43	1.2080	236.96	
2-Heptanone	54	114.19	33.964	33.952	432970	34.87	0.1937	38.00	
Cyclohexanone	54	98.14	34.281				0.0104	2.37	U
Styrene	54	104.15	34.735				0.0048	1.03	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0079	1.06	U
o-Xylene	54	106.17	35.033	34.997	5499	0.82	0.0046	0.97	J
Nonane	54	128.26	35.379	35.362	80488	9.03	0.0502	8.76	J
2-Octanone	54	128.21	38.774	39.987	216710	19.89	0.1105	19.31	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0057	1.07	U
Decane	54	142.20	40.009	39.987	217435	31.31	0.1740	27.40	
Bromochloromethane (IS)	23	129.40	19.915	19.890	361326	106.00	0.5889	101.94	
Difluorobenzene (IS)	31	114.00	23.349	23.328	1517836	106.00	0.5889	115.71	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.444	1245743	113.00	0.6278	117.62	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.190	886897	113.00	0.6278	80.82	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Methyl formate	23	60	107-31-3	11.533	913975	19.66	0.1092	40.77	NJ
Unknown	23	61		17.082	874286	18.80	0.1045	38.36	J
3-Heptene, (E)-	31	98	14686-14-7	25.043	2598750	69.30	0.3850	88.00	NJ
2-Heptene	31	98	592-77-8	25.399	3290070	87.73	0.4874	111.41	NJ
2-Heptene, (E)-	31	98	14686-13-6	25.891	2054431	54.78	0.3044	69.57	NJ
Heptane, 4-methyl-	43	114	589-53-7	28.098	642476	18.72	0.1040	20.44	NJ
2-Heptyne	43	96	1119-65-9	28.670	720665	21.00	0.1167	27.22	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.114	1794440	52.29	0.2905	57.09	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.763	5304040	154.57	0.8587	171.75	NJ
2-Octene	43	112	111-67-1	30.843	557238	16.24	0.0902	18.04	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.809	915535	26.68	0.1482	29.65	NJ
2-Octene	43	112	111-67-1	31.065	829924	24.19	0.1344	26.87	NJ
Hexane, 2,3,5-trimethyl-	43	128	1069-53-0	31.419	485616	14.15	0.0786	13.76	NJ
4-Heptanone	43	114	123-19-3	33.193	1131420	32.97	0.1832	35.99	NJ
Unknown	54	0		36.782	1733580	46.00	0.2556		J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.900	1166460	30.95	0.1720	30.10	J
3-Octen-2-one	54	126	1669-44-9	37.167	1075057	28.53	0.1585	28.18	J
Unknown C9 Alkene/Cycloalkane (mw 126)	54	126		37.325	519450	13.78	0.0766	13.61	J
Unknown	54	124		39.444	776235	20.60	0.1144	20.67	J
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		40.125	450207	11.95	0.0664	10.62	J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.687	1941253	51.52	0.2862	49.31	NJ

C00 734

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02/08/99 09:50

Page 2

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Undecane	54	156	1120-21-4	44.287	2631914	69.84	0.3880	55.72	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.714	426844	11.33	0.0629	9.27	NJ
Dodecane	54	170	112-40-3	48.283	9830478	234.34	1.3019	171.54	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.905	1787669	47.44	0.2636	32.09	NJ
Cyclododecane	54	168	294-62-2	50.326	704413	18.69	0.1039	13.85	NJ
Unknown C12 Alkane (mw 170)	54	170		51.146	1852605	49.16	0.2731	35.99	J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.621	830182	22.03	0.1224	15.06	J
Tridecane	54	184	629-50-5	52.006	24706072	655.64	3.6424	443.43	NJ
Unknown C13 Alkane (mw 184)	54	184		54.866	622333	16.52	0.0918	11.17	J
Tetradecane	54	198	629-59-4	55.489	3692267	97.98	0.5444	61.58	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	4928460
Difluorobenzene (IS)	31	3975085
Chlorobenzene-d5 (IS)	43	3877507
1-Bromo-4-Fluorobenzene (IS)	54	4258125

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 735

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1347 VP006-069 BP @3.0 hr 100 ml of ISTD

C00 736

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012104.d

HNF-4073
Rev. 0

Sample Info : TST 1347 VP006-069 BP @3.0 hr 100 ml of ISTD

C00 737

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

C00 738

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

1 Propene

C00 739

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Propane

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

3 Dichlorodifluoromethane

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

5 Acetaldehyde

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

6 Butane

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

8 Ethanol

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

9 Acetonitrile

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

C00 748

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

15 Methylene Chloride

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

16 112trichloro122trifluoroethane

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Instrument: hpdos6.i

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

17 Propanenitrile

C00 751

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Instrument: hpdos6.i

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanol

C00 752

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Instrument: hpdos6.i

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

20 Butanal

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

21 2-Butanone

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Instrument: hpdos6.1

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

22 1-Hexene

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Instrument: hpdos6.1

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

27 Butanenitrile

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Instrument: hpdos6.i

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

28 1-Butanol

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Instrument: hpdos6.i

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

29 Benzene

000 761

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Instrument: hpdos6.i

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

30 Carbon Tetrachloride

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

33 3-Methylhexane

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

35 Heptane

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 Toluene

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

40 2-Hexanone

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

41 Octane

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

45 Ethylbenzene

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

46 p/m-Xylene

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

47 3-Heptanone

C00 770

Date: 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 2-Heptanone

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

52 o-Xylene

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

53 Nonane

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

55 2-Octanone

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

57 Decane

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Methyl formate
Formic acid, methyl ester
Formic acid, methyl ester

CAS Number	Library	Entry	Quality	Formula	Weight
107-31-3	nbs75k.1	114	78	C2H4O2	60
107-31-3	WILEY138.1	116126	9	C2H4O2	60
107-31-3	WILEY138.1	116124	9	C2H4O2	60

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TSI 1347 VP006-069 BP 03.0 hr

HNF-4073

Instrument: hpdos6.i Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown

1,2-Ethanediol

Ethanol, 2-amino-

Methane, nitro-

CAS Number

Library

Entry

Quality

Formula

Weight

107-21-1

nbs75k.1

137

23

C2H6O2

62

141-43-5

WILEY138.1

116178

5

C2H7NO

61

75-52-5

WILEY138.1

116170

4

CH3NO2

61

Data File: /chem/hpdos6.1/SAS.b/69012104.d

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

HNF-4073

Page 42

Rev. 0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

3-Heptene, (E)-

3-Heptene

3-Heptene

CAS Number	Library	Entry	Quality	Formula	Weight
14686-14-7	nbs75k.1	1352	94	C7H14	98
592-78-9	nbs75k.1	63247	94	C7H14	98
592-78-9	WILEY138.1	901	94	C7H14	98

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Instrument: hpdos6.1

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Operator: JCE

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

2-Heptene

CAS Number	Library	Entry	Quality	Formula	Weight
592-77-8	WILEY138.1	899	97	C7H14	98
592-77-8	nbs75k.1	63245	96	C7H14	98
14686-13-6	nbs75k.1	63254	96	C7H14	98

2-Heptene

2-Heptene, (E)-

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	95	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	97	C7H14	98
2-Heptene	592-77-8	WILEY138.1	899	96	C7H14	98

C00 780

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 4-methyl-	589-53-7	nbs75k.1	64225	78	C8H18	114
Pentane, 2,3,4-trimethyl-	565-75-3	nbs75k.1	64229	78	C8H18	114
Pentane, 3-ethyl-	617-78-7	nbs75k.1	1595	78	C7H16	100

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	98	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	94	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	94	C7H12	96

000 782

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	91	C8H18	114
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	90	C8H18	114

C00 783

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64031	90	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	90	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	2656	90	C8H16	112

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	91	C8H16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	90	C8H16	112
2-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2667	83	C8H16	112

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	2659	90	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	94	C8H16	112
3-Octene, (E)-	14919-01-8	nbs75k.1	2682	94	C8H16	112

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

2-HEPTENE, 3-METHYL-
Heptane, 3-methylene-
1-PENTENE, 2-ETHYL-4-METHYL-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	95	C8H16	112
1632-16-2	nbs75k.1	64033	83	C8H16	112
0-00-0	WILEY138.1	2686	78	C8H16	112

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	WILEY138.1	119056	83	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	52	C8H16	112
2-Octene, (Z)-	7642-04-8	WILEY138.1	2640	52	C8H16	112

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	rhs75k.1	64153	87	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119317	86	C7H14O	114
3-Pentanone, 2,4-dimethyl-	565-80-0	WILEY138.1	119335	78	C7H14O	114

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

1-Methyl-2-cyclopenten-1-ol

Furan, 2-methoxy-

Furan, 2-methoxy-

CAS Number	Library	Entry	Quality	Formula	Weight
40459-88-9	WILEY138.1	844	64	C6H10O	98
25414-22-6	nbs75k.1	1208	53	C5H6O2	98
25414-22-6	WILEY138.1	756	53	C5H6O2	98

C00 790

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)

1,3,2-Dioxaborolane, 2,4-diethyl-

1,3,2-Dioxaborolane, 2,4-diethyl-

Furan, 2,5-diethyltetrahydro-

CAS Number	Library	Entry	Quality	Formula	Weight
57633-63-3	nbs75k.1	4896	80	C6H13BO2	128
57633-63-3	WILEY138.1	5771	80	C6H13BO2	128
41239-48-9	nbs75k.1	5105	72	C8H16O	128

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one	1669-44-9	nbs75k.1	64901	12	C8H14O	126
Formaldehyde, (1-methylethyl)(2-propenyl	0-00-0	nbs75k.1	4498	33	C7H14N2	126
Oxazole, trimethyl-	20662-84-4	WILEY138.1	2343	33	C6H9NO	111

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

2-Pentene, 2-methyl-

Cyclopropane, 1,1,2-trimethyl-

1-Butene, 3,3-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
625-27-4	nbs75k.1	62764	72	C6H12	84
4127-45-1	nbs75k.1	605	72	C6H12	84
558-37-2	nbs75k.1	62757	72	C6H12	84

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

2-Azabicyclo[2.2.1]heptane

Hexanenitrile

1-Buten-4-yl methacrycate

CAS Number

Library

Entry

Quality

Formula

Weight

279-24-3

WILEY138.1

699

83

C6H11N

97

628-73-9

nbs75k.1

63154

36

C6H11N

97

0-00-0

WILEY138.1

9179

36

C8H12O2

140

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

Nonanol

Nonanol

Cycloheptane

CAS Number	Library	Entry	Quality	Formula	Weight
28473-21-4	nbs75k.1	66361	53	C9H20O	144
28473-21-4	WILEY138.1	122959	53	C9H20O	144
291-64-5	nbs75k.1	63231	50	C7H14	98

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65294	83	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121201	83	C8H18O	130

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Undecane

1120-21-4

nbs75k.1

67317

94

C11H24

156

Undecane

1120-21-4

nbs75k.1

67319

93

C11H24

156

Undecane

1120-21-4

WILEY138.1

124548

91

C11H24

156

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	89	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124046	89	C11H20	152
TRANS-ANTI-1-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13878	89	C11H20	152

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

HNF-4073

Page 64

Instrument: hpdos6.1
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	95	C12H26	170
Dodecane	112-40-3	nbs75k.1	68251	94	C12H26	170
Dodecane	112-40-3	WILEY138.1	126000	94	C12H26	170

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.l	19058	94	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.l	69032	90	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.l	69033	90	C13H28	184

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclododecane	294-62-2	nbs75k.1	68126	83	C12H24	168
1-Tridecene	2437-56-1	WILEY138.1	127044	93	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68867	86	C13H26	182

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Decane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	nbs75k.1	22538	90	C14H30	198
26730-14-3	WILEY138.1	128289	90	C14H30	198
6975-98-0	nbs75k.1	67321	78	C11H24	156

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C13 Alkene/Cycloalkane (mw 182)

4-Nonene, 5-butyl-

4-Nonene, 5-butyl-

3-Tetradecene, (E)-

CAS Number

Library

Entry

Quality

Formula

Weight

7367-38-6

nbs75k.1

18496

90

C13H26

182

7367-38-6

WILEY138.1

127047

90

C13H26

182

41446-68-8

nbs75k.1

21967

74

C14H28

196

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	18989	96	C13H28	184
Tridecane	629-50-5	nbs75k.1	69019	94	C13H28	184
Tridecane	629-50-5	WILEY138.1	127254	94	C13H28	184

Date : 21-JAN-1999 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C13 Alkane (mw 184)

Dodecane, 2,6,10-trimethyl-

Dodecane, 2,6,10-trimethyl-

Dodecane, 2,6,10-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
3891-98-3	nbs75k.1	25995	86	C15H32	212
3891-98-3	WILEY138.1	40638	86	C15H32	212
3891-98-3	nbs75k.1	70270	72	C15H32	212

Date : 21-JAN-1999 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	96	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69662	94	C14H30	198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1347 VP006-069 BP @3.0 hr
 100. ml of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.1
 Method : PNNL_std.m
 File : 69012104.d
 Injection Date : 21-JAN-99 14:13 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-069
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 180 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	19	120.91	8.242	8.212	27147	2.92	0.0162	3.01	J
Chloromethane	19	50.49	9.128				0.0023	1.01	U
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727				0.0078	1.02	U
Vinyl Chloride	19	62.50	10.150				0.0028	1.01	U
Methanol	19	32.04	10.475	10.646	162055902	27216.10	151.2005	105708.25	E
1,3-Butadiene	19	54.00	10.721				0.0039	1.63	U
Chloroethane	19	64.51	12.269				0.0029	1.02	U
Ethanol	19	46.07	12.880	12.825	4136899	1308.17	7.2676	3533.64	E
Acetonitrile	19	41.05	13.362	13.268	53693	9.71	0.0539	29.43	U
Acetone	19	58.08	13.855	13.850	141326	72.34	0.4019	155.01	U
Trichlorofluoromethane	19	137.37	14.269	14.254	4430737	690.44	3.8358	625.47	E
Pentane	19	72.00	15.067	15.043	154741	17.67	0.0982	30.55	U
1,1-Dichloroethene	19	96.94	15.586	15.644	7513	2.24	0.0124	2.87	J
Methylene Chloride	19	84.93	15.885	15.870	37435	9.87	0.0548	14.46	U
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418	16.392	7108	2.38	0.0132	1.58	J
1,1-Dichloroethane	19	98.96	18.009				0.0045	1.02	U
2-Butanone	19	72.11	18.725	18.727	6954	4.38	0.0243	7.56	J
cis-1,2-Dichloroethene	19	96.94	19.536				0.0044	1.01	U
Chloroform	19	119.38	20.106	20.097	17192	2.66	0.0148	2.78	J
1,2-Dichloroethane	19	98.96	21.418				0.0045	1.02	U
1,1,1-Trichloroethane	25	133.40	21.920	21.968	49683	6.43	0.0357	6.00	J
Benzene	25	78.11	22.846	22.835	65652	3.11	0.0173	4.96	J
Carbon Tetrachloride	25	153.82	23.123	23.121	11176	1.76	0.0098	1.42	J
1,2-Dichloropropane	25	112.99	24.285				0.0051	1.01	U
Trichloroethene	25	131.39	24.719	24.758	363703	62.55	0.3475	59.24	U
cis-1,3-Dichloropropene	25	110.97	26.324				0.0111	2.24	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0111	2.24	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0042	0.70	U
Toluene	34	92.14	28.476	28.473	154959	13.01	0.0723	17.58	U
1,2-Dibromoethane	34	187.86	29.947				0.0086	1.02	U
Tetrachloroethylene	34	165.83	30.999				0.0086	1.16	U
Chlorobenzene	34	112.56	32.566				0.0051	1.02	U
Ethylbenzene	34	106.17	33.394	33.380	19229	0.87	0.0048	1.02	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.775	20341	2.58	0.0143	3.02	J
Styrene	41	104.15	34.727				0.0047	1.02	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0076	1.02	U
o-Xylene	41	106.17	35.024	34.997	5497	0.70	0.0039	0.82	J
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0054	1.01	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0054	1.01	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0667	10.16	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0067	1.02	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0067	1.02	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0083	1.03	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0117	1.01	U
Bromochloromethane (IS)	19	129.40	19.898	19.890	361326	121.00	0.6722	116.37	
Difluorobenzene (IS)	25	114.00	23.340	23.328	1517836	106.00	0.5889	115.71	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.444	1245743	113.00	0.6278	117.62	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.199	704045	162.00	0.9000	115.86	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1347 VP006-069 BP @3.0 hr 100 ml of ISTD

C00 809

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012104.d

HNF-4073
Rev. 0

Sample Info : TST 1347 VP006-069 BP @3.0 hr 100 ml of ISTD

Data File: /chem/hpdos6.i/PNNL.b/69012104.d

Page 1

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

C00 811

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Dichlorodifluoromethane

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Methanol

Date : 21-JAN-99 14:13

Client ID: BP @3.0 hr

Sample Info: TST 1347 VP006-069 BP @3.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

8 Ethanol

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

9 Acetonitrile

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Acetone

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

12 Pentane

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 1,1-Dichloroethene

Date: 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Methylene Chloride

C00 820

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

15 112trichloro122trifluoroethane

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

17 2-Butanone

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

20 Chloroform

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1,1,1-Trichloroethane

C00 824

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

23 Benzene

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Carbon Tetrachloride

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

27 Trichloroethene

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

31 Toluene

C00 828

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

36 Ethylbenzene

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 p/m-Xylene

Date : 21-JAN-99 14:13

Client ID: BP 03.0 hr

Sample Info: TST 1347 VP006-069 BP 03.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 o-Xylene

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-011 Baseline Stack
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas std.m
File : 690I2105.d
Injection Date : 21-JAN-1999 15:33 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-011
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 180 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.650	94249	8.99	0.0499	26.58	
Propane	23	44.10	7.848	7.837	21912	6.59	0.0366	18.61	J
Dichlorodifluoromethane	23	120.91	8.242				0.0058	1.07	U
Chloromethane	23	50.49	9.129				0.0023	1.03	U
Acetaldehyde	23	44.05	9.818	9.904	77589	56.62	0.3146	159.95	
Butane	23	58.12	11.000	10.947	126668	11.18	0.0621	23.93	
Chloroethane	23	64.51	12.280				0.0028	0.98	U
Ethanol	23	46.07	12.733				0.0048	2.35	U
Acetonitrile	23	41.05	13.246				0.0047	2.58	U
Acetone	23	58.08	13.827	14.038	26148	6.47	0.0360	13.87	
Trichlorofluoromethane	23	137.37	14.281	14.245	25127	4.52	0.0251	4.09	J
Isopropyl Alcohol	23	60.10	14.399				0.0068	2.55	U
Furan	23	68.08	14.666				0.0031	1.01	U
Pentane	23	72.00	15.070	15.043	67310	6.90	0.0384	11.93	
Methylene Chloride	23	84.93	15.898				0.0038	1.00	U
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.372	3754	0.94	0.0052	0.62	J
Propanenitrile	23	55.08	17.152				0.0025	1.02	U
Propanol	23	60.10	17.181				0.0064	2.40	U
2-Methylpentane	23	86.18	18.385				0.0038	0.98	U
Butanal	23	72.11	18.523	18.558	5202	7.29	0.0405	12.58	J
2-Butanone	23	72.11	18.711	18.863	6308	0.56	0.0031	0.97	J
1-Hexene	23	84.16	19.372	19.355	15518	3.13	0.0174	4.63	J
Hexane	23	86.18	19.944	19.917	91862	13.06	0.0725	18.85	
Chloroform	23	119.38	20.122				0.0061	1.15	U
Tetrahydrofuran	23	72.11	20.852	20.942	4406	1.37	0.0076	2.37	J
Butanenitrile	31	69.11	21.927	22.015	30472	2.68	0.0149	4.83	J
1-Butanol	31	74.12	22.381	22.035	1758	0.34	0.0019	0.56	J
Benzene	31	78.11	22.855	22.842	19756	1.07	0.0059	1.70	J
Carbon Tetrachloride	31	153.82	23.131				0.0068	0.99	U
2-Pentanone	31	86.13	23.438	23.671	8908	0.65	0.0036	0.93	J
3-Methylhexane	31	100.20	23.991				0.0043	0.96	U
1,4-Dioxane	31	88.11	24.681				0.0100	2.54	U
Heptane	31	100.20	25.215	25.178	26856	5.89	0.0327	7.31	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.498	11205	1.05	0.0058	1.30	J
Pyridine	31	79.10	26.615				0.1110	31.43	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0058	0.98	U
Toluene	43	92.14	28.489	28.477	14896	1.58	0.0088	2.13	J
2-Hexanone	43	100.16	28.825				0.0042	0.94	U
Octane	43	114.23	30.432	30.407	16199	4.01	0.0223	4.36	J
Tetrachloroethylene	43	165.83	31.004				0.0070	0.95	U
Chlorobenzene	43	112.56	32.572				0.0046	0.92	U
Ethylbenzene	43	106.17	33.401	33.391	3193	0.21	0.0011	0.24	J
p/m-Xylene	43	106.17	33.826	33.814	5224	1.00	0.0056	1.17	J
3-Heptanone	43	114.19	33.835	33.883	265170	36.66	0.2037	39.96	
2-Heptanone	54	114.19	33.964				0.0048	0.94	U
Cyclohexanone	54	98.14	34.281				0.0104	2.37	U
Styrene	54	104.15	34.735				0.0048	1.03	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0079	1.06	U
o-Xylene	54	106.17	35.033				0.0046	0.97	U
Nonane	54	128.26	35.379	35.370	16082	2.34	0.0130	2.28	J
2-Octanone	54	128.21	38.774				0.0053	0.92	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0057	1.07	U
Decane	54	142.20	40.009	39.987	98559	18.45	0.1025	16.15	
Bromochloromethane (IS)	23	129.40	19.915	19.887	315369	106.00	0.5889	101.94	
Difluorobenzene (IS)	31	114.00	23.349	23.326	1169891	106.00	0.5889	115.71	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.445	1003062	113.00	0.6278	117.62	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.196	682248	113.00	0.6278	80.82	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Cyclotrisiloxane, hexamethyl-	43	222	541-05-9	31.116	331346	13.62	0.0756	7.63	NJ
Undecane	54	156	1120-21-4	44.277	1995286	79.00	0.4389	63.02	NJ
Dodecane	54	170	112-40-3	48.282	1989746	78.78	0.4377	57.67	NJ
Tridecane	54	184	629-50-5	52.014	1729363	68.47	0.3804	46.31	NJ
Tetradecane	54	198	629-59-4	55.502	329688	13.05	0.0725	8.20	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	1531153
Difluorobenzene (IS)	31	2601265
Chlorobenzene-d5 (IS)	43	2749666
1-Bromo-4-Fluorobenzene (IS)	54	2854058

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

000 833

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-011 Baseline Stack 100 ml of ISTD

C00 834

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-011 Baseline Stack 100 ml of ISTD

C00 835

02/08/99 09:50

69012105.d

Page 4

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JOE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

C00 836

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

1 Propene

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Propane

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

6 Butane

C00 840

Date: 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

16 112trichloro122trifluoroethane

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

20 Butanal

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Instrument: hpdos6.i

Sample Info: TST 1378 VP006-011 Baseline Stack

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date: 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

Date : 21-JAN-1993 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date: 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

27 Butanenitrile

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

28 1-Butanol

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

HNF-4073
Rev. 0

Page 17

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

29 Benzene

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Instrument: hpdos6.i

Sample Info: TST 1378 VP006-011 Baseline Stack

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

35 Heptane

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 Toluene

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Instrument: hpdos6.i

Sample Info: TST 1378 VP006-011 Baseline Stack

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

41 Octane

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

45 Ethylbenzene

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 p/m-Xylene

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

47 3-Heptanone

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

53 Nonane

Date: 21-JAN-1999 15:33

Client ID: Baseline Stack

Instrument: hpdos6.i

Sample Info: TST 1378 VP006-011 Baseline Stack

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

57 Decane

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclotrisiloxane, hexamethyl-	541-05-9	WILEY138.1	44380	91	C6H18O3Si3	222
Cyclotrisiloxane, hexamethyl-	541-05-9	WILEY138.1	129782	91	C6H18O3Si3	222
Cyclotrisiloxane, hexamethyl-	541-05-9	nbs75k.1	70586	86	C6H18O3Si3	222

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	nbs75k.1	67318	94	C11H24	156
Undecane	1120-21-4	WILEY138.1	124547	94	C11H24	156
Undecane	1120-21-4	WILEY138.1	124548	93	C11H24	156

C00 862

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68252	91	C12H26	170
Dodecane	112-40-3	nbs75k.1	68254	91	C12H26	170
Dodecane	112-40-3	WILEY138.1	126009	91	C12H26	170

C00 863

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Sample Info: TST 1378 VP006-011 Baseline Stack

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	18989	96	C13H28	184
Tridecane	629-50-5	nbs75k.1	69017	95	C13H28	184
Tridecane	629-50-5	WILEY138.1	127254	94	C13H28	184

C00 864

Date : 21-JAN-1999 15:33

Client ID: Baseline Stack

Instrument: hpdos6.1

Sample Info: TST 1378 VP006-011 Baseline Stack

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	93	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69662	92	C14H30	198
Tetradecane	629-59-4	WILEY138.1	128277	89	C14H30	198

C00 865

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-011 Baseline Stack
 100 ml of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : PNNL std.m
 File : 69012105.d
 Injection Date : 21-JAN-99 15:33 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-011
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 180 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Dichlorodifluoromethane	19	120.91	8.242				0.0055	1.02	U
Chloromethane	19	50.49	9.128				0.0023	1.01	U
1,2-dichloro-1,1,2,2-tetrafluoroethane	19	170.92	9.727				0.0078	1.02	U
Vinyl Chloride	19	62.50	10.150				0.0028	1.01	U
Methanol	19	32.04	10.475	10.524	537159	104.71	0.5817	406.70	
1,3-Butadiene	19	54.00	10.721				0.0039	1.63	U
Chloroethane	19	64.51	12.269				0.0029	1.02	U
Ethanol	19	46.07	12.880				0.0144	7.00	U
Acetonitrile	19	41.05	13.362	13.595	16396	3.44	0.0191	10.43	J
Acetone	19	58.08	13.855	14.038	26145	15.53	0.0863	33.29	
Trichlorofluoromethane	19	137.37	14.269	14.245	25127	4.54	0.0252	4.12	J
Pentane	19	72.00	15.067	15.043	67303	8.92	0.0496	15.42	J
1,1-Dichloroethene	19	96.94	15.586				0.0044	1.01	U
Methylene Chloride	19	84.93	15.885				0.0039	1.03	U
1,1,1,2,2,2-hexafluoroethane	19	187.38	16.418				0.0085	1.02	U
1,1-Dichloroethane	19	98.96	18.009				0.0045	1.02	U
2-Butanone	19	72.11	18.725	18.922	1721	1.26	0.0070	2.17	J
cis-1,2-Dichloroethene	19	96.94	19.536				0.0044	1.01	U
Chloroform	19	119.38	20.106				0.0054	1.02	U
1,2-Dichloroethane	19	98.96	21.418				0.0045	1.02	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0061	1.02	U
Benzene	25	78.11	22.846	22.842	19756	1.20	0.0067	1.92	J
Carbon Tetrachloride	25	153.82	23.123				0.0069	1.01	U
1,2-Dichloropropane	25	112.99	24.285				0.0051	1.01	U
Trichloroethene	25	131.39	24.719	24.765	9019	1.99	0.0111	1.89	J
cis-1,3-Dichloropropene	25	110.97	26.324				0.0111	2.24	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0111	2.24	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0042	0.70	U
Toluene	34	92.14	28.476	28.477	14896	1.57	0.0087	2.13	J
1,2-Dibromoethane	34	187.86	29.947				0.0086	1.02	U
Tetrachloroethylene	34	165.83	30.999				0.0086	1.16	U
Chlorobenzene	34	112.56	32.566				0.0051	1.02	U
Ethylbenzene	34	106.17	33.394	33.391	3194	0.18	0.0010	0.21	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
p/m-Xylene	34	106.17	33.809	33.814	5225	0.83	0.0046	0.98	J
Styrene	41	104.15	34.727				0.0047	1.02	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0076	1.02	U
o-Xylene	41	106.17	35.024				0.0048	1.02	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0054	1.01	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0054	1.01	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0667	10.16	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0067	1.02	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0067	1.02	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0083	1.03	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0117	1.01	U
Bromochloromethane (IS)	19	129.40	19.898	19.887	311294	121.00	0.6722	116.37	
Difluorobenzene (IS)	25	114.00	23.340	23.326	1181268	106.00	0.5889	115.71	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.445	990019	113.00	0.6278	117.62	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.196	522029	162.00	0.9000	115.86	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below BQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012105.d

HNF-4073
Rev. 0

Sample Info : TST 1378 VP006-011 Baseline Stack 100 ml of ISTD

C00 868

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-011 Baseline Stack 100 ml of ISTD

C00 869

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-003 Ambient Air
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas_std.m
File : 69012106.d
Injection Date : 21-JAN-1999 16:53 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-003
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.660	28875	2.39	0.0120	6.36	J
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242	8.201	12343	1.26	0.0063	1.16	J
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818	9.786	247601	156.93	0.7847	399.02	
Butane	23	58.12	11.000	10.948	35786	2.74	0.0137	5.29	J
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733	12.680	3316458	502.44	2.5122	1221.47	
Acetonitrile	23	41.05	13.246	13.311	11387	1.25	0.0062	3.41	J
Acetone	23	58.08	13.827	13.813	222580	47.85	0.2392	92.27	
Trichlorofluoromethane	23	137.37	14.281	14.247	19205	3.00	0.0150	2.45	J
Isopropyl Alcohol	23	60.10	14.399	14.493	227460	19.41	0.0971	36.17	
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070	15.035	23079	2.06	0.0103	3.20	J
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
112trichloro122trifluoroethane	23	187.38	16.422	16.385	3854	0.84	0.0042	0.50	J
Propanenitrile	23	55.08	17.152				0.0023	0.92	U
Propanol	23	60.10	17.181	17.055	303203	27.51	0.1375	51.26	
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523	18.729	6043	7.35	0.0368	11.42	J
2-Butanone	23	72.11	18.711	18.729	21949	1.70	0.0085	2.65	J
1-Hexene	23	84.16	19.372	19.330	43049	7.55	0.0377	10.05	
Hexane	23	86.18	19.944	19.911	914604	112.90	0.5645	146.72	
Chloroform	23	119.38	20.122	20.089	4563	0.64	0.0032	0.60	J
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927				0.0027	0.86	U
1-Butanol	31	74.12	22.381				0.0270	8.16	U
Benzene	31	78.11	22.855	22.827	23432	1.23	0.0062	1.76	J
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438	23.458	15752	1.11	0.0056	1.45	J
3-Methylhexane	31	100.20	23.991	23.941	18845	2.45	0.0122	2.74	J
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215	25.173	16925	3.61	0.0181	4.04	J

COO 870

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69012106.d

Page 1

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.384	3839	0.35	0.0018	0.39	J
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489	28.471	58950	6.54	0.0327	7.95	J
2-Hexanone	43	100.16	28.825	30.383	97725	11.01	0.0550	12.31	
Octane	43	114.23	30.432	30.383	47558	12.33	0.0617	12.09	
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401	33.377	4950	0.34	0.0017	0.35	J
p/m-Xylene	43	106.17	33.826	33.791	5651	1.13	0.0057	1.20	J
3-Heptanone	43	114.19	33.835				0.0044	0.87	U
2-Heptanone	54	114.19	33.964				0.0043	0.84	U
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033				0.0042	0.88	U
Nonane	54	128.26	35.379				0.0046	0.81	U
2-Octanone	54	128.21	38.774				0.0047	0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009				0.0061	0.96	U
Bromochloromethane (IS)	23	129.40	19.915	19.872	363092	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.320	1201706	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.432	956424	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.174	649558	113.00	0.5650	72.74	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Pentane, 2,3,4-trimethyl-	43	114	565-75-3	28.097	548350	21.72	0.1086	21.34	NJ
Hexane, 2,2,5-trimethyl-	43	128	3522-94-9	29.692	1382707	54.78	0.2739	47.93	NJ
1-Octene	43	112	111-66-0	29.811	1703273	67.48	0.3374	67.48	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.225	394112	15.61	0.0781	15.61	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.797	428910	16.99	0.0850	16.99	NJ
Hexane, 2,3,5-trimethyl-	43	128	1069-53-0	31.417	372954	14.78	0.0739	12.93	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	5198982
Difluorobenzene (IS)	31	2769624
Chlorobenzene-d5 (IS)	43	2852338
1-Bromo-4-Fluorobenzene (IS)	54	2553524

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C00 871

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-003 Ambient Air 100 ml of ISTD

C00 872

02/08/99 09:51

69012106.d

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012106.d

HNF-4073
Rev. 0

Sample Info : TST 1378 VP006-003 Ambient Air 100 ml of ISTD

C00 873

02/08/99 09:51

69012106.d

Page 4

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Instrument: hpdos6.i

Sample Info: TST 1378 VP006-003 Ambient Air

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

C00 874

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

1 Propene

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

3 Dichlorodifluoromethane

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

5 Acetaldehyde

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

6 Butane

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

8 Ethanol

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Trichlorofluoromethane

C00 881

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Pentane

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

16 112trichloro122trifluoroethane

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

18 Propanol

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

21 2-Butanone

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Benzene

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

35 Heptane

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

39 Toluene

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 2-Hexanone

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

41 Octane

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

45 Ethylbenzene

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 p/m-Xylene

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2,3,4-trimethyl-	565-75-3	nbs75k.1	64229	90	C8H18	114
Propanoic acid, 2-methyl-, 3-methylbutyl	2050-01-3	nbs75k.1	67439	83	C9H18O2	158
Pentane, 2,3,4-trimethyl-	565-75-3	nbs75k.1	64228	83	C8H18	114

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexane, 2,2,5-trimethyl-	3522-94-9	nbs75k.1	65129	83	C9H20	128
Hexane, 2,2,5-trimethyl-	3522-94-9	nbs75k.1	65128	83	C9H20	128
Hexane, 2,2,5-trimethyl-	3522-94-9	WILEY138.1	6057	83	C9H20	128

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Octene	111-66-0	nbs75k.1	63996	94	C8H16	112
1-Octene	111-66-0	nbs75k.1	63995	87	C8H16	112
1-Octene	111-66-0	WILEY138.1	119048	87	C8H16	112

C00 898

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	86	C8H16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	80	C8H16	112
ETHYL-2 METHYL-3 PENTENE-1	0-00-0	WILEY138.1	2685	80	C8H16	112

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

2-HEPTENE, 3-METHYL-
Heptane, 3-methylene-
Heptane, 3-methylene-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	95	C8H16	112
1632-16-2	nbs75k.1	64033	83	C8H16	112
1632-16-2	nbs75k.1	64031	78	C8H16	112

Date : 21-JAN-1999 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexane, 2,3,5-trimethyl-	1069-53-0	nbs75k.1	65140	83	C9H20	128
Hexane, 2,3,5-trimethyl-	1069-53-0	WILEY138.1	120933	83	C9H20	128
Pentane, 3-ethyl-2,4-dimethyl-	1068-87-7	nbs75k.1	5138	64	C9H20	128

C00 901

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-003 Ambient Air
 100. ml of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : PNNL_std.m
 File : 69012106.d
 Injection Date : 21-JAN-99 16:53 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-003
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.201	12342	1.32	0.0066	1.22	J
Chloromethane	19	50.49	9.128				0.0021	0.91	U
12dichloro1122-tetrafluoroeth	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475	10.170	27150214	4537.50	22.6875	15861.43	E
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269				0.0027	0.92	U
Ethanol	19	46.07	12.880	12.680	3003645	945.19	4.7260	2297.85	E
Acetonitrile	19	41.05	13.362	13.311	16272	2.93	0.0146	7.99	J
Acetone	19	58.08	13.855	13.813	210546	107.25	0.5363	206.82	U
Trichlorofluoromethane	19	137.37	14.269	14.247	19205	2.98	0.0149	2.43	J
Pentane	19	72.00	15.067	15.035	23086	2.62	0.0131	4.08	J
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885	15.863	13369	3.51	0.0175	4.63	J
112trichloro122trifluoroethane	19	187.38	16.418	16.385	4948	1.65	0.0082	0.98	J
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.92	U
2-Butanone	19	72.11	18.725	18.729	6042	3.79	0.0189	5.88	J
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106	20.089	4563	0.70	0.0035	0.66	J
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846	22.827	23432	1.40	0.0070	2.01	J
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719	24.749	162184	35.23	0.1761	30.03	J
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0100	2.02	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476	28.471	58950	6.30	0.0315	7.66	J
1,2-Dibromoethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394	33.377	4950	0.29	0.0014	0.30	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
p/m-Xylene	34	106.17	33.809	33.791	5650	0.91	0.0046	0.96	J
Styrene	41	104.15	34.727	34.736	1774	0.24	0.0012	0.26	J
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024				0.0043	0.92	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0600	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.872	363092	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.320	1201706	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.432	978848	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.183	469289	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-003 Ambient Air 100 ml of ISTD

C00 904

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1378 VP006-003 Ambient Air 100 ml of ISTD

C00 905

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Instrument: hpdos6.i

Sample Info: TST 1378 VP006-003 Ambient Air

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

C00 906

Date: 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Dichlorodifluoromethane

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Methanol

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

8 Ethanol

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

9 Acetonitrile

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Instrument: hpdos6.i

Sample Info: TST 1378 VP006-003 Ambient Air

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

12 Pentane

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

14 Methylene Chloride

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Instrument: hpdos6.i

Sample Info: TST 1378 VP006-003 Ambient Air

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

15 112trichloro122trifluoroethane

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

17 2-Butanone

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

20 Chloroform

C00 917

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

23 Benzene

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air.

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

27 Trichloroethene

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

31 Toluene

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

36 Ethylbenzene

Date : 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

37 p/m-Xylene

Date: 21-JAN-99 16:53

Client ID: Ambient Air

Sample Info: TST 1378 VP006-003 Ambient Air

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

38 Styrene

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 4 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS C00-924 THRU PAGE C01- 295 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

HNF-4073
Rev. 0

TST BATCH FILE

69012501.b

C00 924

HLC

2/10/99

TST Analysis-Case Narrative
C-106 Sluicing Test
Samples Run on 1/25/99

Four samples were run on 1/25/99: VP006-019-1390, VP006-084-1394, VP006-076-1395, and VP006-052-1396. Following the autotune (2424V), the PNNL daily calibration checks and method blank were run. The BFB tune check showed satisfactory performance. All compounds in the daily PNNL check standard showed satisfactory recovery (75-125%) except: ethanol (64%), acetonitrile (65%), carbon tetrachloride (65%), 1,2-dichloropropane (74%), cis-1,3-dichloropropene (64%), trans-1,3-dichloropropene (55%), 1,1,2-trichloroethane (49%), 1,2-dibromoethane (70%), 1,1,2,2-tetrachloroethane (71%), 1,2,4-trichlorobenzene (67%), and hexachlorobutadiene (69%). Overall average recovery was 81% for the PNNL mixture. All compounds in the daily SAS check standard showed satisfactory recovery (75-125%) except: propene (74%), propane (73%), chloromethane (64%), butane (70%), chloroethane (68%), acetonitrile (69%), pentane (65%), methylene chloride (66%), 1,1,2-trichloro-1,2,2-trifluoroethane (66%), 2-methylpentane (64%), butanal (201%), 1-hexene (66%), hexane (64%), chloroform (69%), butanenitrile (74%), butanol (70%), benzene (65%), carbon tetrachloride (69%), 3-methylhexane (67%), heptane (68%), pyridine (49%), 1,1,2-trichloroethane (67%), toluene (71%), octane (73%), chlorobenzene (68%), ethylbenzene (71%), styrene (66%), nonane (71%), 1,2,4-trimethylbenzene (68%), and decane (70%). Overall average recovery was 80% for the SAS mixture. The method blank was clean except for traces of benzene present at a level well below the lower quantitation limit.

Sample VP006-076 showed a large shift in retention times traceable to exhaustion of the liquid nitrogen supply which was changed just after this sample was run. The archive sample was reserved for rerun at a later date and data from this run was not used.

Internal standard consistency was satisfactory for standards and samples except for the sample showing a large retention time shift resulting in lack of integration for the first two internal standards.

Sample VP006-052-1396 exhibited an unusual chromatogram with generally low results for all compounds, few TICs and no analytes detected at all in the higher MW region. This suggests that the tube was sampled backwards in the field resulting in irreversible absorption on the molecular sieve which is normally the last bed. Because the internal standards including BFB showed a normal pattern, this must have occurred in the field. The sample is thus unusable and will not be reported.

Sequence Name: C:\HPCHEM\1\SEQUENCE\69012501.S

Comment:

Operator: JCE

Data Path: C:\HPCHEM\1\DATA\69012501.b\

Pre-Seq Cmd:

Post-Seq Cmd:

HNF-4073

Rev. 0

Method Sections To Run

On A Barcode Mismatch

(X) Full Method

(X) Inject Anyway

() Reprocessing Only

() Don't Inject

Line Type	Vial	DataFile	Method	Sample Name
-----------	------	----------	--------	-------------

1 Calibration	1	69012501	TVP10	TST 1330 SAS CCV LvL 3 20 cc
2 Calibration	2	69012502	TVP10	TST 1330 PNNL CCV LvL 3 20 cc
3 Blank	7	69012503	TVP10	TST 1365 Method Blank
4 Sample	8	69012504	TVP10	TST 1390 VP006-019 Slurry Pmp T=0.0
5 Sample	9	69012505	TVP10	TST 1394 VP006-084 BP T=4.0
6 Sample	10	69012506	TVP10	TST 1395 VP006-076 BP T=3.5
7 Sample	11	69012507	TVP10	TST 1396 VP006-052 BP T=2.0
8 Blank	1	-----	BAKE	Shutdown

C00 926

Instrument: 5971 - System 6

Mon Jan 25 07:36:04 1999

C:\HPCHEM\1\5971\ATUNE.U

Scan: 10.00 - 650.00 Samples: 16 Thresh: 150 Step: 0.10
 131 peaks Base: 69.05 Abundance: 968768

C00 927

Data File : C:\HPCHEM\1\DATA\69012501.B\69012501.D
 Acq On : 25 Jan 99 8:05 am
 Sample : TST 1330 SAS CCV LvL 3 20 cc
 Misc : 100 ml of ISTD

Vial: 1
 Operator: JCE
 Inst : 5971 - Sy
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\LOOP40.M
 Title : VOC mixture

HNF-4073
Rev. 0

Peak Apex is scan: 3057

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.3	15931	PASS
75	95	30	66	50.7	44244	PASS
95	95	100	100	100.0	87292	PASS
96	95	5	9	7.0	6093	PASS
173	174	0	2	0.1	42	PASS
174	95	50	120	84.1	73385	PASS
175	174	4	9	7.6	5571	PASS
176	174	93	101	94.7	69516	PASS
177	176	5	9	6.4	4423	PASS

C00 928

TST Daily Calibration
PNL Calibration Mix
Run on 1/25/99
Initial Calibration on 12/14/98

HNF-4073
Rev. 0

Compound Name	Expected PPB	Amount Found	%Recovery	Flags	
				Low	High CLP
Dichlorodifluoromethane	1000	916	92%		
Chloromethane	1000	764	76%		
12dichloro1122-tetrafluoroeth	1000	898	90%		
Vinyl Chloride	1000	894	89%		
Methanol	3100	2439	79%		
1,3-Butadiene	1600	1441	90%		
Chloroethane	1000	984	98%		
Ethanol	700	451	64%	****	
Acetonitrile	2400	1565	65%	****	
Acetone	3000	2666	89%		
Trichlorofluoromethane	1000	901	90%		
Pentane	2500	2227	89%		
1,1-Dichloroethene	1000	944	94%		
Methylene Chloride	1000	906	91%		
112trichloro122trifluoroethane	1000	971	97%		
1,1-Dichloroethane	1000	863	86%		
2-Butanone	2400	2397	100%		
cis-1,2-Dichloroethene	1000	930	93%		
Chloroform	1000	927	93%		
1,2-Dichloroethane	1000	862	86%		
1,1,1-Trichloroethane	1000	763	76%		
Benzene	1000	825	83%		
Carbon Tetrachloride	1000	648	65%	****	
1,2-Dichloropropane	1000	735	74%	****	
Trichloroethene	1000	775	77%		
cis-1,3-Dichloropropene	900	573	64%	****	
trans-1,3-Dichloropropene	900	499	55%	****	
1,1,2-Trichloroethane	1000	488	49%	****	
Toluene	1000	794	79%		
1,2-Dibromoethane	1000	696	70%	****	
Tetrachloroethylene	1000	863	86%		
Chlorobenzene	1000	811	81%		
Ethylbenzene	1000	815	81%		
p/m-Xylene	2000	1711	86%		
Styrene	1000	757	76%		
1,1,2,2-Tetrachloroethane	1000	714	71%	****	
o-Xylene	1000	810	81%		
1,3,5-Trimethylbenzene	1000	876	88%		
1,2,4-Trimethylbenzene	1000	812	81%		
1,3-Dichlorobenzene	1000	791	79%		
1,4-Dichlorobenzene	1000	862	86%		
1,2-Dichlorobenzene	1000	815	82%		
1,2,4-Trichlorobenzene	1000	674	67%	****	
Hexachloro-1,3-butadiene	1000	691	69%	****	

Average recovery

81%

C00 929

SAS Calibration Mix
Run on 1/21/99
Initial Calibration on 1/19/99

1/25/99

JUE

HNF-4073
Rev. 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Propene	1020	759	74%	****		
Propane	990	727	73%	****		
Dichlorodifluoromethane	1048	891	85%			
Chloromethane	1010	647	64%	****		
Acetaldehyde	1060	807	76%			
Butane	1006	700	70%	****		
Chloroethane	960	653	68%	****		
Ethanol	920	857	93%			
Acetonitrile	1010	700	69%	****		
Acetone	1010	883	87%			
Trichlorofluoromethane	1035	887	86%			
Isopropyl Alcohol	1000	1081	108%			
Furan	990	930	94%			
Pentane	998	646	65%	****		
Methylene Chloride	978	643	66%	****		
1,1,2-trichloro-2,2,2-trifluoroethane	1014	673	66%	****		
Propanenitrile	1000	778	78%			
Propanol	940	802	85%			
2-Methylpentane	959	610	64%	****		
Butanal	790	1584	201%		****	
2-Butanone	950	860	91%			
1-Hexene	949	625	66%	****		
Hexane	963	620	64%	****		
Chloroform	1129	780	69%	****		
Tetrahydrofuran	1000	954	95%			
Butanenitrile	940	697	74%	****		
1-Butanol	890	625	70%	****		
Benzene	950	622	65%	****		
Carbon Tetrachloride	979	674	69%	****		
2-Pentanone	960	928	97%			
3-Methylhexane	942	627	67%	****		
1,4-Dioxane	1000	983	98%			
Heptane	951	651	68%	****		
4-Methyl-2-pentanone	910	880	97%			
Pyridine	852	419	49%	****		
1,1,2-Trichloroethane	964	649	67%	****		
Toluene	963	684	71%	****		
2-Hexanone	930	911	98%			
Octane	973	708	73%	****		
Tetrachloroethylene	930	712	77%			
Chlorobenzene	900	615	68%	****		
Ethylbenzene	990	701	71%	****		
p/m-Xylene	1983	1579	80%			
3-Heptanone	950	1157	122%			
2-Heptanone	920	899	98%			
Cyclohexanone	930	927	100%			

C00 930

SAS Calibration Mix
Run on 1/21/99
Initial Calibration on 1/19/99

HNF-4073
rev 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Styrene	1007	665	66%	****		
1,1,2,2-Tetrachloroethane	1044	781	75%	***		
o-Xylene	960	758	79%			
Nonane	888	628	71%	****		
2-Octanone	910	887	97%			
1,2,4-Trimethylbenzene	1051	718	68%	****		
Decane	1053	739	70%	****		
Average recovery			80%			

2/24/99

C00 931

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1330 SAS CCV LVL 3 20 cc
100 ml of ISTDInstrument ID : hpdos6.i
Method : sas std.m
File : 690I2501.d
Injection Date : 25-JAN-1999 08:05 Operator : JCE
Matrix : AIR Lab. Sample ID: SAS CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.610	265940	26.10	1.4262	759.17	
Propane	23	44.10	7.848	7.768	84606	26.20	1.4318	727.28	
Dichlorodifluoromethane	23	120.91	8.242	8.162	729456	88.02	4.8097	891.05	
Chloromethane	23	50.49	9.129	9.057	169723	26.68	1.4577	646.71	
Acetaldehyde	23	44.05	9.818	9.844	38673	29.05	1.5872	807.11	J
Butane	23	58.12	11.000	10.917	365905	33.23	1.8159	699.88	
Chloroethane	23	64.51	12.280	12.205	114738	34.42	1.8811	653.20	
Ethanol	23	46.07	12.733	12.796	179759	32.27	1.7634	857.40	
Acetonitrile	23	41.05	13.246	13.288	180601	23.48	1.2830	700.09	
Acetone	23	58.08	13.827	13.799	164390	41.88	2.2883	882.56	
Trichlorofluoromethane	23	137.37	14.281	14.203	537820	99.55	5.4397	887.01	
Isopropyl Alcohol	23	60.10	14.399	14.380	520666	53.10	2.9014	1081.38	
Furan	23	68.08	14.666	14.587	414371	51.71	2.8258	929.76	
Pentane	23	72.00	15.070	14.991	359754	37.98	2.0753	645.64	
Methylene Chloride	23	84.93	15.898	15.818	200197	44.62	2.4384	643.13	
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.349	400134	103.07	5.6321	673.29	
Propanenitrile	23	55.08	17.152	17.107	180642	35.01	1.9130	778.00	
Propanol	23	60.10	17.181	17.166	366399	39.39	2.1524	802.21	
2-Methylpentane	23	86.18	18.385	18.308	456091	42.97	2.3480	610.29	
Butanal	23	72.11	18.523	18.456	64720	93.33	5.0998	1584.18	
2-Butanone	23	72.11	18.711	18.643	550668	50.65	2.7678	859.77	
1-Hexene	23	84.16	19.372	19.302	206688	42.94	2.3466	624.58	
Hexane	23	86.18	19.944	19.873	298307	43.63	2.3844	619.75	
Chloroform	23	119.38	20.122	20.041	456051	76.10	4.1587	780.32	
Tetrahydrofuran	23	72.11	20.852	20.779	175121	56.20	3.0709	953.93	
Butanenitrile	31	69.11	21.927	21.871	407938	39.36	2.1506	697.07	
1-Butanol	31	74.12	22.381	22.363	180859	37.82	2.0664	624.50	J
Benzene	31	78.11	22.855	22.767	671749	39.70	2.1691	622.05	
Carbon Tetrachloride	31	153.82	23.131	23.053	301277	84.75	4.6313	674.43	
2-Pentanone	31	86.13	23.438	23.359	820892	65.30	3.5683	928.01	
3-Methylhexane	31	100.20	23.991	23.910	350858	51.32	2.8044	626.94	
1,4-Dioxane	31	88.11	24.681	24.619	247854	70.73	3.8648	982.55	
Heptane	31	100.20	25.215	25.141	221766	53.28	2.9115	650.88	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.301	701859	72.03	3.9358	880.21	
Pyridine	31	79.10	26.615	26.941	91258	27.08	1.4796	418.99	J
1,1,2-Trichloroethane	31	133.40	27.858	27.777	216503	70.75	3.8660	649.17	
Toluene	43	92.14	28.489	28.407	431707	51.52	2.8151	684.36	
2-Hexanone	43	100.16	28.825	28.762	615265	74.54	4.0732	910.94	
Octane	43	114.23	30.432	30.346	236835	66.06	3.6100	707.91	
Tetrachloroethylene	43	165.83	31.004	30.917	293923	96.47	5.2716	712.08	
Chlorobenzene	43	112.56	32.572	32.492	499987	56.58	3.0919	615.31	
Ethylbenzene	43	106.17	33.401	33.318	834176	60.82	3.3236	701.22	
p/m-Xylene	43	106.17	33.826	33.742	634822	136.97	7.4849	1579.18	
3-Heptanone	43	114.19	33.835	33.772	691951	107.93	5.8976	1156.89	
2-Heptanone	54	114.19	33.964	33.920	722586	83.86	4.5825	898.91	
Cyclohexanone	54	98.14	34.281	34.225	75117	74.31	4.0605	926.78	
Styrene	54	104.15	34.735	34.659	440185	56.59	3.0926	665.14	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.886	430649	107.14	5.8544	781.28	
o-Xylene	54	106.17	35.033	34.945	304067	65.73	3.5919	757.83	
Nonane	54	128.26	35.379	35.300	407380	65.84	3.5978	628.34	
2-Octanone	54	128.21	38.774	38.735	702336	92.90	5.0766	886.95	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.779	636464	70.52	3.8536	718.20	
Decane	54	142.20	40.009	39.937	413488	85.81	4.6890	738.64	
Bromochloromethane (IS)	23	129.40	19.915	19.834	306415	106.00	5.7923	1002.69	
Difluorobenzene (IS)	31	114.00	23.349	23.270	1067740	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.383	889159	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.127	615477	113.00	6.1749	794.92	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 SAS CCV LvL 3 20 cc 100 ml of ISTD

C00 934

02/04/99 07:48

69012501.d

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 SAS CCV LVL 3 20 cc 100 ml of ISTD
C00 935

Data File: /chem/hpdos6.i/69012501_SAS.b/69012501.d
 Report Date: 04-Feb-1999 07:26

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
 Lab File ID: 69012501.d
 Lab Smp ID: SAS CCV
 Analysis Type: VAPOR
 Quant Type: ISTD
 Operator: JCE
 Method File: /chem/hpdos6.i/sas_std.m
 Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
 Calibration Time: 1018
 Client Smp ID: SAS CCV
 Level: LOW
 Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	521049	260524	1042098	306415	-41.19
31 Difluorobenzene (IS)	1891825	945912	3783650	1067740	-43.56
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	889159	-44.83
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	615477	-43.66

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	19.90	19.40	20.40	19.83	-0.32
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.27	-0.30
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.38	-0.23
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.13	-0.20

AREA UPPER LIMIT = +100% of internal standard area.
 AREA LOWER LIMIT = - 50% of internal standard area.
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

□(s10H

Data File: /chem/hpdos6.i/69012501_PNNL.b/69012502.d
Report Date: 04-Feb-1999 08:14

Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012502.d
Lab Smp Id: PNNL CCV
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: PNNL CCV
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (	521049	260524	1042098	336045	-35.51
25 Difluorobenzene (IS)	1891825	945912	3783650	1156995	-38.84
34 Chlorobenzene-d5 (IS)	1611664	805832	3223328	970538	-39.78
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	546493	-49.98

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (	19.90	19.40	20.40	19.84	-0.28
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.28	-0.26
34 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.39	-0.21
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.14	-0.15

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C00 937

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i	Calibration Date: JAN/19/99
Lab File ID: 69012503.d	Calibration Time: 1018
Lab Smp Id: Method Blank	Client Smp ID: Method Blank
Analysis Type: VAPOR	Level: LOW
Quant Type: ISTD	Sample Type: AIR
Operator: JCE	
Method File: /chem/hpdos6.i/sas_std.m	
Misc Info: 100 ml of ISTD	

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	521049	260524	1042098	374807	-28.07
31 Difluorobenzene (IS)	1891825	945912	3783650	1170103	-38.15
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	943970	-41.43
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	650294	-40.48

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.90	19.40	20.40	19.84	-0.27
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.29	-0.21
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.40	-0.16
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.15	-0.12

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

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Data File: /chem/hpdos6.i/SAS.b/69012504.d
Report Date: 08-Feb-1999 09:51

Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012504.d
Lab Smp Id: VP006-019
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: Slurry Pmp T=0.0
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	521049	260524	1042098	321636	-38.27
31 Difluorobenzene (IS)	1891825	945912	3783650	1223840	-35.31
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1015733	-36.98
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	740110	-32.26

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	19.90	19.40	20.40	19.85	-0.24
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.29	-0.21
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.41	-0.15
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.15	-0.12

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

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Data File: /chem/hpdos6.i/PNNL.b/69012505.d

Page 1

Report Date: 08-Feb-1999 09:52

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012505.d
Lab Smp Id: VP006-084
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP T=4.0 hr
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	521049	260524	1042098	221501	-57.49 <-
25 Difluorobenzene (IS)	1891825	945912	3783650	1268199	-32.96
34 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1081551	-32.89
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	638157	-41.59

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	19.90	19.40	20.40	19.87	-0.16
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.30	-0.19
34 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.41	-0.15
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.16	-0.10

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

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Data File: /chem/hpdos6.i/SAS.b/69012506.d

Report Date: 04-Feb-1999 16:48

Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012506.d
Lab Smp ID: VP006-076
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP T=3.5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	521049	260524	1042098	0	-100.00
31 Difluorobenzene (IS)	1891825	945912	3783650	0	-100.00
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1074561	-33.33
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	1131956	3.61

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	19.90	19.40	20.40	0.00	-100.00
31 Difluorobenzene (IS)	23.34	22.84	23.84	0.00	-100.00
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	31.34	-3.44
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	35.55	-1.80

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

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Data File: /chem/hpdos6.i/SAS.b/69012507.d

Page 1

Report Date: 04-Feb-1999 16:48

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012507.d
Lab Smp Id: VP006-052
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP T=2.0
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	521049	260524	1042098	172430	-66.91
31 Difluorobenzene (IS)	1891825	945912	3783650	1181800	-37.53
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1027951	-36.22
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	693231	-36.55

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	19.90	19.40	20.40	19.75	-0.76
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.25	-0.40
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.41	-0.15
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.18	-0.05

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 PNNL CCV Lvl 3 20 cc
100 ml of ISTD

Instrument ID : hpdos6.i
Method : PNNL_std.m
File : 69012502.d
Injection Date : 25-JAN-1999 09:45 Operator : JCE
Matrix : AIR Lab. Sample ID: PNNL CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.171	782139	90.47	4.9436	915.86	
Chloromethane	19	50.49	9.128	9.057	307625	31.50	1.7215	763.75	
12dichloro1122-tetrafluoroeth	19	170.92	9.727	9.727	876682	125.36	6.8505	897.80	
Vinyl Chloride	19	62.50	10.150	10.150	262726	45.63	2.4937	893.74	
Methanol	19	32.04	10.475	10.475	353538	63.84	3.4886	2438.95	
1,3-Butadiene	19	54.00	10.721	10.721	306597	63.59	3.4750	1441.48	
Chloroethane	19	64.51	12.269	12.208	128096	51.88	2.8348	984.33	
Ethanol	19	46.07	12.880	12.976	49949	16.98	0.9280	451.23	J
Acetonitrile	19	41.05	13.362	13.300	270025	52.50	2.8688	1565.43	
Acetone	19	58.08	13.855	13.813	229821	126.49	6.9122	2665.86	
Trichlorofluoromethane	19	137.37	14.269	14.197	603691	101.15	5.5273	901.30	
Pentane	19	72.00	15.067	14.995	1066853	131.02	7.1594	2227.37	
1,1-Dichloroethene	19	96.94	15.586	15.586	233351	74.75	4.0849	943.90	
Methylene Chloride	19	84.93	15.885	15.822	221650	62.84	3.4340	905.71	
112trichloro122trifluoroethane	19	187.38	16.418	16.345	413740	148.68	8.1245	971.23	
1,1-Dichloroethane	19	98.96	18.009	18.009	463347	69.81	3.8146	863.44	
2-Butanone	19	72.11	18.725	18.669	208596	141.21	7.7164	2396.99	
cis-1,2-Dichloroethene	19	96.94	19.536	19.536	229994	73.68	4.0261	930.32	
Chloroform	19	119.38	20.106	20.049	542702	90.43	4.9413	927.17	
1,2-Dichloroethane	19	98.96	21.418	21.418	311763	69.68	3.8077	861.90	
1,1,1-Trichloroethane	25	133.40	21.920	21.920	489759	83.12	4.5423	762.72	
Benzene	25	78.11	22.846	22.777	846687	52.66	2.8777	825.25	
Carbon Tetrachloride	25	153.82	23.123	23.063	395208	81.48	4.4522	648.35	
1,2-Dichloropropane	25	112.99	24.285	24.285	303948	67.85	3.7078	735.06	
Trichloroethene	25	131.39	24.719	24.719	368679	83.17	4.5451	774.86	
cis-1,3-Dichloropropene	25	110.97	26.324	26.324	264269	51.93	2.8379	572.85	
trans-1,3-Dichloropropene	25	110.97	27.348	27.348	106948	45.28	2.4742	499.44	
1,1,2-Trichloroethane	25	133.40	27.845	27.791	280673	53.13	2.9032	487.50	
Toluene	34	92.14	28.476	28.422	554314	59.76	3.2655	793.87	
1,2-Dibromoethane	34	187.86	29.947	29.947	307820	106.82	5.8374	696.04	
Tetrachloroethylene	34	165.83	30.999	30.932	385207	116.95	6.3906	863.23	
Chlorobenzene	34	112.56	32.566	32.498	676559	74.59	4.0762	811.19	
Ethylbenzene	34	106.17	33.394	33.335	1215884	70.68	3.8621	814.84	

C00 943

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.759	911434	148.42	8.1102	1711.12	
Styrene	41	104.15	34.727	34.665	560606	64.41	3.5198	757.02	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.902	631508	97.91	5.3502	714.00	
o-Xylene	41	106.17	35.024	34.961	430574	70.25	3.8386	809.88	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.298	1147198	86.03	4.7010	876.13	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.776	1024635	79.72	4.3564	811.90	
1,3-Dichlorobenzene	41	147.00	40.328	40.328	748662	95.00	5.1915	791.09	J
1,4-Dichlorobenzene	41	147.00	40.525	40.525	835480	103.50	5.6555	861.79	
1,2-Dichlorobenzene	41	147.00	41.658	41.658	780567	97.92	5.3509	815.37	
1,2,4-Trichlorobenzene	41	181.45	47.866	47.866	466631	99.95	5.4616	674.23	
Hexachloro-1,3-butadiene	41	260.76	49.660	49.660	401950	147.16	8.0413	690.77	
Bromochloromethane (IS)	19	129.40	19.898	19.841	336045	121.00	6.6120	1144.58	
Difluorobenzene (IS)	25	114.00	23.340	23.280	1156995	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.389	970538	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.143	546493	162.00	8.8525	1139.63	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 PNNL CCV LvL 3 20 cc 100 ml of ISTD

C00 945

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 PNNL CCV LVL 3 20 cc 100 ml of ISTD

C00 946

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank
100 ml of ISTD

Instrument ID : hpdos6.i
Method : sas std.m
File : 690I2503.d
Injection Date : 25-JAN-99 11:06 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680				0.0018	0.94	U
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818				0.0190	9.66	U
Butane	23	58.12	11.000				0.0024	0.92	U
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733				0.0043	2.12	U
Acetonitrile	23	41.05	13.246				0.0043	2.32	U
Acetone	23	58.08	13.827				0.0024	0.93	U
Trichlorofluoromethane	23	137.37	14.281				0.0058	0.95	U
Isopropyl Alcohol	23	60.10	14.399				0.0062	2.29	U
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070				0.0029	0.92	U
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152				0.0023	0.92	U
Propanol	23	60.10	17.181				0.0058	2.16	U
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523				0.0059	1.82	U
2-Butanone	23	72.11	18.711				0.0070	2.17	U
1-Hexene	23	84.16	19.372				0.0033	0.87	U
Hexane	23	86.18	19.944				0.0034	0.88	U
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927				0.0027	0.86	U
1-Butanol	31	74.12	22.381				0.0270	8.16	U
Benzene	31	78.11	22.855	22.808	10860	0.59	0.0029	0.84	J
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991				0.0039	0.86	U
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215				0.0039	0.87	U

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368				0.0037	0.83	U
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489				0.0036	0.89	U
2-Hexanone	43	100.16	28.825				0.0038	0.85	U
Octane	43	114.23	30.432				0.0046	0.89	U
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401				0.0043	0.91	U
p/m-Xylene	43	106.17	33.826				0.0033	0.69	U
3-Heptanone	43	114.19	33.835				0.0044	0.87	U
2-Heptanone	54	114.19	33.964				0.0043	0.84	U
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033				0.0042	0.88	U
Nonane	54	128.26	35.379				0.0046	0.81	U
2-Octanone	54	128.21	38.774				0.0047	0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009				0.0061	0.96	U
Bromochloromethane (IS)	23	129.40	19.915	19.844	374807	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.291	1170103	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.405	943970	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.155	650294	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank

100 ml of ISTD

C00 949

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank

100 ml of ISTD

C00 950

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank
100 ml of ISTD

Instrument ID : hpdos6.i
Method : PNNL_std.m
File : 69012503.d
Injection Date : 25-JAN-99 11:06 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242				0.0050	0.92	U
Chloromethane	19	50.49	9.128				0.0021	0.91	U
12dichloro1122-tetrafluoroeth	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475				0.0100	6.99	U
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269				0.0027	0.92	U
Ethanol	19	46.07	12.880				0.0130	6.32	U
Acetonitrile	19	41.05	13.362				0.0040	2.21	U
Acetone	19	58.08	13.855				0.0071	2.76	U
Trichlorofluoromethane	19	137.37	14.269				0.0056	0.91	U
Pentane	19	72.00	15.067				0.0073	2.29	U
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885				0.0035	0.92	U
112trichloro122trifluoroethane	19	187.38	16.418				0.0076	0.91	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.92	U
2-Butanone	19	72.11	18.725				0.0070	2.19	U
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106				0.0049	0.92	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846	22.808	10855	0.67	0.0034	0.96	J
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719				0.0054	0.92	U
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0100	2.02	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476				0.0037	0.91	U
1,2-Dibromoethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394				0.0043	0.92	U

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809				0.0087	1.84	U
Styrene	41	104.15	34.727				0.0043	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024				0.0043	0.92	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.844	350360	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.291	1164132	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.405	958288	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.164	503851	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank

100 ml of ISTD

C00 953

02/04/99 08:14

69012503.d

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank

100 ml of ISTD

C00 954

69012503.d

02/04/99 08:14

Page 4

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1390 VP006-019 Slurry Pmp T=0.0
100 ml of ISTD

Instrument ID : hpdos6.i
Method : sas_std.m
File : 690I2504.d
Injection Date : 25-JAN-1999 12:26 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-019
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 192 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.630	398584	37.27	0.1941	103.32	
Propane	23	44.10	7.848	7.788	142408	42.02	0.2188	111.16	
Dichlorodifluoromethane	23	120.91	8.242	8.201	14434	1.66	0.0086	1.60	J
Chloromethane	23	50.49	9.129				0.0022	0.97	U
Acetaldehyde	23	44.05	9.818	9.865	63471	45.41	0.2365	120.28	
Butane	23	58.12	11.000	10.928	1318908	114.12	0.5944	229.07	
Chloroethane	23	64.51	12.280				0.0027	0.92	U
Ethanol	23	46.07	12.733	12.878	168188	28.76	0.1498	72.84	
Acetonitrile	23	41.05	13.246	13.399	31492	3.90	0.0203	11.08	J
Acetone	23	58.08	13.827	13.892	55729	13.52	0.0704	27.17	
Trichlorofluoromethane	23	137.37	14.281	14.217	91204	16.08	0.0838	13.66	
Isopropyl Alcohol	23	60.10	14.399	14.503	28387	2.73	0.0142	5.31	J
Furan	23	68.08	14.666				0.0029	0.94	U
Pentane	23	72.00	15.070	15.005	341115	34.31	0.1787	55.59	
Methylene Chloride	23	84.93	15.898				0.0035	0.93	U
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422				0.0081	0.96	U
Propanenitrile	23	55.08	17.152	17.211	29409	5.43	0.0283	11.50	
Propanol	23	60.10	17.181	17.251	93441	9.57	0.0498	18.58	J
2-Methylpentane	23	86.18	18.385	18.334	62847	5.64	0.0294	7.64	J
Butanal	23	72.11	18.523	18.502	7581	10.41	0.0542	16.85	J
2-Butanone	23	72.11	18.711	18.718	45624	4.00	0.0208	6.47	J
1-Hexene	23	84.16	19.372	19.319	269441	53.33	0.2778	73.93	
Hexane	23	86.18	19.944	19.891	246761	34.39	0.1791	46.55	
Chloroform	23	119.38	20.122				0.0057	1.08	U
Tetrahydrofuran	23	72.11	20.852	20.876	5853	1.79	0.0093	2.90	J
Butanenitrile	23	69.11	21.927	21.920	111686	9.40	0.0490	15.87	
1-Butanol	31	74.12	22.381	22.383	113075	20.63	0.1074	32.47	J
Benzene	31	78.11	22.855	22.787	31685	1.63	0.0085	2.44	J
Carbon Tetrachloride	31	153.82	23.131				0.0064	0.93	U
2-Pentanone	31	86.13	23.438	23.429	53715	3.73	0.0194	5.05	J
3-Methylhexane	31	100.20	23.991	23.941	15648	2.00	0.0104	2.33	J
1,4-Dioxane	31	88.11	24.681				0.0094	2.38	U
Heptane	31	100.20	25.215	25.154	493605	103.47	0.5389	120.47	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.318	12201	1.09	0.0057	1.27	J
Pyridine	31	79.10	26.615				0.1040	29.45	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0055	0.92	U
Toluene	43	92.14	28.489	28.426	66174	6.91	0.0360	8.75	J
2-Hexanone	43	100.16	28.825	28.781	96966	10.28	0.0536	11.98	
Octane	43	114.23	30.432	30.379	74727	18.25	0.0950	18.64	
Tetrachloroethylene	43	165.83	31.004				0.0066	0.89	U
Chlorobenzene	43	112.56	32.572				0.0043	0.86	U
Ethylbenzene	43	106.17	33.401	33.374	5844	0.37	0.0019	0.41	J
p/m-Xylene	43	106.17	33.826	33.739	6404	1.21	0.0063	1.33	J
3-Heptanone	43	114.19	33.835	33.768	2309690	315.36	1.6425	322.20	
2-Heptanone	54	114.19	33.964	33.926	483902	46.70	0.2432	47.71	
Cyclohexanone	54	98.14	34.281				0.0097	2.22	U
Styrene	54	104.15	34.735				0.0045	0.96	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0075	0.99	U
o-Xylene	54	106.17	35.033				0.0043	0.91	U
Nonane	54	128.26	35.379	35.316	125193	16.83	0.0876	15.31	
2-Octanone	54	128.21	38.774				0.0050	0.86	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0054	1.00	U
Decane	54	142.20	40.009	39.950	397348	68.57	0.3572	56.26	
Bromochloromethane (IS)	23	129.40	19.915	19.851	321636	106.00	0.5521	95.57	
Difluorobenzene (IS)	31	114.00	23.349	23.290	1223840	106.00	0.5521	108.48	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.408	1015733	113.00	0.5885	110.27	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.154	740110	113.00	0.5885	75.77	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	10.613	2972173	138.43	0.7210	288.40	NJ
1-Heptene	31	98	592-76-7	24.542	666622	24.88	0.1296	29.62	NJ
3-Heptene, (E)-	31	98	14686-14-7	25.006	4428341	165.26	0.8607	196.74	NJ
2-Heptene	31	98	592-77-8	25.361	5517522	205.91	1.0724	245.13	NJ
2-Heptene, (E)-	31	98	14686-13-6	25.855	3351191	125.06	0.6514	148.88	NJ
Cyclopropane, butyl-	31	98	930-57-4	26.288	462553	17.26	0.0899	20.55	NJ
2-Heptyne	43	96	1119-65-9	28.633	904185	33.21	0.1730	40.36	NJ
Unknown C8 Alkene/Cycloalkane (mw 112)	43	112		28.880	480283	17.64	0.0919	18.38	J
Heptane, 3-methyl-	43	114	589-81-1	29.077	2339204	85.92	0.4475	87.93	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.718	2804229	103.00	0.5364	107.29	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.201	644782	23.68	0.1233	24.67	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.773	564204	20.72	0.1079	21.59	NJ
4-Heptanone	43	114	123-19-3	33.157	1308893	48.07	0.2504	49.20	NJ
Unknown	54	126		36.736	2054586	60.40	0.3146	55.92	J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.884	1225045	36.17	0.1884	32.96	J
3-Octen-2-one, (R)-	54	126	18402-82-9	37.141	1582136	46.71	0.2433	43.25	NJ
Nonane, 2,6-dimethyl-	54	156	17302-28-2	41.064	561952	16.59	0.0864	12.41	NJ
Undecane	54	156	1120-21-4	44.251	5707702	168.50	0.8776	126.02	NJ
Unknown C11 Alkane (mw 156)	54	156		45.504	469147	13.85	0.0721	10.36	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	45.929	528415	15.60	0.0812	11.97	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.294	588844	17.38	0.0905	13.17	NJ

C00 956

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane, 3-ethyl-2-methyl-	54	142	14676-29-0	46.511	394457	11.65	0.0607	9.57	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.679	768166	22.68	0.1181	17.41	NJ
Unknown C12 Alkane (mw 170)	54	170		46.887	468349	13.83	0.0720	9.49	J
Dodecane	54	170	112-40-3	48.240	11076956	327.01	1.7032	224.42	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.873	2424637	71.58	0.3728	45.39	NJ
Cyclododecane	54	168	294-62-2	50.286	860939	25.42	0.1324	17.65	NJ
Unknown C12 Alkane (mw 170)	54	170		51.117	1202728	35.51	0.1849	24.37	J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.591	389104	11.49	0.0598	7.36	J
Tridecane	54	184	629-50-5	51.977	9533492	281.45	1.4659	178.45	NJ
Tetradecane	54	198	629-59-4	55.474	797413	23.54	0.1226	13.87	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	2275855
Diffuorobenzene (IS)	31	2840403
Chlorobenzene-d5 (IS)	43	3076565
1-Bromo-4-Fluorobenzene (IS)	54	3827647

CLP Qualifier Flags--

J--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1390 VP006-019 Slurry Pmp T=0.0 100 ml of ISTD

C00 958

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1390 VP006-019 Slurry Pmp T=0.0 100 ml of ISTD

C00 359
69012504.d

Data File: /chem/hpdos6.i/SAS.b/69012504.d

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

C00 960

Data File: /chem/hpdos6.i/SAS.b/69012504.d

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

1 Propene

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

2 Propane

C00 962

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

3 Dichlorodifluoromethane

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

5 Acetaldehyde

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

6 Butane

C00 965

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

8 Ethanol

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.i

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

10 Acetone

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

C00 969

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

17 Propanenitrile

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanol

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.i

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

19 2-Methylpentane

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0,0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0,0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

20 Butanal

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

21 2-Butanone

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

22 1-Hexene

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Hexane

C00 976

Date: 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

27 Butanenitrile

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

28 1-Butanol

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Benzene

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

33 3-Methylhexane

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.1

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

35 Heptane

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.i

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

39 Toluene

C00 983

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

40 2-Hexanone

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

41 Octane

C00 985

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.1

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

45 Ethylbenzene

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.i

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

46 p/m-Xylene

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

47 3-Heptanone

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 2-Heptanone

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

53 Nonane

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019, Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

57 Decane

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	87	C4H8	56
1-Butene	106-98-9	nbs75k.1	62307	87	C4H8	56

C00 992

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	96	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	93	C7H14	98
1-Heptene	592-76-7	WILEY138.1	897	93	C7H14	98

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98
3-Heptene, (E)-	14686-14-7	WILEY138.1	900	94	C7H14	98

C00 994

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	97	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene, (E)-	14686-13-6	WILEY138.1	117784	96	C7H14	98

Data File: /chem/hpdos6.i/SAS,b/69012504.d

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
14686-13-6	nbs75k.1	1347	95	C7H14	98
592-77-8	nbs75k.1	63245	96	C7H14	98
592-77-8	WILEY138.1	117785	96	C7H14	98

2-Heptene, (E)-

2-Heptene

2-Heptene

C00 996

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, butyl-	930-57-4	nbs75k.1	1319	91	C7H14	98
Cyclopropane, butyl-	930-57-4	WILEY138.1	931	91	C7H14	98
1-Octene	111-66-0	nbs75k.1	63996	90	C8H16	112

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
1119-65-9	nbs75k.1	63138	97	C7H12	96
1000-86-8	nbs75k.1	63137	81	C7H12	96
1000-86-8	WILEY138.1	627	81	C7H12	96

2-Heptyne

1,3-Pentadiene, 2,4-dimethyl-

1,3-Pentadiene, 2,4-dimethyl-

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C8 Alkene/Cycloalkane (mw 112)

Cyclooctane

Cyclooctane

Cyclooctane

CAS Number	Library	Entry	Quality	Formula	Weight
292-64-8	WILEY138.1	119121	90	C8H16	112
292-64-8	nbs75k.1	2655	87	C8H16	112
292-64-8	WILEY138.1	119119	87	C8H16	112

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	91	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119371	91	C8H18	114
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	87	C8H18	114

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	90	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	90	C8H16	112
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	86	C5H10	70

C01 001

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	90	C8H16	112
3-HEXENE, 2,4-DIMETHYL-	0-00-0	WILEY138.1	2680	90	C8H16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	86	C8H16	112

C01 002

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

2-HEPTENE, 3-METHYL-

Heptane, 3-methylene-

1-Pentene, 3-ethyl-4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	95	C8H16	112
1632-16-2	nbs75k.1	64033	90	C8H16	112
61847-80-1	nbs75k.1	2732	90	C8H16	112

C01 003

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

cis-1-Butyl-2-methylcyclopropane
CIS-1-BUTYL-2-METHYLCYCLOPROPANE
trans-1-Butyl-2-methylcyclopropane

CAS Number	Library	Entry	Quality	Formula	Weight
38851-69-3	nbs75k.1	2683	95	C8H16	112
38851-69-3	WILEY138.1	2731	95	C8H16	112
38851-70-6	nbs75k.1	2690	93	C8H16	112

C01 004

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64150	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64151	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119313	91	C7H14O	114

C01 005

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

Library Search Compound Match

Unknown

2-Pentene, 4,4-dimethyl-, (E)-

1-Butene, 2,3,3-trimethyl-

1-Butene, 2,3,3-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
690-08-4	nbs75k.1	63250	50	C7H14	98
594-56-9	nbs75k.1	1336	50	C7H14	98
594-56-9	WILEY138.1	930	50	C7H14	98

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)
Ethyl ester of 2-bromo-1-ethenecarboxylic acid
1,3,2-Dioxaborolane, 2,4-diethyl-
1,3,2-Dioxaborolane, 2,4-diethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
31930-34-4	WILEY138.1	24351	74	C5H7BrO2	178
57633-63-3	nbs75k.1	4896	64	C6H13BO2	128
57633-63-3	WILEY138.1	5771	64	C6H13BO2	128

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one, (E)-	18402-82-9	WILEY138.1	5296	25	C8H14O	126
2(5H)-FURANONE, 4,5,5-TRIMETHYL-	0-00-0	WILEY138.1	5202	40	C7H10O2	126
3,6-DIHYDRO-6,6-DIMETHYL-2H-PYRAN-2-ONE	72649-03-7	WILEY138.1	5218	37	C7H10O2	126

C01 008

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Nonane, 2,6-dimethyl-	17302-28-2	nbs75k.1	11598	83	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	67324	86	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	124557	86	C11H24	156

C01 009

Date : 25-JAN-1998 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.i

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Operator: JCE

HNF-4073

Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	WILEY138.1	124548	91	C11H24	156
Tridecane	629-50-5	nbs75k.1	69020	90	C13H28	184
Tridecane	629-50-5	WILEY138.1	127251	90	C13H28	184

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.i

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Dodecane, 2,6,10-trimethyl-

Hexane, 3,3-dimethyl-

Decane, 3-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
3891-98-3	nbs75k.1	70270	64	C15H32	212
563-16-6	nbs75k.1	64223	59	C8H18	114
13151-34-3	nbs75k.1	11604	53	C11H24	156

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124046	94	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	91	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	91	C11H20	152

C01 012

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	67185	90	C11H22	154
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	87	C11H22	154
Cyclohexane, pentyl-	4292-92-6	WILEY138.1	14841	87	C11H22	154

C01 013

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.1	8080	47	C10H22	142
Heptane, 4-propyl-	3178-29-8	nbs75k.1	8079	72	C10H22	142
Heptane, 4-(1-methylethyl)-	52896-87-4	nbs75k.1	8084	72	C10H22	142

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	96	C11H20	152
TRANS-ANTI-1-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13878	96	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124046	87	C11H20	152

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Unknown C12 Alkane (mw 170)

1-Iodo-2-methylnonane

Dodecane, 2,6,10-trimethyl-

Nonane, 5-(1-methylpropyl)-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	nbs75k.1	37255	64	C10H21I	268
3891-98-3	nbs75k.1	70270	64	C15H32	212
62185-54-0	nbs75k.1	19016	59	C13H28	184

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	WILEY138.1	126006	93	C12H26	170
Dodecane	112-40-3	nbs75k.1	68249	91	C12H26	170

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Undecane, 2,6-dimethyl-

Undecane, 2,6-dimethyl-

Dodecane, 6-methyl-

CAS Number

Library

Entry

Quality

Formula

Weight

17301-23-4 WILEY138.1

27745

58

C13H28

184

17301-23-4 nbs75k.1

19058

96

C13H28

184

6044-71-9 nbs75k.1

19006

87

C13H28

184

HNF-4073
Rev. 0

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclododecane	294-62-2	nbs75k.1	68128	78	C12H24	168
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68867	81	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	WILEY138.1	26872	81	C13H26	182

C01 019

Date: 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Tridecane, 7-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	WILEY138.1	34139	93	C14H30	198
26730-14-3	nbs75k.1	22538	90	C14H30	198
26730-14-3	WILEY138.1	128289	90	C14H30	198

C01 020

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: IST 1390 WP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C13 Alkene/Cycloalkane (mw 182)						
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	72	C13H26	182
1-Tridecene	2437-56-1	nbs75k.1	18491	70	C13H26	182
1-Tridecene	2437-56-1	WILEY138.1	26848	70	C13H26	182

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Instrument: hpdos6.1

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	69021	96	C13H28	184
Tridecane	629-50-5	WILEY138.1	127254	94	C13H28	184
Tridecane	629-50-5	nbs75k.1	18989	93	C13H28	184

C01 022

Date : 25-JAN-1999 12:26

Client ID: Slurry Pmp T=0.0

Sample Info: TST 1390 VP006-019 Slurry Pmp T=0.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Tetradecane

629-59-4

nbs75k.1

69659

97

C14H30

198

Tetradecane

629-59-4

WILEY138.1

128276

97

C14H30

198

Tetradecane

629-59-4

WILEY138.1

128277

94

C14H30

198

C01 023

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1390 VP006-019 hr
100 ml of ISTD

Instrument ID : hpdos6.i
 Method : PNNL_std.m
 File : 69012504.d
 Injection Date : 25-JAN-99 12:26 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-019
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 192 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	19	120.91	8.242	8.201	14434	1.74	0.0091	1.68	J
Chloromethane	19	50.49	9.128				0.0021	0.95	U
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727				0.0073	0.96	U
Vinyl Chloride	19	62.50	10.150				0.0027	0.95	U
Methanol	19	32.04	10.475	10.514	235929	44.51	0.2318	162.08	
1,3-Butadiene	19	54.00	10.721				0.0037	1.53	U
Chloroethane	19	64.51	12.269				0.0028	0.96	U
Ethanol	19	46.07	12.880	12.878	171217	60.82	0.3168	154.03	
Acetonitrile	19	41.05	13.362	13.399	33695	6.84	0.0356	19.45	J
Acetone	19	58.08	13.855	13.892	73864	42.48	0.2212	85.32	
Trichlorofluoromethane	19	137.37	14.269	14.217	91204	15.97	0.0832	13.56	
Pentane	19	72.00	15.067	15.005	341115	43.77	0.2280	70.92	
1,1-Dichloroethene	19	96.94	15.586				0.0041	0.95	U
Methylene Chloride	19	84.93	15.885	15.843	4715	1.40	0.0073	1.92	J
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418	16.355	1954	0.73	0.0038	0.46	J
1,1-Dichloroethane	19	98.96	18.009				0.0042	0.96	U
2-Butanone	19	72.11	18.725	18.728	13194	9.33	0.0486	15.10	J
cis-1,2-Dichloroethene	19	96.94	19.536				0.0041	0.95	U
Chloroform	19	119.38	20.106				0.0051	0.96	U
1,2-Dichloroethane	19	98.96	21.418				0.0042	0.96	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0057	0.95	U
Benzene	25	78.11	22.846	22.787	31685	1.86	0.0097	2.78	J
Carbon Tetrachloride	25	153.82	23.123				0.0065	0.95	U
1,2-Dichloropropane	25	112.99	24.285				0.0048	0.95	U
Trichloroethene	25	131.39	24.719	24.720	7326	1.56	0.0081	1.39	J
cis-1,3-Dichloropropene	25	110.97	26.324				0.0104	2.10	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0104	2.10	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0039	0.66	U
Toluene	34	92.14	28.476	28.426	66174	6.82	0.0355	8.63	J
1,2-Dibromoethane	34	187.86	29.947				0.0080	0.96	U
Tetrachloroethylene	34	165.83	30.999				0.0080	1.08	U
Chlorobenzene	34	112.56	32.566				0.0048	0.95	U
Ethylbenzene	34	106.17	33.394	33.374	5845	0.32	0.0017	0.36	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.739	6402	1.00	0.0052	1.09	J
Styrene	41	104.15	34.727				0.0044	0.95	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0071	0.95	U
o-Xylene	41	106.17	35.024				0.0045	0.96	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0051	0.95	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0051	0.95	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0625	9.52	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0063	0.95	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0063	0.95	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0078	0.96	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0109	0.94	U
Bromochloromethane (IS)	19	129.40	19.898	19.851	321636	121.00	0.6302	109.09	
Difluorobenzene (IS)	25	114.00	23.340	23.290	1223840	106.00	0.5521	108.48	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.408	1015733	113.00	0.5885	110.27	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.154	573012	162.00	0.8438	108.62	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1390 VP006-019 hr

100 ml of ISTD

C01 026

HNF-4073

Rev. 0

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1390 VP006-019 hr

100 ml of ISTD

C01 027

Data File: /chem/hpdos6.i/PNNL.b/69012504.d

Date : 25-JAN-99 12:26

Client ID: Slurry Pmp T=0.0 hr

Sample Info: TST 1390 VP006-019 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

C01 028

Date : 25-JAN-99 12:26

Client ID: Slurry Pmp T=0.0 hr

Sample Info: TST 1390 VP006-019 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Dichlorodifluoromethane

C01 029

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1394 VP006-084 BP T=4.0
100. ml of ISTDInstrument ID : hpdos6.i
Method : sas_std.m
File : 69012505.d
Injection Date : 25-JAN-1999 13:47 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-084
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 222 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.630	1196332	162.41	0.7316	389.44	
Propane	23	44.10	7.848	7.797	385851	165.31	0.7446	378.23	
Dichlorodifluoromethane	23	120.91	8.242				0.0047	0.87	U
Chloromethane	23	50.49	9.129				0.0019	0.84	U
Acetaldehyde	23	44.05	9.818	9.805	186552	193.82	0.8731	443.97	
Butane	23	58.12	11.000	10.948	4653810	584.69	2.6338	1015.07	E
Chloroethane	23	64.51	12.280				0.0023	0.80	U
Ethanol	23	46.07	12.733	12.868	104234	25.89	0.1166	56.69	
Acetonitrile	23	41.05	13.246	13.351	115266	20.73	0.0934	50.95	
Acetone	23	58.08	13.827	13.824	234016	82.47	0.3715	143.27	
Trichlorofluoromethane	23	137.37	14.281	14.228	19070	4.88	0.0220	3.59	J
Isopropyl Alcohol	23	60.10	14.399				0.0055	2.06	U
Furan	23	68.08	14.666				0.0025	0.82	U
Pentane	23	72.00	15.070	15.016	1480155	216.15	0.9737	302.92	
Methylene Chloride	23	84.93	15.898				0.0031	0.81	U
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422				0.0070	0.83	U
Propanenitrile	23	55.08	17.152	17.154	123653	33.15	0.1493	60.73	
Propanol	23	60.10	17.181	17.204	124821	18.56	0.0836	31.16	
2-Methylpentane	23	86.18	18.385	18.337	224711	29.29	0.1319	34.29	
Butanal	23	72.11	18.523	18.485	59348	118.39	0.5333	165.66	
2-Butanone	23	72.11	18.711	18.712	116425	14.81	0.0667	20.73	
1-Hexene	23	84.16	19.372	19.323	1468569	422.10	1.9013	506.06	
Hexane	23	86.18	19.944	19.895	953376	192.91	0.8690	225.87	
Chloroform	23	119.38	20.122				0.0050	0.93	U
Tetrahydrofuran	23	72.11	20.852	20.852	11095	4.93	0.0222	6.89	J
Butanenitrile	31	69.11	21.927	21.886	551535	44.80	0.2018	65.41	
1-Butanol	31	74.12	22.381	22.340	178783	31.47	0.1418	42.84	J
Benzene	31	78.11	22.855	22.803	129288	6.43	0.0290	8.31	
Carbon Tetrachloride	31	153.82	23.131				0.0055	0.81	U
2-Pentanone	31	86.13	23.438	23.425	235239	15.75	0.0710	18.46	
3-Methylhexane	31	100.20	23.991	23.939	69762	8.59	0.0387	8.65	
1,4-Dioxane	31	88.11	24.681				0.0081	2.06	U
Heptane	31	100.20	25.215	25.163	2614042	528.77	2.3819	532.47	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.298	81025	7.00	0.0315	7.05	J
Pyridine	31	79.10	26.615				0.0901	25.52	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0047	0.79	U
Toluene	43	92.14	28.489	28.439	406575	39.89	0.1797	43.68	
2-Hexanone	43	100.16	28.825	28.785	717327	71.45	0.3218	71.97	
Octane	43	114.23	30.432	30.375	387601	88.89	0.4004	78.51	
Tetrachloroethylene	43	165.83	31.004				0.0057	0.77	U
Chlorobenzene	43	112.56	32.572				0.0037	0.74	U
Ethylbenzene	43	106.17	33.401	33.357	27605	1.65	0.0075	1.57	J
p/m-Xylene	43	106.17	33.826	33.742	13381	2.37	0.0107	2.26	J
3-Heptanone	43	114.19	33.835	33.792	20862853	2675.19	12.0504	2363.86	E
2-Heptanone	54	114.19	33.964	33.910	5672140	379.82	1.7109	335.62	
Cyclohexanone	54	98.14	34.281				0.0084	1.92	U
Styrene	54	104.15	34.735				0.0039	0.83	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0064	0.86	U
o-Xylene	54	106.17	35.033	34.997	5621	0.70	0.0032	0.67	J
Nonane	54	128.26	35.379	35.333	688163	64.17	0.2891	50.48	
2-Octanone	54	128.21	38.774	38.713	315906	24.11	0.1086	18.97	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0046	0.86	U
Decane	54	142.20	40.009	39.959	2077897	248.81	1.1208	176.55	
Bromochloromethane (IS)	23	129.40	19.915	19.865	221501	106.00	0.4775	82.65	
Difluorobenzene (IS)	31	114.00	23.349	23.297	1268199	106.00	0.4775	93.82	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.408	1081551	113.00	0.5090	95.36	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.172	1066693	113.00	0.5090	65.53	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1-Propene, 2-methyl-	23	56	115-11-7	10.623	10213544	219.18	0.9873	394.92	NJ
1-Butene	23	56	106-98-9	11.312	621663	13.34	0.0601	24.04	NJ
2-Butene, (Z)-	23	56	590-18-1	11.864	1362108	29.23	0.1317	52.67	NJ
1-Butene, 2-methyl-	23	70	563-46-2	14.809	688314	14.77	0.0665	21.29	NJ
2-Hexene	23	84	592-43-8	20.102	598510	12.84	0.0579	15.43	NJ
2-Hexene, (Z)-	23	84	7688-21-3	20.625	635523	13.64	0.0614	16.38	NJ
3-Heptene	31	98	592-78-9	23.712	765318	24.91	0.1122	25.64	NJ
1-Heptene	31	98	592-76-7	24.560	3917815	127.50	0.5743	131.27	NJ
(Z)-3-Heptene	31	98	7642-10-6	25.014	25289438	822.99	3.7072	847.35	NJ
2-Heptene	31	98	592-77-8	25.370	30098862	979.50	4.4122	1008.50	NJ
Pentanenitrile	31	83	110-59-8	27.363	1524851	49.62	0.2235	60.33	NJ
3,4-Heptadiene	31	96	2454-31-1	27.551	6752756	219.75	0.9899	230.97	NJ
2-Heptyne	43	96	1119-65-9	28.647	7097596	200.46	0.9030	210.69	NJ
4-Octene, (E)-	43	112	14850-23-8	28.904	2853330	80.59	0.3630	72.60	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.091	14329890	404.72	1.8231	358.22	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.733	17311925	488.95	2.2025	440.49	NJ
2-Octene, (E)-	43	112	13389-42-9	30.079	867090	24.49	0.1103	22.06	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.207	3906777	110.34	0.4970	99.41	NJ
2-Octene	43	112	111-67-1	30.514	1494175	42.20	0.1901	38.02	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.780	3291512	92.96	0.4188	83.75	NJ
trans-1-Butyl-2-methylcyclopropane	43	112	38851-70-6	31.037	1975665	55.80	0.2513	50.27	NJ

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3-Hexanone, 5-methyl-	43	114	623-56-3	31.343	695622	19.65	0.0885	17.39	NJ
Hexanenitrile	43	97	628-73-9	32.695	928279	26.22	0.1181	27.27	NJ
4-Heptanone	43	114	123-19-3	33.159	13419740	379.02	1.7073	335.47	NJ
n-Butyl ether	43	130	142-96-1	34.098	3694599	104.35	0.4700	80.99	NJ
3-Heptanol	54	116	589-82-2	34.414	6237282	89.79	0.4045	78.10	NJ
1-Nonene	54	126	124-11-8	34.799	1356869	19.53	0.0880	15.64	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.676	7432813	107.00	0.4820	84.35	J
Unknown	54	126		36.756	12871995	185.30	0.8347	148.39	J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.874	9977077	143.62	0.6470	113.22	J
3-Octen-2-one, (E)-	54	126	18402-82-9	37.132	11460600	164.98	0.7432	132.12	NJ
Unknown	54	128		37.310	1903755	27.41	0.1234	21.60	J
Heptanenitrile	54	111	629-08-3	37.675	2641665	38.03	0.1713	34.57	NJ
4-Octanone	54	128	589-63-9	38.011	2336031	33.63	0.1515	26.51	NJ
Unknown	54	126		38.910	1165033	16.77	0.0755	13.43	J
Unknown	54	0		39.395	9714393	139.84	0.6299		J
Unknown C11 Alkene/Cycloalkane (mw 154)	54	154		40.087	3835320	55.21	0.2487	36.17	J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.601	20756926	298.81	1.3460	231.92	NJ
Decane, 3-methyl-	54	156	13151-34-3	41.857	1000473	14.40	0.0649	9.32	NJ
Cyclohexane, butyl-	54	140	1678-93-9	41.966	1834564	26.41	0.1190	19.03	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	54	0		42.203	1183669	17.04	0.0768		J
Octanenitrile	54	125	124-12-9	42.332	1771047	25.50	0.1148	20.58	NJ
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.539	1159294	16.69	0.0752	12.20	NJ
Unknown	54	154		43.845	4606154	66.31	0.2987	43.44	J
Undecane	54	156	1120-21-4	44.261	22328485	321.43	1.4479	207.90	NJ
Unknown	54	168		44.815	4627028	66.61	0.3000	40.00	J
Decane, 3,6-dimethyl-	54	170	17312-53-7	45.073	1175059	16.92	0.0762	10.04	NJ
Unknown C11 Alkane (mw 156)	54	156		45.518	2124922	30.59	0.1378	19.79	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	45.934	2130214	30.67	0.1381	20.36	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.310	2613124	37.62	0.1694	24.65	NJ
Heptane, 3-ethyl-2-methyl-	54	142	14676-29-0	46.518	1712523	24.65	0.1110	17.52	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.677	4137925	59.57	0.2683	39.54	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.885	2117121	30.48	0.1373	18.09	NJ
Undecane, 3-methyl-	54	170	1002-43-3	47.192	1607500	23.14	0.1042	13.73	NJ
6-Dodecene, (E)-	54	168	7206-17-9	47.846	1995495	28.73	0.1294	17.25	NJ
Unknown	54	168		47.994	1441266	20.75	0.0935	12.46	J
Dodecane	54	170	112-40-3	48.262	5773898	831.18	3.7441	493.33	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.877	12075643	173.83	0.7830	95.33	NJ
Cyclododecane	54	168	294-62-2	50.295	4870504	70.11	0.3158	42.11	NJ
Unknown	54	168		50.553	1679466	24.18	0.1089	14.52	J
Unknown C12 Alkane (mw 170)	54	170		50.702	1896063	27.29	0.1229	16.20	J
Unknown C12 Alkane (mw 170)	54	170		50.990	875054	12.60	0.0567	7.48	J
Unknown C12 Alkane (mw 170)	54	0		51.129	9226028	132.81	0.5983		J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	0		51.606	5066166	72.93	0.3285		J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.715	1252662	18.03	0.0812	10.00	J
Tridecane	54	184	629-50-5	52.003	101798361	1465.44	6.6011	803.61	NJ
Tetradecane	54	198	629-59-4	55.468	31176050	448.79	2.0216	228.71	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	4939484
Difluorobenzene (IS)	31	3257248

C01 032

Chlorobenzene-d5 (IS)	43	4000937
1-Bromo-4-Fluorobenzene (IS)	54	7849685

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit..

N--Tentatively Identified Compound

HNF-4073
Rev. 0

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Page 3

C01 033

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 BP T=4.0 100 ml of ISTD

C01 034

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 BP T=4.0 100 ml of ISTD

C01 035

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

C01 036

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Propene

C01 037

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

2 Propane

C01 038

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

5 Acetaldehyde

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

6 Butane

C01 040

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

8 Ethanol

C01 041

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

9. Acetonitrile

Date: 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Acetone

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Trichlorofluoromethane

C01 044

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

C01 045

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

17 Propanenitrile

C01 046

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanol

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 2-Methylpentane

C01 048

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

20 Butanol

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

21 2-Butanone

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

24 Hexane

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

27 Butanenitrile

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

28 1-Butanol

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

29 Benzene

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

35 Heptane

C01 057

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 Toluene

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 2-Hexanone

C01 059

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

41 Octane

C01 060

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VF006-084 BP T=4.0

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

45 Ethylbenzene

C01 061

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 p/m-Xylene

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

47 3-Heptanone

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 2-Heptanone

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

52 α -Xylene

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

53 Nonane

C01 066

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

55 2-Octanone

C01 067

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpodos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

57 Decane

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

1-Propene, 2-methyl-
1-Butene
1-Butene

CAS Number	Library	Entry	Quality	Formula	Weight
115-11-7	nbs75k.1	62306	90	C4H8	56
106-98-9	nbs75k.1	62307	87	C4H8	56
106-98-9	nbs75k.1	62309	87	C4H8	56

C01 069

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62307	86	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	86	C4H8	56
2-Butene, (Z)-	590-18-1	WILEY138.1	116019	86	C4H8	56

C01 070

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 WP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (Z)-	WILEY138.1	116019	90	C4H8	56
1-Butene	nbs75k.1	62309	90	C4H8	56
1-Propene, 2-methyl-	nbs75k.1	62305	90	C4H8	56

HNF-4073
Rev. 0

C01 071

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 WP006-084 BP T=4.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

1-Butene, 2-methyl-
1-Butene, 2-methyl-
1-Butene, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
563-46-2	nbs75k.1	62458	91	C5H10	70
563-46-2	WILEY138.1	116339	91	C5H10	70
563-46-2	WILEY138.1	116340	91	C5H10	70

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (E)-	646-04-8	nbs75k.1	233	90	C5H10	70
2-Pentene, (E)-	646-04-8	WILEY138.1	116337	90	C5H10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	87	C5H10	70

C01 073

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.1	62465	90	C5H10	70
1-Pentene	109-67-1	nbs75k.1	62464	90	C5H10	70
Cyclopropane, ethyl-	1191-96-4	nbs75k.1	227	90	C5H10	70

C01 074

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	nbs75k.1	62758	90	C6H12	84
2-Hexene	592-43-8	WILEY138.1	116888	90	C6H12	84
2-Hexene	592-43-8	WILEY138.1	116885	90	C6H12	84

C01 075

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (Z)-	7688-21-3	nbs75k.1	62749	87	C6H12	84
2-Hexene, (Z)-	7688-21-3	nbs75k.1	583	87	C6H12	84
3-Hexene, (E)-	13269-52-8	nbs75k.1	62750	87	C6H12	84

C01 076

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile	109-74-0	nbs75k.1	62423	39	C4H7N	69
Butanenitrile	109-74-0	nbs75k.1	200	38	C4H7N	69
2-Propenenitrile, 2-methyl-	126-98-7	WILEY138.1	116225	10	C4H5N	67

C01 077

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	63247	87	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	87	C7H14	98
3-Heptene	592-78-9	WILEY138.1	901	87	C7H14	98

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

1-Heptene
1-Heptene
1-Heptene

CAS Number

Library

Entry

Quality

Formula

Weight

592-76-7

nbs75k.1

63242

96

C7H14

98

592-76-7

nbs75k.1

1335

93

C7H14

98

592-76-7

WILEY138.1

897

93

C7H14

98

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	94	C7H14	98

C01 080

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
592-77-8	nbs75k.1	63245	97	C7H14	98
14686-13-6	nbs75k.1	63254	96	C7H14	98
14686-13-6	nbs75k.1	1347	96	C7H14	98

2-Heptene

2-Heptene, (E)-

2-Heptene, (E)-

C01 081

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Pentanenitrile

110-59-8

WILEY138.1

116798

78

C5H9N

83

Pentanenitrile

110-59-8

nbs75k.1

514

72

C5H9N

83

Pentanedinitrile

544-13-8

nbs75k.1

63065

38

C5H6N2

94

C01 082

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	64	C7H12	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	81	C6H8O	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	WILEY138.1	593	81	C6H8O	96

C01 083

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	96	C7H12	96
Cyclopropane, trimethylmethylene-	34462-28-7	nbs75k.1	63123	70	C7H12	96
2,5-Heptadiene, (E,E)-	39619-60-8	nbs75k.1	1108	64	C7H12	96

C01 084

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	86	CBH16	112
N-OCTAN-3-ENE	0-00-0	WILEY138.1	119057	91	CBH16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	90	CBH16	112

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119373	86	C8H18	114

C01 086

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	91	C8H16	112
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	86	C5H10	70

C01 087

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 WP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64023	38	C8H16	112
Cycloheptanone	502-42-1	nbs75k.1	63969	52	C7H12O	112
Cycloheptanone	502-42-1	WILEY138.1	119038	52	C7H12O	112

C01 088

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

3-Heptene, 3-methyl-

7300-03-0

nbs75k.1

2711

64

C8H16

112

ETHYL-2 METHYL-3 PENTENE-1

0-00-0

WILEY138.1

2685

87

C8H16

112

3-HEXENE, 3-ETHYL-

0-00-0

WILEY139.1

2676

87

C8H16

112

C01 089

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality Formula

Weight

2-Octene

111-67-1

nbs75k.1

63998

87

C8H16

112

2-Octene, (Z)-

7642-04-8

nbs75k.1

2713

87

C8H16

112

2-Octene, (E)-

13389-42-9

nbs75k.1

2689

87

C8H16

112

C01 090

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C8H16	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	90	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64031	83	C8H16	112

C01 091

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
trans-1-Butyl-2-methylcyclopropane	38851-70-6	nbs75k.1	2690	95	C ₈ H ₁₆	112
TRANS-1-BUTYL-2-METHYLCYCLOPROPANE	38851-70-6	WILEY138.1	2732	95	C ₈ H ₁₆	112
CIS-1-BUTYL-2-METHYLCYCLOPROPANE	38851-69-3	WILEY138.1	2731	95	C ₈ H ₁₆	112

C01 092

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64194	68	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	64	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	64	C7H14O	114

C01 093

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanenitrile	628-73-9	nbs75k.1	63154	83	C6H11N	97
Hexanenitrile	628-73-9	WILEY138.1	117638	74	C6H11N	97
Hexanenitrile	628-73-9	WILEY138.1	117637	74	C6H11N	97

C01 094

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
123-19-3	nbs75k.1	64150	91	C7H14O	114
123-19-3	WILEY138.1	119313	91	C7H14O	114
123-19-3	WILEY138.1	119317	90	C7H14O	114

4-Heptanone

4-Heptanone

4-Heptanone

COI 095

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
n-Butyl ether	142-96-1	nbs75k.1	5535	56	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	78	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121219	64	C8H18O	130

C01 096

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number Library Entry Quality Formula Weight

3-Heptanol	589-82-2	nbs75k.1	64382	90	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64381	83	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	3383	83	C7H16O	116

C01 097

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Nonene	124-11-8	nbs75k.1	64957	94	C9H18	126
1-Nonene	124-11-8	nbs75k.1	4675	87	C9H18	126
1-Nonene	124-11-8	WILEY138.1	5409	87	C9H18	126

HNF-4073
Rev. 0

C01 098

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)

1,3,2-Dioxaborolane, 2,4-diethyl-

Furan, 2,5-diethyltetrahydro-

1,3,2-Dioxaborolane, 2,4-diethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
57633-63-3	nbs75k.1	4896	64	C6H13BO2	128
41239-48-9	nbs75k.1	5105	64	C8H16O	128
57633-63-3	WILEY138.1	5771	64	C6H13BO2	128

C01 099

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
1-Methyl-2-cyclopenten-1-ol	40459-88-9	WILEY138.1	844	56	C6H10O	98
Cyclopentane, 1-ethyl-1-methyl-	16747-50-5	nbs75k.1	2727	50	C8H16	112
Cyclopentane, 1-ethyl-1-methyl-	16747-50-5	WILEY138.1	2705	50	C8H16	112

C01 100

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)

1,1'-Bicyclohexyl-1,1'-diol

1,1'-BICYCLOHEXYL-1,1'-BIS(TRIMETHYLSILYL)

1,1'-BICYCLOHEXYL-1,1'-DIOL

CAS Number	Library	Entry	Quality	Formula	Weight
2888-11-1	nbs75k.1	22423	72	C12H22O2	198
19009-71-3	WILEY138.1	85996	72	C18H38O2Si2	342
2888-11-1	WILEY138.1	34005	72	C12H22O2	198

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

3-Octen-2-one, (E)-

18402-82-9

WILEY138.1

5296

35

C8H14O

126

4-Methyl-2-methyleneoxepane

64507-65-9

WILEY138.1

5378

43

C8H14O

126

Oxazole, trimethyl-

20662-84-4

WILEY138.1

2343

38

C6H9NO

111

C01 102

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
2,2-Dimethyl-3-heptene trans	19550-75-5	nbs75k.1	4627	45	C9H18	126
Cycloheptanone, 3-methyl-, (R)-	13609-58-0	nbs75k.1	4562	43	C8H14O	126
2-ISOPROPYL-1-HEXENE	0-00-0	WILEY138.1	5433	43	C9H18	126

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63907	59	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	58	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	118930	58	C7H13N	111

C01 104

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65060	90	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65061	90	C8H16O	128
4-Octanone	589-63-9	WILEY138.1	5942	90	C8H16O	128

C01 105

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match

Unknown

2-Octene, 2,6-dimethyl-

Cyclohexane, 1,1,2,3-tetramethyl-

1,1,2,3-TETRAMETHYLCYCLOHEXANE A

CAS Number	Library	Entry	Quality	Formula	Weight
4057-42-5	WILEY138.1	122507	68	C10H20	140
6783-92-2	nbs75k.1	7580	58	C10H20	140
6783-92-2	WILEY138.1	9524	58	C10H20	140

C01 106

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

Unknown

2-Azabicyclo[2.2.1]heptane

1-Buten-4-yl methacrylate

Hexanenitrile

CAS Number	Library	Entry	Quality	Formula	Weight
279-24-3	WILEY138.1	699	83	C6H11N	97
0-00-0	WILEY138.1	9179	42	C8H12O2	140
628-73-9	WILEY138.1	117636	40	C6H11N	97

C01 107

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

Formic acid, octyl ester

Cyclopropane, 1-hexyl-2-methyl-

Cyclopropane, 1-butyl-2-pentyl-, trans-

CAS Number	Library	Entry	Quality	Formula	Weight
112-32-3	nbs75k.1	11985	38	C9H18O2	158
62238-09-9	nbs75k.1	7567	35	C10H20	140
74663-87-9	nbs75k.1	14778	35	C12H24	168

HNF-4073
Rev. 0

C01 108

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	5518	90	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121193	90	C8H18O	130

C01 109

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
2847-72-5	nbs75k.1	67323	90	C11H24	156
2847-72-5	WILEY138.1	15626	90	C11H24	156
2847-72-5	nbs75k.1	67324	83	C11H24	156

Decane, 4-methyl-

Decane, 4-methyl-

Decane, 4-methyl-

C01 110

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	64	C11H24	156
Heptadecane, 2,6,10,14-tetramethyl-	18344-37-1	nbs75k.1	42200	59	C21H44	296
Heptadecane, 2,6,10,14-tetramethyl-	18344-37-1	WILEY138.1	133325	59	C21H44	296

C01 111

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev 0

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Cyclohexane, butyl-

1678-93-9

nbs75k.1

66055

81

C10H20

140

Cyclohexane, butyl-

1678-93-9

nbs75k.1

66056

74

C10H20

140

Cyclohexane, butyl-

1678-93-9

nbs75k.1

66057

74

C10H20

140

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

Tetracontane, 3,5,24-trimethyl-

Tetracontane, 3,5,24-trimethyl-

1-Octanol, 2-butyl-

CAS Number	Library	Entry	Quality	Formula	Weight
55162-61-3	nbs75k.1	60914	59	C43H88	605
55162-61-3	WILEY138.1	112523	59	C43H88	605
3913-02-8	nbs75k.1	69110	53	C12H26O	186

C01 113

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	83	CBH15N	125
Octanenitrile	124-12-9	WILEY138.1	5025	78	CBH15N	125
1H-Imidazole, 2-methyl-	693-98-1	nbs75k.1	62663	38	C4H6N2	82

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane	124-18-5	nbs75k.1	66207	72	C10H22	142
Undecane, 2,7-dimethyl-	17301-24-5	nbs75k.1	19060	64	C13H28	184
Decane, 5-methyl-	13151-35-4	nbs75k.1	67316	58	C11H24	156

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67322	94	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.1	67320	87	C11H24	156
Decane, 2-methyl-	6975-98-0	WILEY138.1	124550	87	C11H24	156

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	86	C11H24	156
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	83	C11H24	156
Decane, 3-methyl-	13151-34-3	WILEY138.1	15625	83	C11H24	156

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

HNF-4073

Column diameter: 0.32

Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
493-02-7	nbs75k.l	65955	94	C10H18	138
493-02-7	WILEY138.l	122347	94	C10H18	138
493-02-7	WILEY138.l	122344	94	C10H18	138

Naphthalene, decahydro-, trans-

Naphthalene, decahydro-, trans-

Naphthalene, decahydro-, trans-

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Unknown

3-Buten-2-one, 4-(1-aziridinyl)-

3-Buten-2-one, 4-(1-aziridinyl)-

4(1H)-Pyridinone, 2,3-dihydro-1-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
18277-57-1	WILEY138.1	2342	49	C6H9NO	111
18277-57-1	nbs75k.1	2425	47	C6H9NO	111
35488-00-7	nbs75k.1	2418	43	C6H9NO	111

C01 119

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
1120-21-4	nbs75k.1	67317	94	C11H24	156
1120-21-4	WILEY138.1	124548	91	C11H24	156
124-18-5	nbs75k.1	66206	90	C10H22	142

Undecane

Undecane

Decane

C01 120

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
4(3H)-Pyrimidinone	51953-17-4	nbs75k.1	1060	46	C4H4N2O	96
4(3H)-Pyrimidinone	51953-17-4	WILEY138.1	548	46	C4H4N2O	96
3-AMINO-1,2,4-TRIAZINE	1120-99-6	WILEY138.1	117555	43	C3H4N4	96

C01 121

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3,6-dimethyl-	17312-53-7	nbs75k.1	15348	91	C12H26	170
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	93	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126019	93	C12H26	170

C01 122

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Nonane, 5-(1-methylpropyl)-

Nonane, 5-(1-methylpropyl)-

Undecane, 3,8-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
62185-54-0	nbs75k.1	19016	72	C13H28	184
62185-54-0	WILEY138.1	27795	72	C13H28	184
17301-30-3	nbs75k.1	19009	64	C13H28	184

C01 123

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	93	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	93	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	93	C11H20	152

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	90	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	90	C11H22	154
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	67185	90	C11H22	154

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP T=4.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Heptane, 3-ethyl-2-methyl-

14676-29-0

nbs75k.1

66211

50

C10H22

142

Heptane, 4-propyl-

3178-29-8

nbs75k.1

66210

64

C10H22

142

Heptane, 4-propyl-

3178-29-8

WILEY138.1

10257

64

C10H22

142

601 126

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.1

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Naphthalene, decahydro-2-methyl-

2958-76-1

nbs75k.1

67009

91

C11H20

152

2-METHYLDECALIN (PROBABLY TRANS)

2958-76-1

WILEY138.1

13881

91

C11H20

152

Naphthalene, decahydro-2-methyl-

2958-76-1

WILEY138.1

124047

91

C11H20

152

C01 127

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

Undecane, 2-methyl-
Undecane, 2-methyl-
Undecane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
7045-71-8	nbs75k.1	15356	91	C12H26	170
7045-71-8	WILEY138.1	21649	91	C12H26	170
7045-71-8	nbs75k.1	68257	81	C12H26	170

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP T=4.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Undecane, 3-methyl-

1002-43-3

nbs75k.1

15362

78

C12H26

170

Undecane, 3-methyl-

1002-43-3

WILEY138.1

21651

78

C12H26

170

Undecane, 3-methyl-

1002-43-3

WILEY138.1

126015

78

C12H26

170

C01 129

Date : 25-JAN-1999 13:27

Client ID: BP T=4.0

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

6-Dodecene, (E)-

7206-17-9

nbs75k.1

14720

95

C12H24

168

6-Dodecene, (E)-

7206-17-9

WILEY138.1

20670

95

C12H24

168

5-Dodecene, (Z)-

7206-28-2

nbs75k.1

14752

94

C12H24

168

C01 130

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Phosphonic acid, dioctadecyl ester	19047-85-9	nbs75k.1	60683	72	C36H75O3P	587
Phosphonic acid, dioctadecyl ester	19047-85-9	WILEY138.1	112020	72	C36H75O3P	587
2-Undecene, 8-methyl-, (Z)-	74630-44-7	nbs75k.1	14727	68	C12H24	168

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
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Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	WILEY138.1	126006	96	C12H26	170
Dodecane	112-40-3	nbs75k.1	15347	95	C12H26	170

C01 132

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	96	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69032	87	C13H28	184
Undecane, 3,6-dimethyl-	17301-28-9	nbs75k.1	19000	87	C13H28	184

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
trans,cis-1,8-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14144	76	C12H22	166
trans,trans-1,8-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14143	76	C12H22	166
cis,trans-1,10-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14138	64	C12H22	166

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclododecane	294-62-2	nbs75k.1	68128	78	C12H24	168
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	90	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	WILEY138.1	127048	90	C13H26	182

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

3,5-Octadiene, 4,5-diethyl-, (E,Z)-

3,5-Octadiene, 4,5-diethyl-, (E,Z)-

3,5-OCTADIENE, 4,5-DIETHYL-

CAS Number	Library	Entry	Quality	Formula	Weight
21293-02-7	nbs75k.1	14171	42	C12H22	166
21293-02-7	WILEY138.1	19732	42	C12H22	166
21293-02-7	WILEY138.1	19733	38	C12H22	166

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Decane, 2,3,7-trimethyl-

Decane, 2,3,7-trimethyl-

Pentacosane

CAS Number	Library	Entry	Quality	Formula	Weight
62238-13-5	nbs75k.1	19048	72	C13H28	184
62238-13-5	WILEY138.1	27780	72	C13H28	184
629-99-2	WILEY138.1	88620	59	C25H52	352

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Dodecane, 3-methyl-

Dodecane, 3-methyl-

1-Iodoundecane

CAS Number	Library	Entry	Quality	Formula	Weight
17312-57-1	WILEY138.1	127260	91	C13H28	184
17312-57-1	nbs75k.1	69025	83	C13H28	184
4282-44-4	nbs75k.1	39685	64	C11H23I	282

Date : 25-JAN-1999 13:27

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

HNF-4073

Column phase: DB-1

Column diameter: 0.32

Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Octane, 2,3,7-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	nbs75k.l	22538	87	C14H30	198
26730-14-3	WILEY138.l	128289	87	C14H30	198
62016-34-6	nbs75k.l	11603	83	C11H24	156

C01 139

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C13 Alkene/Cycloalkane (mw 182)

4-Dodecene

4-Dodecene

1-Dodecene

CAS Number	Library	Entry	Quality	Formula	Weight
2030-84-4	nbs75k.1	14801	86	C12H24	168
2030-84-4	WILEY138.1	20784	86	C12H24	168
112-41-4	WILEY138.1	20662	86	C12H24	168

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown C13 Alkene/Cycloalkane (mw 182)

6-Dodecene, (E)-

6-Dodecene, (E)-

4-Nonene, 5-butyl-

CAS Number	Library	Entry	Quality	Formula	Weight
7206-17-9	nbs75k.1	14720	86	C12H24	168
7206-17-9	WILEY138.1	20670	86	C12H24	168
7367-38-6	WILEY138.1	26857	81	C13H26	182

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Sample Info: TST 1394 VP006-084 BP T=4.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	69017	97	C13H28	184
Tridecane	629-50-5	nbs75k.1	69019	97	C13H28	184
Tridecane	629-50-5	WILEY138.1	127252	97	C13H28	184

Date : 25-JAN-1999 13:47

Client ID: BP T=4.0

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP T=4.0

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	22534	95	C14H30	198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 h
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL_std.m
File : 69012505.d
Injection Date : 25-JAN-99 13:47 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-084
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 222 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m^3	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242				0.0045	0.83	U
Chloromethane	19	50.49	9.128				0.0018	0.82	U
12dichloro1122-tetrafluoroeth	19	170.92	9.727				0.0063	0.83	U
Vinyl Chloride	19	62.50	10.150				0.0023	0.82	U
Methanol	19	32.04	10.475	10.485	127200	34.85	0.1570	109.74	
1,3-Butadiene	19	54.00	10.721				0.0032	1.33	U
Chloroethane	19	64.51	12.269				0.0024	0.83	U
Ethanol	19	46.07	12.880	12.868	104234	53.77	0.2422	117.76	
Acetonitrile	19	41.05	13.362	13.351	110863	32.70	0.1473	80.38	
Acetone	19	58.08	13.855	13.824	221624	185.06	0.8336	321.50	
Trichlorofluoromethane	19	137.37	14.269	14.228	19070	4.85	0.0218	3.56	J
Pentane	19	72.00	15.067	15.016	1480155	275.77	1.2422	386.47	
1,1-Dichloroethene	19	96.94	15.586				0.0036	0.82	U
Methylene Chloride	19	84.93	15.885	15.864	5398	2.32	0.0105	2.76	J
112trichloro122trifluoroethane	19	187.38	16.418	16.367	3506	1.91	0.0086	1.03	J
1,1-Dichloroethane	19	98.96	18.009				0.0036	0.83	U
2-Butanone	19	72.11	18.725	18.712	27824	28.58	0.1287	39.99	
cis-1,2-Dichloroethene	19	96.94	19.536				0.0036	0.82	U
Chloroform	19	119.38	20.106				0.0044	0.83	U
1,2-Dichloroethane	19	98.96	21.418				0.0036	0.83	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0049	0.82	U
Benzene	25	78.11	22.846	22.803	129288	7.34	0.0330	9.48	
Carbon Tetrachloride	25	153.82	23.123				0.0056	0.82	U
1,2-Dichloropropane	25	112.99	24.285				0.0041	0.82	U
Trichloroethene	25	131.39	24.719				0.0049	0.83	U
cis-1,3-Dichloropropene	25	110.97	26.324				0.0090	1.82	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0090	1.82	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0034	0.57	U
Toluene	34	92.14	28.476	28.439	406575	39.33	0.1772	43.07	
1,2-Dibromoethane	34	187.86	29.947				0.0069	0.83	U
Tetrachloroethylene	34	165.83	30.999				0.0069	0.94	U
Chlorobenzene	34	112.56	32.566				0.0041	0.82	U
Ethylbenzene	34	106.17	33.394	33.357	27605	1.44	0.0065	1.37	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
p/m-Xylene	34	106.17	33.809	33.742	13381	1.96	0.0088	1.86	J
Styrene	41	104.15	34.727				0.0038	0.82	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0062	0.82	U
o-Xylene	41	106.17	35.024	34.997	5621	0.79	0.0035	0.75	J
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0044	0.82	U
1,2,4-Trimethylbenzene	41	120.19	39.844	39.791	10473	0.70	0.0031	0.59	J
1,3-Dichlorobenzene	41	147.00	40.328				0.0540	8.23	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0054	0.82	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0054	0.82	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0068	0.83	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0095	0.81	U
Bromochloromethane (IS)	19	129.40	19.898	19.865	221501	121.00	0.5450	94.35	
Difluorobenzene (IS)	25	114.00	23.340	23.297	1268199	106.00	0.4775	93.82	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.408	1081551	113.00	0.5090	95.36	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.162	638157	162.00	0.7297	93.94	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 h 100 ml of ISTD

C01 146

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 h

100 ml of ISTD

C01 147

02/08/99 09:52

69012505.d

Page 4

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1395 VP006-076 BP T=3.5
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas std.m
File : 690I2506.d
Injection Date : 25-JAN-1999 15:08 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-076
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 212 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.959	44771	0.00	0.0000	0.00	J
Propane	23	44.10	7.848	7.860	2035	0.00	0.0000	0.00	J
Dichlorodifluoromethane	23	120.91	8.242				0.0049	0.91	U
Chloromethane	23	50.49	9.129	9.024	2364	0.00	0.0000	0.00	J
Acetaldehyde	23	44.05	9.818	9.951	7451	0.00	0.0000	0.00	J
Butane	23	58.12	11.000				0.0022	0.87	U
Chloroethane	23	64.51	12.280				0.0024	0.83	U
Ethanol	23	46.07	12.733				0.0041	1.99	U
Acetonitrile	23	41.05	13.246	13.301	19182	0.00	0.0000	0.00	J
Acetone	23	58.08	13.827	15.302	15055	0.00	0.0000	0.00	J
Trichlorofluoromethane	23	137.37	14.281				0.0055	0.89	U
Isopropyl Alcohol	23	60.10	14.399				0.0058	2.16	U
Puran	23	68.08	14.666	13.429	1209	0.00	0.0000	0.00	J
Pentane	23	72.00	15.070				0.0028	0.86	U
Methylene Chloride	23	84.93	15.898				0.0032	0.85	U
112trichloro122trifluoroethane	23	187.38	16.422				0.0073	0.87	U
Propanenitrile	23	55.08	17.152	18.052	1482	0.00	0.0000	0.00	J
Propanol	23	60.10	17.181				0.0055	2.04	U
2-Methylpentane	23	86.18	18.385				0.0032	0.83	U
Butanal	23	72.11	18.523				0.0055	1.71	U
2-Butanone	23	72.11	18.711				0.0066	2.05	U
1-Hexene	23	84.16	19.372	19.284	2177	0.00	0.0000	0.00	J
Hexane	23	86.18	19.944				0.0032	0.83	U
Chloroform	23	119.38	20.122				0.0052	0.97	U
Tetrahydrofuran	23	72.11	20.852				0.0028	0.86	U
Butanenitrile	31	69.11	21.927	21.800	783867	0.00	0.0000	0.00	J
1-Butanol	31	74.12	22.381				0.0255	7.71	U
Benzene	31	78.11	22.855	22.838	1833	0.00	0.0000	0.00	J
Carbon Tetrachloride	31	153.82	23.131				0.0058	0.84	U
2-Pentanone	31	86.13	23.438				0.0032	0.83	U
3-Methylhexane	31	100.20	23.991	24.062	80263	0.00	0.0000	0.00	J
1,4-Dioxane	31	88.11	24.681				0.0085	2.16	U
Heptane	31	100.20	25.215	25.018	1612	0.00	0.0000	0.00	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HMF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368				0.0035	0.79	U
Pyridine	31	79.10	26.615	26.572	1362	0.00	0.0000	0.00	J
1,1,2-Trichloroethane	31	133.40	27.858	27.627	161070	0.00	0.0000	0.00	J
Toluene	43	92.14	28.489				0.0034	0.84	U
2-Hexanone	43	100.16	28.825	29.099	927936	93.02	0.4388	98.13	
Octane	43	114.23	30.432	30.225	85037	19.63	0.0926	18.16	
Tetrachloroethylene	43	165.83	31.004				0.0059	0.80	U
Chlorobenzene	43	112.56	32.572				0.0039	0.78	U
Ethylbenzene	43	106.17	33.401	32.436	48121	2.90	0.0137	2.89	J
p/m-Xylene	43	106.17	33.826	32.456	7194	1.28	0.0061	1.28	J
3-Heptanone	43	114.19	33.835	33.701	335967	43.36	0.2045	40.12	
2-Heptanone	54	114.19	33.964	34.146	205021	12.94	0.0610	11.97	
Cyclohexanone	54	98.14	34.281				0.0088	2.01	U
Styrene	54	104.15	34.735				0.0041	0.87	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.136	50728	6.86	0.0324	4.32	J
o-Xylene	54	106.17	35.033	34.254	15330	1.80	0.0085	1.79	J
Nonane	54	128.26	35.379	35.548	282477	24.82	0.1171	20.45	
2-Octanone	54	128.21	38.774	38.356	401256	28.86	0.1361	23.78	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0049	0.91	U
Decane	54	142.20	40.009	39.681	2376887	268.20	1.2651	199.28	
Bromochloromethane (IS)	23	129.40	19.915				0.0047	0.82	U
Difluorobenzene (IS)	31	114.00	23.349				0.0047	0.93	U
Chlorobenzene-d5 (IS)	43	119.56	32.463	31.340	1074561	113.00	0.5330	99.86	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	35.548	1131956	113.00	0.5330	68.62	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Butene	43	56	106-98-9	6.795	23270851	689.96	3.2545	1301.80	NJ
3-Heptene	43	98	592-78-9	20.647	649490	19.26	0.0908	20.76	NJ
1-Heptene	43	98	592-76-7	21.800	5349661	158.61	0.7482	171.01	NJ
(Z)-3-Heptene	43	98	7642-10-6	22.422	28173295	835.31	3.9401	900.60	NJ
Hexanedinitrile	43	108	111-69-3	25.373	1495397	44.34	0.2091	43.38	NJ
3,4-Heptadiene	43	96	2454-31-1	25.718	9329080	276.60	1.3047	304.43	NJ
Cyclohexanecarboxaldehyde	43	112	2043-61-0	26.297	580577	17.21	0.0812	16.24	NJ
2-Octene, (Z)-	43	112	7642-04-8	27.311	3459944	102.58	0.4839	96.78	NJ
Heptane, 3-methylene-	43	112	1632-16-2	28.328	21350634	633.02	2.9860	597.19	NJ
4-Heptenal, (Z)-	43	112	6728-31-0	28.743	1330210	39.44	0.1860	37.21	NJ
3-HEXENE, 3-ETHYL-	43	112	0-00-0	28.911	4508269	133.67	0.6305	126.10	NJ
2-Octene	43	112	111-67-1	29.247	1834026	54.38	0.2565	51.30	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	29.563	4018033	119.13	0.5619	112.39	NJ
2-Octene	43	112	111-67-1	29.859	1847627	54.78	0.2584	51.68	NJ
Hexanenitrile	43	97	628-73-9	31.764	1151882	34.15	0.1611	37.20	NJ
5,7-Dioxooctanoic acid, methyl ester	43	186	0-00-0	32.663	1123797	33.32	0.1572	18.93	NJ
3-Heptanone	43	114	106-35-4	33.009	54770247	1623.88	7.6598	1505.08	NJ
2-Heptanone	43	114	110-43-0	33.138	13497940	400.20	1.8877	370.92	NJ
2-Pyrrolidinone, 1-butyl-	43	141	3470-98-2	33.286	768420	22.78	0.1075	17.07	NJ
Butane, 1,1'-oxybis-	43	130	142-96-1	33.385	3195145	94.73	0.4469	77.00	NJ
Nonane	54	128	111-84-2	34.739	4491562	60.90	0.2873	50.28	NJ

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Furan, 2,5-diethyltetrahydro-	54	128	41239-48-9	36.141	8176821	110.88	0.5230	91.53	NJ
1-Methyl-2-cyclopenten-1-ol	54	98	40459-88-9	36.260	12862150	174.41	0.8227	188.04	NJ
2,2'-Bioxepane	54	198	74793-02-5	36.359	10054138	136.33	0.6431	72.75	NJ
3-Hepten-2-one, 3-methyl-	54	126	39899-08-6	36.666	12635152	171.33	0.8082	143.67	NJ
2-ISOPROPYL-1-HEXENE	54	126	0-00-0	36.834	2003930	27.17	0.1282	22.79	NJ
Heptanenitrile	54	111	629-08-3	37.239	3090200	41.90	0.1977	39.89	NJ
4-Octanone	54	128	589-63-9	37.605	2517275	34.13	0.1610	28.18	NJ
4-Octene, 2,6-dimethyl-, [S-(Z)]-	54	140	62960-77-4	38.504	1286606	17.45	0.0823	13.17	NJ
2-Azabicyclo[2.2.1]heptane	54	97	279-24-3	39.068	11182963	151.64	0.7153	165.18	NJ
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.353	20410940	276.77	1.3055	224.95	NJ
Decane, 4-methyl-	54	156	2847-72-5	40.858	4487308	60.85	0.2870	41.21	NJ
5,5-Dimethyl-3-oxo-1-pyrroline 1-oxide	54	127	62020-94-4	41.659	1180580	16.01	0.0755	13.32	NJ
Cyclohexane, butyl-	54	140	1678-93-9	41.738	2039679	27.66	0.1305	20.87	NJ
Heptane, 3-ethyl-2-methyl-	54	142	14676-29-0	42.005	1456943	19.76	0.0932	14.70	NJ
Octanenitrile	54	125	124-12-9	42.134	2060831	27.94	0.1318	23.62	NJ
Decane	54	142	124-18-5	42.331	984159	13.35	0.0629	9.93	NJ
Decane, 2-methyl-	54	156	6975-98-0	42.638	1031357	13.99	0.0660	9.47	NJ
Cyclohexane, 1,1-dimethyl-2-propyl-	54	154	81983-71-3	42.806	861529	11.68	0.0551	8.02	NJ
Decane, 3-methyl-	54	156	13151-34-3	42.964	1174314	15.92	0.0751	10.79	NJ
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.321	1562941	21.19	0.1000	16.23	NJ
3-Buten-2-one, 4-(1-aziridinyl)-	54	111	18277-57-1	43.687	3718587	50.42	0.2378	48.00	NJ
Undecane	54	156	1120-21-4	44.132	27549398	373.57	1.7621	253.02	NJ
4(3H)-Pyrimidinone	54	96	15953-17-4	44.677	4991771	67.69	0.3193	74.50	NJ
Undecane, 5-methyl-	54	170	1632-70-8	44.974	1736758	23.55	0.1111	14.64	NJ
Dodecane, 2,6,10-trimethyl-	54	212	3891-98-3	45.419	2770705	37.57	0.1772	18.72	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	45.795	2507666	34.00	0.1604	23.64	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.201	2387967	32.38	0.1527	22.22	NJ
Heptane, 4-propyl-	54	142	3178-29-8	46.439	1326720	17.99	0.0849	13.39	NJ
Cyclohexene, 1-pentyl-	54	152	15232-85-6	46.548	4805182	65.16	0.3073	45.29	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.806	2252373	30.54	0.1441	18.98	NJ
Undecane, 3-methyl-	54	170	1002-43-3	47.123	1407698	19.09	0.0900	11.86	NJ
3-Dodecene, (Z)-	54	168	7239-23-8	47.787	2070322	28.07	0.1324	17.66	NJ
4-Undecene, 4-methyl-	54	168	61142-40-3	47.925	2005733	27.20	0.1283	17.11	NJ
Dodecane	54	170	112-40-3	48.203	58941343	799.24	3.7700	496.75	NJ
Cyclohexane, 1-methyl-4-(1-methylbutyl)-	54	168	54411-00-6	48.481	991042	13.44	0.0634	8.45	NJ
Naphthalene, decahydro-1,6-dimethyl-	54	166	1750-51-2	48.699	1720408	23.33	0.1100	14.85	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.828	9821795	133.18	0.6282	76.48	NJ
4,7,7-Trimethylbicyclo[3.3.0]octan-2-one	54	166	60064-73-5	49.899	1231966	16.71	0.0788	10.63	NJ
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54	182	54676-39-0	50.246	4750421	64.41	0.3038	37.40	NJ
cis,trans-1,10-Dimethylspiro[4.5]decane	54	166	0-00-0	50.505	1793788	24.32	0.1147	15.48	NJ
Dodecane, 2-methyl-6-propyl-	54	226	55045-08-4	50.673	1857507	25.19	0.1188	11.78	NJ
Hexane, 2,4-dimethyl-	54	114	589-43-5	50.961	1104204	14.97	0.0706	13.88	NJ
Tridecane, 7-methyl-	54	198	26730-14-3	51.100	9297939	126.08	0.5947	67.28	NJ
4-Nonene, 5-butyl-	54	182	7367-38-6	51.577	4674304	63.38	0.2990	36.80	NJ
Tridecane	54	184	629-50-5	51.974	95543148	1295.55	6.1111	743.96	NJ
Cyclopentane, butyl-	54	126	2040-95-1	52.382	1807700	24.51	0.1156	20.56	NJ
Tetradecane	54	198	629-59-4	52.719	1227966	16.65	0.0785	8.89	NJ
n-Amylcyclohexane	54	154	29949-27-7	54.109	1532694	20.78	0.0980	14.26	NJ
Nonane, 3,7-dimethyl-	54	156	17302-32-8	54.834	3414753	46.30	0.2184	31.36	NJ

C01 150

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1-Tetradecene	54	196	1120-36-1	55.122	841309	11.41	0.0538	6.15	NJ
Tetradecane	54	198	629-59-4	55.460	28088426	380.87	1.7966	203.25	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Chlorobenzene-d5 (IS)	43	3811269
1-Bromo-4-Fluorobenzene (IS)	54	8333432

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HP MS 69012506.d

Sample Info : TST 1395 VP006-076 BP T=3.5 100 ml of ISTD

C01 152

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1395 VP006-076 BP T=3.5 100 ml of ISTD

C01 153

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

CU1 154

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Propene

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

2 Propane

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

4 Chloromethane

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3,5

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

9 Acetonitrile

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

10 Acetone

C01 160

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

13 Furan

C01 161

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

17 Propanenitrile

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

27 Butanenitrile

C01 164

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3,5

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

29 Benzene

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

32 2-Pentanone

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

33 3-Methylhexane

C01 167

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

35 Heptane

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

36 4-Methyl-2-pentanone

C01 169

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 Pyridine

C01 170

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

38 1,1,2-Trichloroethane

C01 171

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 2-Hexanone

Date : 25-JAN-1999 15:08

Client ID: BP I=3.5

Sample Info: TST 1395 VP006-076 BP I=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

41 Octane

C01 173

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

45 Ethylbenzene

Date: 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 p/m-Xylene

C01 175

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

47 3-Heptanone

C01 176

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

48 2-Heptanone

001 177

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

49 Cyclohexanone

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

51 1,1,2,2-Tetrachloroethane

C01 179

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

52 o-Xylene

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

53 Nonane

C01 181

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

55 2-Octanone

C01 182

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

57 Decane

C01 183

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62309	43	C4H8	56
1-Butene	106-98-9	nbs75k.1	62307	43	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	43	C4H8	56

C01 184

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane	109-66-0	nbs75k.1	62515	86	C5H12	72
Pentane	109-66-0	nbs75k.1	62516	86	C5H12	72
Pentane	109-66-0	WILEY138.1	116457	86	C5H12	72

C01 185

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	63247	64	C7H14	98
3-Heptene	592-78-9	WILEY138.1	901	64	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	58	C7H14	98

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	96	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	93	C7H14	98
1-Heptene	592-76-7	WILEY138.1	897	93	C7H14	98

C01 187

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
7642-10-6	nbs75k.1	1368	92	C7H14	98
14686-14-7	nbs75k.1	63260	91	C7H14	98
14686-14-7	nbs75k.1	1352	90	C7H14	98

(Z)-3-Heptene

3-Heptene, (E)-

3-Heptene, (E)-

C01 188

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanedinitrile	111-69-3	nbs75k.1	63760	50	C ₆ H ₈ N ₂	108
Hexanedinitrile	111-69-3	WILEY138.1	118674	50	C ₆ H ₈ N ₂	108
Pentanenitrile	110-59-8	WILEY138.1	116798	50	C ₅ H ₉ N	83

C01 189

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	64	C7H12	96
2-Butenal, 2-ethenyl-	20521-42-0	WILEY138.1	576	62	C6H8O	96
1,3-PENTADIENE, 2,3-DIMETHYL-	0-00-0	WILEY138.1	626	60	C7H12	96

C01 190

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexanecarboxaldehyde	2043-61-0	nbs75k.1	63982	72	C7H12O	112
Cyclopentane, 1-ethyl-2-methyl-, cis-	930-89-2	nbs75k.1	64010	72	C8H16	112
Cyclopentane, 1-ethyl-2-methyl-, cis-	930-89-2	WILEY138.1	2706	72	C8H16	112

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1396 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	91	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64041	91	C8H16	112

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	94	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	94	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	4850-28-6	nbs75k.1	2684	91	C8H16	112

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptenal, (Z)-	6728-31-0	nbs75k.1	63961	43	C7H12O	112
1,6-Octadiene, (E)-	19036-81-8	nbs75k.1	2361	43	C8H14	110
1,6-Octadiene, (E)-	19036-81-8	WILEY138.1	2222	43	C8H14	110

C01 194

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	90	C8H16	112
2-PENTENE, 3-ETHYL-2-METHYL-	0-00-0	WILEY138.1	2690	80	C8H16	112
ETHYL-2 METHYL-3 PENTENE-1	0-00-0	WILEY138.1	2685	80	C8H16	112

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	90	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64041	90	C8H16	112
2-Octene	111-67-1	WILEY138.1	119055	90	C8H16	112

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

2-HEPTENE, 3-METHYL-
Heptane, 3-methylene-
1-Pentene, 3-ethyl-4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	95	C8H16	112
1632-16-2	nbs75k.1	64033	90	C8H16	112
61847-80-1	nbs75k.1	2732	90	C8H16	112

CU1 197

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	90	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	90	C8H16	112
3-Octene, (E)-	14919-01-8	nbs75k.1	64020	90	C8H16	112

C01 198

Date : 25-JAN-1993 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanenitrile	628-73-9	nbs75k.1	63154	78	C6H11N	97
Hexanenitrile	628-73-9	WILEY138.1	117637	78	C6H11N	97
Hexanenitrile	628-73-9	WILEY138.1	117638	78	C6H11N	97

C01 199

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
5,7-Dioxooctanoic acid, methyl ester	0-00-0	nbs75k.1	19332	56	C9H14O4	186
Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	nbs75k.1	5054	53	C8H16O	128
Cyclohexanone, oxime	100-64-1	nbs75k.1	2772	53	C6H11NO	113

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	64174	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64173	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119304	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119305	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119301	90	C7H14O	114

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pyrrolidinone, 1-butyl-	3470-98-2	nbs75k.1	7712	45	C8H15NO	141
3-n-Butylcyclohexanone	936-99-2	WILEY138.1	124263	43	C10H18O	154
2-Pyrrolidinone, 1-propyl-	3470-99-3	nbs75k.1	4774	40	C7H13NO	127

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	72	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121219	72	C8H18O	130
n-Butyl ether	142-96-1	nbs75k.1	65307	64	C8H18O	130

C01 204

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Nonane	111-84-2	nbs75k.1	5163	97	C9H20	128
Nonane	111-84-2	WILEY138.1	6035	97	C9H20	128
Nonane	111-84-2	nbs75k.1	65143	96	C9H20	128

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3,5

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Furan, 2,5-diethyltetrahydro-	41239-48-9	nbs75k.1	5105	64	C8H16O	128
1,1'-Bicyclohexyl-1,1'-diol	2888-11-1	nbs75k.1	22423	64	C12H22O2	198
1,1'-BICYCLOHEXYL-1,1'-DIOL	2888-11-1	WILEY138.1	34005	64	C12H22O2	198

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Methyl-2-cyclopenten-1-ol	40459-88-9	WILEY138.1	844	56	C6H10O	98
Cyclopentane, 1-ethyl-1-methyl-	16747-50-5	nbs75k.1	2727	45	C8H16	112
Cyclopentane, 1-ethyl-1-methyl-	16747-50-5	WILEY138.1	2705	45	C8H16	112

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
74793-02-5	nbs75k.1	22401	72	C12H22O2	198
1123-28-0	nbs75k.1	8343	72	C7H12O3	144
1123-28-0	WILEY138.1	10615	72	C7H12O3	144

Date: 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

3-Hepten-2-one, 3-methyl-
3-Hepten-2-one, 3-methyl-
Cyclooctane, methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
39899-08-6	nbs75k.1	4596	50	C8H14O	126
39899-08-6	WILEY138.1	5303	50	C8H14O	126
1502-38-1	nbs75k.1	4660	47	C9H18	126

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HMT-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

2-ISOPROPYL-1-HEXENE
2-Pentene, 3-methyl-, (Z)-
1-Heptanol, 6-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	5433	55	C9H18	126
922-62-3	nbs75k.1	62781	43	C6H12	84
1653-40-3	nbs75k.1	5544	38	C8H18O	130

C01 210

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	2435	70	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	118929	70	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63909	53	C7H13N	111

HNF-4073
Rev. 0

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	5058	95	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65061	94	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65060	87	C8H16O	128

C01 212

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, 2,6-dimethyl-, [S-(Z)]-	62960-77-4	nbs75k.1	7564	76	C10H20	140
4-Octene, 2,6-dimethyl-, [S-(Z)]-	62960-77-4	WILEY138.1	9468	76	C10H20	140
3-Octene, 4-ethyl-	53966-51-1	nbs75k.1	7578	68	C10H20	140

C01 213

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

2-Azabicyclo[2.2.1]heptane

1-Buten-4-yl methacrycate

Hexanenitrile

CAS Number

Library

Entry

Quality

Formula

Weight

279-24-3

WILEY138.1

699

78

C6H11N

97

0-00-0

WILEY138.1

9179

42

C8H12O2

140

628-73-9

nbs75k.1

63154

33

C6H11N

97

C01 214

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

1-Hexanol, 2-ethyl-
1-Hexanol, 2-ethyl-
1-Hexanol, 2-ethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
104-76-7	nbs75k.1	5518	90	C8H18O	130
104-76-7	WILEY138.1	121193	90	C8H18O	130
104-76-7	WILEY138.1	121202	90	C8H18O	130

C01 215

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	67323	81	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	15626	81	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	80	C11H24	156

C01 216

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
5,5-Dimethyl-3-oxo-1-pyrroline 1-oxide	62020-94-4	WILEY138.1	5533	38	C6H9NO2	127
Nonane, 5-(2-methylpropyl)-	62185-53-9	nbs75k.1	19015	35	C13H28	184
Cyclohexanol, 5-methyl-2-(1-methylethyl)-	490-99-3	nbs75k.1	67307	35	C10H20O	156

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.1

Operator: JOE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	7540	83	C10H20	140
Cyclohexane, butyl-	1678-93-9	WILEY138.1	9501	83	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66056	81	C10H20	140

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HPLC 4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.1	8080	50	C10H22	142
Dodecane, 2,5-dimethyl-	56292-65-0	nbs75k.1	22531	43	C14H30	198
Dodecane, 2,5-dimethyl-	56292-65-0	WILEY138.1	34140	43	C14H30	198

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	WILEY138.1	5025	90	C8H15N	125
Octanenitrile	124-12-9	nbs75k.1	4352	78	C8H15N	125
7-Azabicyclo[4.1.0]heptane, 1-methyl-	25022-25-7	nbs75k.1	2429	50	C7H13N	111

Date: 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HPLC-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane	124-18-5	nbs75k.1	66207	62	C10H22	142
4,4-Dimethylcyclooctene	0-00-0	nbs75k.1	7023	53	C10H18	138
Decane, 2,4,6-trimethyl-	62108-27-4	nbs75k.1	19032	50	C13H28	184

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67321	91	C11H24	156
Decane, 2-methyl-	6975-98-0	WILEY138.1	124551	91	C11H24	156
Decane, 2-methyl-	6975-98-0	WILEY138.1	124552	91	C11H24	156

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 1,1-dimethyl-2-propyl-	81983-71-3	nbs75k.1	11086	83	C11H22	154
Nonane, 2-methyl-3-methylene-	55499-08-6	nbs75k.1	11051	83	C11H22	154
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	81983-71-3	WILEY138.1	14847	83	C11H22	154

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	90	C11H24	156
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	90	C11H24	156
Decane, 3-methyl-	13151-34-3	WILEY138.1	15625	90	C11H24	156

C01 224

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JOE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Naphthalene, decahydro-, trans-

493-02-7

WILEY138.1

122343

98

C10H18

138

Naphthalene, decahydro-, trans-

493-02-7

WILEY138.1

122341

98

C10H18

138

Naphthalene, decahydro-, trans-

493-02-7

WILEY138.1

122347

95

C10H18

138

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Buten-2-one, 4-(1-aziridiny1)-	18277-57-1	WILEY138.1	2342	52	C6H9NO	111
2H-Azepin-2-one, 1,5,6,7-tetrahydro-	2228-79-7	nbs75k.1	2422	50	C6H9NO	111
3-Buten-2-one, 4-(1-aziridiny1)-	18277-57-1	nbs75k.1	2425	47	C6H9NO	111

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3,5

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	nbs75k.1	67317	94	C11H24	156
Undecane	1120-21-4	WILEY138.1	124548	94	C11H24	156
Tetradecane	629-59-4	nbs75k.1	69661	90	C14H30	198

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4(3H)-Pyrimidinone	51953-17-4	nbs75k.1	1060	43	C4H4N2O	96
(Z)-1-(1-Butenyl)aziridine	80839-94-7	WILEY138.1	691	43	C6H11N	97
7-Azabicyclo[4.1.0]heptane, 3-methyl-	54644-35-8	nbs75k.1	2438	38	C7H13N	111

C01 228

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	93	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126018	93	C12H26	170
Decane, 3,6-dimethyl-	17312-53-7	nbs75k.1	15348	90	C12H26	170

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	70270	72	C15H32	212
1-Undecene, 4-methyl-	74630-39-0	nbs75k.1	14797	68	C12H24	168
1-Undecene, 4-methyl-	74630-39-0	WILEY138.1	20672	68	C12H24	168

C01 230

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124046	95	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	94	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	94	C11H20	152

C01 231

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	90	C11H22	154
Cyclohexane, pentyl-	4292-92-6	WILEY138.1	14841	90	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	87	C11H22	154

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 4-propyl-	3178-29-8	nbs75k.1	66210	78	C10H22	142
Heptane, 4-propyl-	3178-29-8	WILEY138.1	10257	78	C10H22	142
Heptane, 4-(1-methylethyl)-	52896-87-4	nbs75k.1	8084	72	C10H22	142

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Cyclohexene, 1-pentyl-

15232-85-6

nbs75k.1

10428

91

C11H20

152

Cyclohexene, 1-pentyl-

15232-85-6

WILEY138.1

124043

78

C11H20

152

Naphthalene, decahydro-2-methyl-

2958-76-1

nbs75k.1

67009

68

C11H20

152

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	91	C12H26	170
Undecane, 2-methyl-	7045-71-8	WILEY138.1	21649	91	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.1	68257	81	C12H26	170

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	78	C12H26	170
Undecane, 3-methyl-	1002-43-3	WILEY138.1	126015	78	C12H26	170
Undecane, 3-methyl-	1002-43-3	WILEY138.1	126014	78	C12H26	170

C01 236

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TSI 1395 VP006-076 BP T=3.5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Dodecene, (Z)-	7239-23-8	nbs75k.1	68121	93	C12H24	168
3-Dodecene, (E)-	7206-14-6	nbs75k.1	68109	93	C12H24	168
3-Dodecene, (E)-	7206-14-6	WILEY138.1	20666	93	C12H24	168

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	DAS Number	Library	Entry	Quality	Formula	Weight
4-Undecene, 4-methyl-	61142-40-3	nbs75k.1	14748	46	C12H24	168
4-Undecene, 4-methyl-	61142-40-3	WILEY138.1	20706	46	C12H24	168
5-Undecene, 5-methyl-	31613-73-7	nbs75k.1	14724	38	C12H24	168

C01 238

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	WILEY138.1	126006	96	C12H26	170
Dodecane	112-40-3	nbs75k.1	15347	95	C12H26	170

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 1-methyl-4-(1-methylbutyl)-	54411-00-6	nbs75k.1	14802	46	C12H24	168
Cyclohexane, 1-methyl-4-(1-methylbutyl)-	54411-00-6	WILEY139.1	20768	46	C12H24	168
Cyclopentane, 1,2-dimethyl-3-(1-methylethyl)-	489-20-3	nbs75k.1	7606	45	C10H20	140

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-1,6-dimethyl-	1750-51-2	WILEY138.1	125614	86	C12H22	166
Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	WILEY138.1	19761	80	C12H22	166
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14152	58	C12H22	166

C01 241

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Undecane, 2,6-dimethyl-

17301-23-4

nbs75k.1

19058

96

C13H28

184

Undecane, 2,6-dimethyl-

17301-23-4

nbs75k.1

69032

94

C13H28

184

Undecane, 2,6-dimethyl-

17301-23-4

WILEY138.1

127264

94

C13H28

184

C01 242

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4,7,7-Trimethylbicyclo[3.3.0]octan-2-one	60064-73-5	WILEY138.1	19639	83	C11H18O	166
trans,trans-1,8-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14143	52	C12H22	166
trans,trans-1,10-Dimethylspiro[4.5]decan	0-00-0	nbs75k.1	14137	52	C12H22	166

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	93	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	WILEY138.1	127048	93	C13H26	182
Cyclododecane	294-62-2	nbs75k.1	14784	83	C12H24	168

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
cis,trans-1,10-Dimethylspiro[4,5]decane	0-00-0	nbs75k.1	14138	43	C12H22	166
3,5-Octadiene, 4,5-diethyl-, (E,Z)-	21293-02-7	nbs75k.1	14171	38	C12H22	166
3,5-Octadiene, 4,5-diethyl-, (E,Z)-	21293-02-7	WILEY138.1	19732	38	C12H22	166

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Sample Info: TST 1395 VP006-076 BP T=3.5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane, 2-methyl-6-propyl-	55045-08-4	nbs75k.1	29264	72	C16H34	226
Dodecane, 2-methyl-6-propyl-	55045-08-4	WILEY138.1	46988	72	C16H34	226
Decane, 2,3,6-trimethyl-	62238-12-4	nbs75k.1	19047	64	C13H28	184

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

HNF-4073

Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexane, 2,4-dimethyl-	589-43-5	nbs75k.1	3089	47	C8H18	114
Tetradecane, 5-methyl-	25117-32-2	nbs75k.1	26003	43	C15H32	212
Butanoic acid, 2-methyl-, 2-methylpropyl	2445-67-2	nbs75k.1	67430	43	C9H18O2	158

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane, 7-methyl-	26730-14-3	nbs75k.1	22538	87	C14H30	198
Tridecane, 7-methyl-	26730-14-3	WILEY138.1	128289	87	C14H30	198
Tridecane, 7-methyl-	26730-14-3	WILEY138.1	34139	80	C14H30	198

C01 248

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality Formula

Weight

4-Nonene, 5-butyl-

7367-38-6

nbs75k.1

18496

80

C13H26

182

4-Nonene, 5-butyl-

7367-38-6

WILEY138.1

127047

80

C13H26

182

4-Dodecene

2030-84-4

nbs75k.1

14801

72

C12H24

168

C01 249

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP T=3.5

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	69017	97	C13H28	184
Tridecane	629-50-5	nbs75k.1	69019	97	C13H28	184
Tridecane	629-50-5	WILEY138.1	127252	97	C13H28	184

C01 250

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Operator: JCE

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, butyl-	2040-95-1	nbs75k.1	4645	76	C9H18	126
Cyclopentane, butyl-	2040-95-1	WILEY138.1	5448	76	C9H18	126
3-Nonene, (E)-	20063-92-7	nbs75k.1	4664	64	C9H18	126

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3.5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69657	53	C14H30	198
Tridecane, 2,5-dimethyl-	56292-66-1	nbs75k.1	25996	53	C15H32	212
Tetradecane	629-59-4	WILEY138.1	34133	53	C14H30	198

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3,5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	72	C11H22	154
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	64	C11H22	154
Cyclohexane, pentyl-	4292-92-6	WILEY138.1	14841	64	C11H22	154

C01 253

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nonane, 3,7-dimethyl-	17302-32-8	nbs75k.1	11601	81	C11H24	156
Nonane, 3,7-dimethyl-	17302-32-8	WILEY138.1	15631	81	C11H24	156
Dodecane, 2,7,10-trimethyl-	74645-98-0	nbs75k.1	26005	80	C15H32	212

C01 254

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP T=3,5

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match.

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Tetradecene	1120-36-1	WILEY138.1	128056	47	C14H28	196
Cyclopentadecanone, 2-hydroxy-	4727-18-8	nbs75k.1	32022	43	C15H28O2	240
Cyclopentadecanone, 2-hydroxy-	4727-18-8	WILEY138.1	52676	43	C15H28O2	240

C01 255

Date : 25-JAN-1999 15:08

Client ID: BP T=3,5

Sample Info: TST 1395 VP006-076 BP T=3,5

Instrument: hpdos6.i

Operator: JOE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69662	94	C14H30	198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1395 VP006-076 BP T=3.5 hr
 100-ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.1
 Method : PNNL std.m
 File : 69012506.d
 Injection Date : 25-JAN-1999 15:08 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-076
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 212 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags

Dichlorodifluoromethane	19	120.91	8.242				0.0047	0.87	U
Chloromethane	19	50.49	9.128				0.0019	0.86	U
1,2-dichloro-1,1,2,2-tetrafluoroethane	19	170.92	9.727				0.0066	0.86	U
Vinyl Chloride	19	62.50	10.150				0.0024	0.86	U
Methanol	19	32.04	10.475	7.417	554425	90.76	0.4281	299.31	
1,3-Butadiene	19	54.00	10.721				0.0034	1.39	U
Chloroethane	19	64.51	12.269				0.0025	0.87	U
Ethanol	19	46.07	12.880	11.370	154633	47.66	0.2248	109.32	
Acetonitrile	19	41.05	13.362	12.345	78921	13.91	0.0656	35.80	
Acetone	19	58.08	13.855				0.0067	2.60	U
Trichlorofluoromethane	19	137.37	14.269				0.0053	0.86	U
Pentane	19	72.00	15.067	13.173	230103	25.62	0.1208	37.59	
1,1-Dichloroethene	19	96.94	15.586				0.0037	0.86	U
Methylene Chloride	19	84.93	15.885				0.0033	0.87	U
1,1,2-trichloroethane	19	187.38	16.418				0.0072	0.86	U
1,1-Dichloroethane	19	98.96	18.009				0.0038	0.86	U
2-Butanone	19	72.11	18.725				0.0067	2.07	U
cis-1,2-Dichloroethene	19	96.94	19.536				0.0037	0.86	U
Chloroform	19	119.38	20.106				0.0046	0.87	U
1,2-Dichloroethane	19	98.96	21.418	21.830	1082	0.22	0.0010	0.23	J
1,1,1-Trichloroethane	25	133.40	21.920				0.0051	0.86	U
Benzene	25	78.11	22.846				0.0030	0.87	U
Carbon Tetrachloride	25	153.82	23.123				0.0059	0.86	U
1,2-Dichloropropane	25	112.99	24.285				0.0043	0.86	U
Trichloroethene	25	131.39	24.719				0.0051	0.87	U
cis-1,3-Dichloropropene	25	110.97	26.324				0.0094	1.90	U
trans-1,3-Dichloropropene	25	110.97	27.348	27.064	1408	0.48	0.0023	0.46	J
1,1,2-Trichloroethane	25	133.40	27.845				0.0035	0.59	U
Toluene	34	92.14	28.476				0.0035	0.86	U
1,2-Dibromoethane	34	187.86	29.947				0.0073	0.87	U
Tetrachloroethylene	34	165.83	30.999				0.0073	0.98	U
Chlorobenzene	34	112.56	32.566				0.0043	0.86	U
Ethylbenzene	34	106.17	33.394	32.436	48121	2.33	0.0110	2.32	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	32.456	7194	0.98	0.0046	0.97	J
Styrene	41	104.15	34.727				0.0040	0.86	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.136	50728	6.48	0.0306	4.08	J
o-Xylene	41	106.17	35.024	34.254	15330	2.06	0.0097	2.05	J
1,3,5-Trimethylbenzene	41	120.19	38.516	37.753	9593	0.59	0.0028	0.52	J
1,2,4-Trimethylbenzene	41	120.19	39.844	39.463	8746	0.56	0.0026	0.49	J
1,3-Dichlorobenzene	41	147.00	40.328				0.0566	8.62	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0057	0.86	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0057	0.86	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0071	0.87	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0099	0.85	U
Bromochloromethane (IS)	19	129.40	19.898	15.322	370681	121.00	0.5708	98.80	
Difluorobenzene (IS)	25	114.00	23.340	20.073	1433281	106.00	0.5000	98.25	
Chlorobenzene-d5 (IS)	34	119.56	32.457	31.340	1162837	113.00	0.5330	99.86	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	35.548	662774	162.00	0.7642	98.37	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Sample Info : TST 1395 VP006-076 BP T=3.5 hr 100 ml of ISTD

C01 259

Sample Info : TST 1395 VP006-076 BP T=3.5 hr 100 ml of ISTD

C01 260

Data File: /chem/hpdos6.i/PNNL.b/69012506.d

Date : 25-JAN-1999 15:08

Client ID: BP T=3.5 hr

Sample Info: TST 1395 VP006-076 BP T=3.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

C01 261

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1396 VP006-052 BP T=2.0
 100-ml of ISTD

Instrument ID : hpdos6.i
 Method : sas std.m
 File : 69012507.d
 Injection Date : 25-JAN-1999 16:28 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-052
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

HNF-4073
Rev. 0

VolumeFactor: 202 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.600	234090	40.82	0.2021	107.58	
Propane	23	44.10	7.848	7.758	174133	95.83	0.4744	240.98	
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.95	U
Chloromethane	23	50.49	9.129				0.0021	0.92	U
Acetaldehyde	23	44.05	9.818	9.865	122953	164.10	0.8124	413.10	
Butane	23	58.12	11.000	10.938	28996	4.68	0.0232	8.93	J
Chloroethane	23	64.51	12.280				0.0025	0.88	U
Ethanol	23	46.07	12.733	12.868	329783	105.21	0.5208	253.23	
Acetonitrile	23	41.05	13.246	13.321	11741	2.71	0.0134	7.33	J
Acetone	23	58.08	13.827	13.893	36171	16.37	0.0811	31.26	
Trichlorofluoromethane	23	137.37	14.281	14.218	21695	7.14	0.0353	5.76	J
Isopropyl Alcohol	23	60.10	14.399	14.681	15518	2.79	0.0138	5.15	J
Furan	23	68.08	14.666				0.0027	0.89	U
Pentane	23	72.00	15.070				0.0029	0.91	U
Methylene Chloride	23	84.93	15.898	15.805	14813	5.87	0.0290	7.66	J
112trichloro122trifluoroethane	23	187.38	16.422				0.0077	0.92	U
Propanenitrile	23	55.08	17.152				0.0022	0.91	U
Propanol	23	60.10	17.181				0.0057	2.14	U
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523				0.0058	1.80	U
2-Butanone	23	72.11	18.711				0.0069	2.15	U
1-Hexene	23	84.16	19.372	19.205	3689	1.36	0.0067	1.79	J
Hexane	23	86.18	19.944	19.767	130084	33.81	0.1674	43.51	
Chloroform	23	119.38	20.122				0.0054	1.02	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.91	U
Butanenitrile	31	69.11	21.927				0.0026	0.85	U
1-Butanol	31	74.12	22.381	22.439	13939	2.63	0.0130	3.94	J
Benzene	31	78.11	22.855	22.734	27049	1.44	0.0071	2.05	J
Carbon Tetrachloride	31	153.82	23.131				0.0061	0.89	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991				0.0038	0.85	U
1,4-Dioxane	31	88.11	24.681				0.0089	2.27	U
Heptane	31	100.20	25.215	25.111	6696	1.45	0.0072	1.61	J

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368				0.0037	0.83	U
Pyridine	31	79.10	26.615				0.0990	28.04	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.87	U
Toluene	43	92.14	28.489	28.420	20918	2.16	0.0107	2.60	J
2-Hexanone	43	100.16	28.825				0.0038	0.84	U
Octane	43	114.23	30.432	30.370	11462	2.77	0.0137	2.68	J
Tetrachloroethylene	43	165.83	31.004				0.0062	0.84	U
Chlorobenzene	43	112.56	32.572				0.0041	0.82	U
Ethylbenzene	43	106.17	33.401	33.365	3508	0.22	0.0011	0.23	J
p/m-Xylene	43	106.17	33.826	33.759	2390	0.45	0.0022	0.47	J
3-Heptanone	43	114.19	33.835	33.828	16493	2.23	0.0110	2.16	J
2-Heptanone	54	114.19	33.964	33.956	15408	1.59	0.0079	1.54	J
Cyclohexanone	54	98.14	34.281				0.0093	2.11	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.94	U
o-Xylene	54	106.17	35.033				0.0041	0.87	U
Nonane	54	128.26	35.379				0.0046	0.80	U
2-Octanone	54	128.21	38.774				0.0047	0.82	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0051	0.95	U
Decane	54	142.20	40.009	39.981	2794	0.51	0.0025	0.40	J
Bromochloromethane (IS)	23	129.40	19.915	19.747	172430	106.00	0.5248	90.84	
Difluorobenzene (IS)	31	114.00	23.349	23.247	1181800	106.00	0.5248	103.11	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.409	1027951	113.00	0.5594	104.81	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.181	693231	113.00	0.5594	72.02	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1-Octene	43	112	111-66-0	29.779	324573	12.25	0.0606	12.13	NJ
Cyclotrisiloxane, hexamethyl-	43	222	541-05-9	31.080	631016	23.81	0.1179	11.89	NJ
Cyclotetrasiloxane, octamethyl-	54	296	556-67-2	39.321	445389	15.64	0.0774	5.86	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	1794185
Difluorobenzene (IS)	31	2743615
Chlorobenzene-d5 (IS)	43	2994759
1-Bromo-4-Fluorobenzene (IS)	54	3217765

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 09:51

69012507.d

Page 2

C01 264

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1396 VP006-052 BP T=2.0 100 ml of ISTD

C01 265

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1396 VP006-052 BP T=2.0 100 ml of ISTD

C01 266

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

C01 267

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Propene

C01 268

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.1

Sample Info: TST 1396 VP006-052 BP T=2.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

2 Propane

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.i

Sample Info: TST 13% VP006-052 BP T=2.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

6 Butane

C01 271

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.i

Sample Info: TST 1396 VP006-052 BP T=2.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

8 Ethanol

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

9 Acetonitrile

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

C01 274

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

15 Methylene Chloride

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 13% VP006-052 BP T=2.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

22 1-Hexene

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.1

Sample Info: TST 1396 VP006-052 BP T=2.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

28 1-Butanol

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.1

Sample Info: TST 1396 VP006-052 BP T=2.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

29 Benzene

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4079
Rev. 0

Column phase: DB-1

35 Heptane

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.i

Sample Info: TST 1396 VP006-052 BP T=2.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

39 Toluene

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.i

Sample Info: TST 1396 VP006-052 BP T=2.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

41 Octane

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.i

Sample Info: TST 1396 VP006-052 BP T=2.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

45 Ethylbenzene

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.1

Sample Info: TST 139% VP006-052 BP T=2.0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

46 p/m-Xylene

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.i

Sample Info: TST 1396 VP006-052 BP T=2.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

47 3-Heptanone

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.i

Sample Info: TST 1396 VP006-052 BP T=2.0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

48 2-Heptanone

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Instrument: hpdos6.1

Sample Info: TST 1396 VP006-052 BP T=2.0

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

57 Decane

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 13% VP006-052 BP T=2.0

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Octene	111-66-0	nbs75k.1	63994	64	C8H16	112
TRANS-1-BUTYL-2-METHYLCYCLOPROPANE	38851-70-6	WILEY138.1	2732	86	C8H16	112
Cyclobutanone, 2,3,3-trimethyl-	28290-01-9	nbs75k.1	2629	80	C7H12O	112

C01 289

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclotrisiloxane, hexamethyl-	541-05-9	WILEY138.1	129782	91	C6H18O3Si3	222
Cyclotrisiloxane, hexamethyl-	541-05-9	WILEY138.1	44380	91	C6H18O3Si3	222
Cyclotrisiloxane, hexamethyl-	541-05-9	WILEY138.1	129783	83	C6H18O3Si3	222

C01 290

Date : 25-JAN-1999 16:28

Client ID: BP T=2.0

Sample Info: TST 1396 VP006-052 BP T=2.0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Cyclotetrasiloxane, octamethyl-
Cyclotetrasiloxane, octamethyl-
Cyclotetrasiloxane, octamethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
556-67-2	nbs75k.1	41966	91	CBH2404Si4	296
556-67-2	WILEY138.1	133264	91	CBH2404Si4	296
556-67-2	WILEY138.1	72213	91	CBH2404Si4	296

001 291

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1396 VP006-052 BP T=2.0
 _____100-ml-of-ISTD_____

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : PNNL std.m
 File : 69012507.d
 Injection Date : 25-JAN-99 16:28 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-052
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 202 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242				0.0049	0.91	U
Chloromethane	19	50.49	9.128	9.057	8815	1.79	0.0089	3.94	J
1,2-dichloro-1,1,2,2-tetrafluoroethane	19	170.92	9.727				0.0069	0.91	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.90	U
Methanol	19	32.04	10.475	10.485	705298	252.99	1.2524	875.61	
1,3-Butadiene	19	54.00	10.721				0.0035	1.46	U
Chloroethane	19	64.51	12.269				0.0026	0.91	U
Ethanol	19	46.07	12.880	12.868	331897	224.16	1.1097	539.57	E
Acetonitrile	19	41.05	13.362	13.321	12138	4.69	0.0232	12.66	J
Acetone	19	58.08	13.855	13.893	36163	39.54	0.1957	75.49	
Trichlorofluoromethane	19	137.37	14.269	14.218	21695	7.22	0.0357	5.83	J
Pentane	19	72.00	15.067	14.987	3871	0.94	0.0047	1.45	J
1,1-Dichloroethene	19	96.94	15.586				0.0039	0.90	U
Methylene Chloride	19	84.93	15.885	15.805	14813	8.34	0.0413	10.89	
1,1,2-trichloro-1,2,2-trifluoroethane	19	187.38	16.418				0.0076	0.90	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.91	U
2-Butanone	19	72.11	18.725				0.0070	2.17	U
cis-1,2-Dichloroethene	19	96.94	19.536				0.0039	0.90	U
Chloroform	19	119.38	20.106				0.0049	0.91	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.91	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.91	U
Benzene	25	78.11	22.846	22.734	27048	1.65	0.0082	2.34	J
Carbon Tetrachloride	25	153.82	23.123				0.0062	0.90	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.90	U
Trichloroethene	25	131.39	24.719	24.697	37213	8.22	0.0407	6.94	J
cis-1,3-Dichloropropene	25	110.97	26.324				0.0099	2.00	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0099	2.00	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.62	U
Toluene	34	92.14	28.476	28.420	20918	2.13	0.0105	2.56	J
1,2-Dibromoethane	34	187.86	29.947				0.0076	0.91	U
Tetrachloroethylene	34	165.83	30.999				0.0076	1.03	U
Chlorobenzene	34	112.56	32.566				0.0046	0.91	U
Ethylbenzene	34	106.17	33.394				0.0043	0.91	U

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
p/m-Xylene	34	106.17	33.809				0.0086	1.82	U
Styrene	41	104.15	34.727				0.0042	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0068	0.90	U
o-Xylene	41	106.17	35.024				0.0043	0.91	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.90	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.90	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0594	9.05	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0059	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0059	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0074	0.92	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0104	0.89	U
Bromochloromethane (IS)	19	129.40	19.898	19.747	169171	121.00	0.5990	103.69	
Difluorobenzene (IS)	25	114.00	23.340	23.247	1181800	106.00	0.5248	103.11	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.409	1027951	113.00	0.5594	104.81	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.181	558891	162.00	0.8020	103.24	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1396 VP006-052 BP T=2.0 100 ml of ISTD

C01 294

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1396 VP006-052 BP T=2.0 100 ml of ISTD

C01 295

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 5 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS C01-296 THRU PAGE C01- 697 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

HNF-4073
Rev. 0

TST BATCH FILE

69012601.b

2/23/99

**TST Analysis-Case Narrative
C-106 Sluicing Test
Samples Run on 1/26/99**

Three samples were run on 1/26/99: VP006-060-1398, VP006-035-1389, and VP006-106-1314. Following the autotune (2424V), the PNNL daily calibration checks and method blank were run. The BFB tune check showed satisfactory performance. Essentially all TO-14 compounds in the PNNL check standard showed low recovery indicating a bad injection. Recoveries for the other components of the mixture actually tended to be somewhat high: methanol (128%), 1,3-butadiene (135%), ethanol (137%), acetone (132%), pentane (131%), and 2-butanone (146%). The overall recovery for the PNNL standard was 67%. Because of overlap and nondetects, only methanol is used for quantitation from the PNNL standard. All compounds in the daily SAS check standard showed satisfactory recovery (75-125%) except: propene (65%), propane (56%), dichlorodifluoromethane (68%), chloromethane (59%), acetaldehyde (163%), butane (64%), chloroethane(55%), trichlorofluoromethane (74%), methylene chloride (59%), 1,1,2-trichloro-1,2,2-trifluoroethane (64%), 2-methylpentane (55%), butanal (256%), pentane (56%), 1-hexene (59%), hexane (59%), chloroform (62%), butanol (63%), benzene (62%), carbon tetrachloride (60%), 3-methylhexane (58%), heptane (64%), pyridine (39%), 1,1,2-trichloroethane (61%), toluene (65%), octane (67%), tetrachloroethene (70%), chlorobenzene (67%), ethylbenzene (66%), styrene (65%), nonane (69%), 1,2,4-trimethylbenzene (72%), and decane (72%). Overall average recovery was 80% for the SAS mixture. The method blank was clean except for traces of acetaldehyde present at a level below the lower quantitation limit.

Sample VP006-035-1389 showed a large overload at the beginning of the chromatogram which appeared to be methanol. This resulted in a vacuum and ion source overload shutting down the MS. The sample was rerun from archive with a -150V offset but the system again shutdown without recording a data file. No further attempt was made to recover this sample. The origin of the methanol is unknown.

VP006-106-1314 was run a second time from archive following a system shutdown. Internal standard yields reflect the split on the initial run. Internal standard consistency was otherwise satisfactory for standards and samples.

Sequence Name: C:\HPCHEM\1\SEQUENCE\69012601.S

Comment:

Operator: JCE

Data Path: C:\HPCHEM\1\DATA\69012601.b\

Pre-Seq Cmd:

Post-Seq Cmd:

HNF-4073
Rev. 0

Method Sections To Run

On A Barcode Mismatch

(X) Full Method

(X) Inject Anyway

() Reprocessing Only

() Don't Inject

Line Type Vial DataFile Method Sample Name

1 Calibration	1	69012601	TVP10	TST 1330 SAS CCV LvL 3 20 cc
2 Calibration	2	69012602	TVP10	TST 1330 PNNL CCV LvL 3 20 cc
3 Blank	7	69012603	TVP10	TST 1365 Method Blank
4 Sample	8	69012504	TVP10	TST 1398 VP006-060 BP @ 2.5 hr
5 Sample	9	69012605	TVP10	TST 1389 VP006-035 BP @T=1.0 hr
6 Sample	10	69012606	TVP10	TST1389 VP006-106 BP @T=5.5 hr
7 Blank	1	-----	BAKE	Shutdown
8				

1314 JCE

C01 298

Scan: 10.00 - 650.00 Samples: 16 Thresh: 150 Step: 0.10
142 peaks Base: 69.00 Abundance: 1011648

Data File : C:\HPCHEM\1\DATA\69012601.B\69012601.D
 Acq On : 26 Jan 99 7:49 am
 Sample : TST 1330 SAS CCV LVL 3 20 cc
 Misc : 100 ml of ISTD

Vial: 1
 Operator: JCE
 Inst : 5971 - Sy
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\LOOP40.M
 Title : VOC mixture

Peak Apex is scan: 3047

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.8	18383	PASS
75	95	30	66	46.5	54122	PASS
95	95	100	100	100.0	116310	PASS
96	95	5	9	6.9	8003	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	84.2	97882	PASS
175	174	4	9	7.4	7266	PASS
176	174	93	101	97.8	95719	PASS
177	176	5	9	6.4	6170	PASS

□(s10H

Data File: /chem/hpdos6.i/69012601_SAS.b/69012601.d

Page 1

Report Date: 05-Feb-1999 07:46

Pacific Northwest National Laboratory

HNF-4073

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Rev. 0

Instrument ID: hpdos6.i

Lab File ID: 69012601.d

Lab Smp Id: SAS CCV

Analysis Type: VAPOR

Quant Type: ISTD

Operator: JCE

Method File: /chem/hpdos6.i/sas_std.m

Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99

Calibration Time: 1018

Client Smp ID: Lvl 3 20 cc

Level: LOW

Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	521049	260524	1042098	359707	-30.96
31 Difluorobenzene (IS)	1891825	945912	3783650	1324738	-29.98
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1103938	-31.50
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	744158	-31.89

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	19.90	19.40	20.40	19.88	-0.11
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.31	-0.12
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.43	-0.09
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.17	-0.07

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C01 301

□(s10H

Data File: /chem/hpdos6.1/69012601_PNNL.b/69012602.d

Report Date: 05-Feb-1999 07:53

Page 1

Pacific Northwest National Laboratory

HNF-4073

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Rev. 0

Instrument ID: hpdos6.i
Lab File ID: 69012602.d
Lab Smp Id: PNNL CCV
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.1/PNNL_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: LvL 3 20 cc
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	521049	260524	1042098	385226	-26.07
25 Difluorobenzene (IS)	1891825	945912	3783650	1352485	-28.51
34 Chlorobenzene-d5 (IS	1611664	805832	3223328	1133561	-29.67
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	655796	-39.97

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (I	19.90	19.40	20.40	19.86	-0.17
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.30	-0.16
34 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.41	-0.14
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.17	-0.09

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C01 302

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

HNF-4073
Rev. 0

Instrument ID: hpdos6.i
Lab File ID: 69012803.d
Lab Smp Id: Method Blank
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: Method Blank
Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	521049	260524	1042098	293454	-43.68
31 Difluorobenzene (IS)	1891825	945912	3783650	1116641	-40.98
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	884472	-45.12
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	594910	-45.55

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.90	19.40	20.40	19.89	-0.02
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.32	-0.08
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.43	-0.07
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.20	0.01

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

□(s10H

Data File: /chem/hpdos6.i/SAS.b/69012604.d

Report Date: 05-Feb-1999 08:04

Page 1

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012604.d
Lab Smp Id: VP006-060
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP @ 2.5 hr
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	521049	260524	1042098	362522	-30.42
31 Difluorobenzene (IS)	1891825	945912	3783650	1357851	-28.23
43 Chlorobenzene-d5 (IS)	1611664	805832	3223328	1169646	-27.43
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	1097274	0.44

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (I	19.90	19.40	20.40	19.85	-0.25
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.29	-0.21
43 Chlorobenzene-d5 (IS)	32.46	31.96	32.96	32.41	-0.16
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.16	-0.11

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C01 304

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

HNF-4073
Rev. 0

Instrument ID: hpdos6.i
Lab File ID: 69012606.d
Lab Smp Id: VP006-106
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD; Sample rerun

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP @T=5.5 hr
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF	
		LOWER	UPPER			
=====	=====	=====	=====	=====	=====	
23 Bromochloromethane (	521049	260524	1042098	90318	-82.67	<-
31 Difluorobenzene (IS)	1891825	945912	3783650	367761	-80.56	<-
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	315881	-80.40	<-
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	384479	-64.81	<-

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF	
		LOWER	UPPER			
=====	=====	=====	=====	=====	=====	
23 Bromochloromethane (	19.90	19.40	20.40	19.84	-0.27	
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.28	-0.28	
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.39	-0.22	
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.15	-0.13	

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

SAS Calibration Mix
Run on 1/26/99
Initial Calibration on 1/19/99

HNF-4073
 Rev. 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Propene	1020	662.85	65%	****		
Propane	990	558.72	56%	****		
Dichlorodifluoromethane	1048	710.24	68%	****		
Chloromethane	1010	592.13	59%	****		
Acetaldehyde	1060	1724.38	163%		****	
Butane	1006	641.7	64%	****		
Chloroethane	960	532.5	55%	****		
Ethanol	920	1000.91	109%			
Acetonitrile	1010	850.46	84%			
Acetone	1010	999.14	99%			
Trichlorofluoromethane	1035	760.74	74%	****		
Isopropyl Alcohol	1000	1066.45	107%			
Furan	990	1000.15	101%			
Pentane	998	562.02	56%	****		
Methylene Chloride	978	581.86	59%	****		
112trichloro122trifluoroethane	1014	649.4	64%	****		
Propanenitrile	1000	885.44	89%			
Propanol	940	856.54	91%			
2-Methylpentane	959	528.93	55%	****		
Butanal	790	2025.87	256%		****	
2-Butanone	950	993.96	105%			
1-Hexene	949	560.27	59%	****		
Hexane	963	571.18	59%	****		
Chloroform	1129	703.59	62%	****		
Tetrahydrofuran	1000	975.9	98%			
Butanenitrile	940	715.24	76%			
1-Butanol	890	562.58	63%	****		
Benzene	950	588.41	62%	****		
Carbon Tetrachloride	979	588.61	60%	****		
2-Pentanone	960	931.47	97%			
3-Methylhexane	942	541.95	58%	****		
1,4-Dioxane	1000	932.99	93%			
Heptane	951	604.07	64%	****		
4-Methyl-2-pentanone	910	903.38	99%			
Pyridine	852	334.56	39%	****		
1,1,2-Trichloroethane	964	585.07	61%	****		
Toluene	963	624.51	65%	****		
2-Hexanone	930	891.97	96%			
Octane	973	656.05	67%	****		
Tetrachloroethylene	930	650.39	70%	****		
Chlorobenzene	900	599.19	67%	****		
Ethylbenzene	990	652.78	66%	****		
p/m-Xylene	1983	1477.93	75%	XX		
3-Heptanone	950	1097.39	116%			
2-Heptanone	920	861.46	94%			
Cyclohexanone	930	865.19	93%			

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SAS Calibration Mix
Run on 1/26/99
Initial Calibration on 1/19/99

HNF-4073
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Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Styrene	1007	659.41	65%	****		
1,1,2,2-Tetrachloroethane	1044	789.28	76%			
o-Xylene	960	732.28	76%			
Nonane	888	617.01	69%	****		
2-Octanone	910	816.5	90%			
1,2,4-Trimethylbenzene	1051	751.86	72%	****		
Decane	1053	754.19	72%	****		
		1002.69				
Average recovery		1138.15	80%			
		1156.88				
		784.92				

Δ CE
2/24/99

TST Daily Calibration
PNNL Calibration Mix
Run on 1/26/99
Initial Calibration on 12/14/98

HNF-4073
Rev. 0

Compound Name	Expected PPB	Amount Found	%Recovery	Flags		
				Low	High	CLP
Dichlorodifluoromethane	1000	581.12	58%	****		
Chloromethane	1000	555.69	56%	****		
12dichloro1122-tetrafluoroeth	1000	599.32	60%	****		
Vinyl Chloride	1000	621.22	62%	****		
Methanol	3100	3963.04	128%		****	
1,3-Butadiene	1600	2162.37	135%		****	
Chloroethane	1000	577.17	58%	****		
Ethanol	700	956.52	137%		****	
Acetonitrile	2400	2663.02	111%			
Acetone	3000	3948.01	132%		****	
Trichlorofluoromethane	1000	614.54	61%	****		
Pentane	2500	3273.29	131%		****	
1,1-Dichloroethene	1000	660.95	66%	****		
Methylene Chloride	1000	614.03	61%	****		
112trichloro122trifluoroethane	1000	727.87	73%	****		
1,1-Dichloroethane	1000	589.96	59%	****		
2-Butanone	2400	3495.95	146%		****	
cis-1,2-Dichloroethene	1000	634.01	63%	****		
Chloroform	1000	640.97	64%	****		
1,2-Dichloroethane	1000	592.03	59%	****		
1,1,1-Trichloroethane	1000	505.78	51%	****		
Benzene	1000	578.65	58%	****		
Carbon Tetrachloride	1000	436.49	44%	****		
1,2-Dichloropropane	1000	502.14	50%	****		
Trichloroethene	1000	564.21	56%	****		
cis-1,3-Dichloropropene	900	397.55	44%	****		
trans-1,3-Dichloropropene	900	350.57	39%	****		
1,1,2-Trichloroethane	1000	334.35	33%	****		
Toluene	1000	575.68	58%	****		
1,2-Dibromoethane	1000	532.74	53%	****		
Tetrachloroethylene	1000	619.84	62%	****		
Chlorobenzene	1000	594.98	59%	****		
Ethylbenzene	1000	576.88	58%	****		
p/m-Xylene	2000	1217.71	61%	****		
Styrene	1000	520.1	52%	****		
1,1,2,2-Tetrachloroethane	1000	489.06	49%	****		
o-Xylene	1000	566.69	57%	****		
1,3,5-Trimethylbenzene	1000	526.41	53%	****		
1,2,4-Trimethylbenzene	1000	547.45	55%	****		
1,3-Dichlorobenzene	1000	542.31	54%	****		
1,4-Dichlorobenzene	1000	490.06	49%	****		
1,2-Dichlorobenzene	1000	575.5	58%	****		
1,2,4-Trichlorobenzene	1000	460.15	46%	****		
Hexachloro-1,3-butadiene	1000	407.96	41%	****		

Average recovery

67%

C01 308

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 SAS CCV Lvl 3 20 cc
100 ml of ISTD

Instrument ID : hpdos6.i
Method : sas std.m
File : 69012601.d
Injection Date : 26-JAN-1999 07:49 Operator : JCE
Matrix : AIR Lab. Sample ID: SAS CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

~~HNF-4073~~
Rev. *[Signature]*
[Date]

HNF-4073
Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.650	272582	22.79	1.2452	662.85	
Propane	23	44.10	7.848	7.807	76301	20.13	1.1000	558.72	
Dichlorodifluoromethane	23	120.91	8.242	8.211	682561	70.16	3.8337	710.24	
Chloromethane	23	50.49	9.129	9.087	182428	24.42	1.3347	592.13	
Acetaldehyde	23	44.05	9.818	9.854	96995	62.06	3.3910	1724.38	
Butane	23	58.12	11.000	10.947	393837	30.47	1.6650	641.70	
Chloroethane	23	64.51	12.280	12.246	109805	28.06	1.5336	532.50	
Ethanol	23	46.07	12.733	12.817	246343	37.67	2.0586	1000.91	
Acetonitrile	23	41.05	13.246	13.328	257549	28.52	1.5586	850.46	
Acetone	23	58.08	13.827	13.831	218473	47.41	2.5906	999.14	
Trichlorofluoromethane	23	137.37	14.281	14.234	541479	85.37	4.6653	760.74	
Isopropyl Alcohol	23	60.10	14.399	14.431	607875	52.36	2.8613	1066.45	
Furan	23	68.08	14.666	14.628	523267	55.63	3.0397	1000.15	
Pentane	23	72.00	15.070	15.042	367624	33.06	1.8065	562.02	
Methylene Chloride	23	84.93	15.898	15.859	212626	40.37	2.2061	581.86	
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.381	453062	99.41	5.4323	649.40	
Propanenitrile	23	55.08	17.152	17.139	241344	39.84	2.1772	885.44	
Propanol	23	60.10	17.181	17.208	459256	42.06	2.2981	856.54	
2-Methylpentane	23	86.18	18.385	18.350	464042	37.24	2.0350	528.93	
Butanal	23	72.11	18.523	18.488	97159	119.35	6.5217	2025.87	
2-Butanone	23	72.11	18.711	18.685	747329	58.56	3.1997	993.96	
1-Hexene	23	84.16	19.372	19.334	217651	38.52	2.1050	560.27	
Hexane	23	86.18	19.944	19.906	322741	40.21	2.1975	571.18	
Chloroform	23	119.38	20.122	20.083	482721	68.62	3.7498	703.59	
Tetrahydrofuran	23	72.11	20.852	20.812	210313	57.49	3.1416	975.90	
Butanenitrile	31	69.11	21.927	21.904	519323	40.38	2.2067	715.24	
1-Butanol	31	74.12	22.381	22.406	202143	34.07	1.8615	562.58	J
Benzene	31	78.11	22.855	22.810	788355	37.55	2.0518	588.41	
Carbon Tetrachloride	31	153.82	23.131	23.096	326224	73.97	4.0419	588.61	
2-Pentanone	31	86.13	23.438	23.412	1022265	65.54	3.5816	931.47	
3-Methylhexane	31	100.20	23.991	23.953	376298	44.36	2.4243	541.95	
1,4-Dioxane	31	88.11	24.681	24.652	292001	67.16	3.6699	932.99	
Heptane	31	100.20	25.215	25.164	255356	49.45	2.7022	604.07	

02/05/99 07:47

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Page 1

C01 309

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
4-Methyl-2-pentanone	31	100.16	26.368	26.335	893713	73.92	4.0394	903.38	
Pyridine	31	79.10	26.615	27.172	90407	21.62	1.1814	334.56	J
1,1,2-Trichloroethane	31	133.40	27.858	27.812	242090	63.76	3.4843	585.07	
Toluene	43	92.14	28.489	28.452	489113	47.01	2.5689	624.51	
2-Hexanone	43	100.16	28.825	28.806	747981	72.99	3.9884	891.97	
Octane	43	114.23	30.432	30.391	272502	61.22	3.3456	656.05	
Tetrachloroethylene	43	165.83	31.004	30.962	333307	88.11	4.8149	650.39	
Chlorobenzene	43	112.56	32.572	32.537	604498	55.10	3.0109	599.19	
Ethylbenzene	43	106.17	33.401	33.364	964128	56.62	3.0940	652.78	
p/m-Xylene	43	106.17	33.826	33.788	737633	128.19	7.0050	1477.93	
3-Heptanone	43	114.19	33.835	33.808	814912	102.37	5.5943	1097.39	
2-Heptanone	54	114.19	33.964	33.966	837255	80.36	4.3915	861.46	
Cyclohexanone	54	98.14	34.281	34.262	84786	69.37	3.7906	865.19	
Styrene	54	104.15	34.735	34.696	527634	56.11	3.0660	659.41	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.933	526017	108.23	5.9143	789.28	
o-Xylene	54	106.17	35.033	34.992	355248	63.52	3.4708	732.28	
Nonane	54	128.26	35.379	35.347	483675	64.65	3.5330	617.01	
2-Octanone	54	128.21	38.774	38.783	781732	85.52	4.6734	816.50	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.808	805597	73.83	4.0342	751.86	
Decane	54	142.20	40.009	39.976	510463	87.62	4.7877	754.19	
Bromochloromethane (IS)	23	129.40	19.915	19.876	359707	106.00	5.7923	1002.69	
Difluorobenzene (IS)	31	114.00	23.349	23.313	1324738	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.428	1103938	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.175	744158	113.00	6.1749	794.92	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 SAS CCV LvL 3 20 cc 100 ml of ISTD

C01 311

02/05/99 07:47

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Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 SAS CCV LvL 3 20 cc 100 ml of ISTD

C01 312

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 PNNL CCV LVL 3 20 cc
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 69012602.d
Injection Date : 26-JAN-1999 09:09 Operator : JCE
Matrix : AIR Lab. Sample ID: PNNL CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.181	568903	57.40	3.1367	581.12	
Chloromethane	19	50.49	9.128	9.077	256578	22.92	1.2525	555.69	
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727	9.747	670875	83.69	4.5730	599.32	
Vinyl Chloride	19	62.50	10.150	10.171	209344	31.72	1.7333	621.22	
Methanol	19	32.04	10.475	10.446	658536	103.73	5.6686	3963.04	
1,3-Butadiene	19	54.00	10.721	10.742	527239	95.40	5.2129	2162.37	
Chloroethane	19	64.51	12.269	12.229	86102	30.42	1.6622	577.17	
Ethanol	19	46.07	12.880	12.918	121379	36.00	1.9673	956.52	
Acetonitrile	19	41.05	13.362	13.292	526576	89.31	4.8802	2663.02	
Acetone	19	58.08	13.855	13.824	390165	187.33	10.2366	3948.01	
Trichlorofluoromethane	19	137.37	14.269	14.228	471860	68.97	3.7687	614.54	
Pentane	19	72.00	15.067	15.026	1797273	192.54	10.5213	3273.29	
1,1-Dichloroethene	19	96.94	15.586	15.607	187314	52.34	2.8604	660.95	
Methylene Chloride	19	84.93	15.885	15.854	172260	42.60	2.3281	614.03	
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418	16.367	355452	111.43	6.0888	727.87	
1,1-Dichloroethane	19	98.96	18.009	18.031	362921	47.70	2.6064	589.96	
2-Butanone	19	72.11	18.725	18.691	348758	205.95	11.2542	3495.95	
cis-1,2-Dichloroethene	19	96.94	19.536	19.548	179680	50.21	2.7438	634.01	
Chloroform	19	119.38	20.106	20.071	430090	62.51	3.4160	640.97	
1,2-Dichloroethane	19	98.96	21.418	21.440	245488	47.86	2.6155	592.03	
1,1,1-Trichloroethane	25	133.40	21.920	21.933	379647	55.12	3.0121	505.78	
Benzene	25	78.11	22.846	22.810	693991	36.93	2.0178	578.65	
Carbon Tetrachloride	25	153.82	23.123	23.086	311021	54.85	2.9974	436.49	
1,2-Dichloropropane	25	112.99	24.285	24.308	242718	46.35	2.5329	502.14	
Trichloroethene	25	131.39	24.719	24.742	313812	60.56	3.3095	564.21	
cis-1,3-Dichloropropene	25	110.97	26.324	26.347	214387	36.04	1.9695	397.55	
trans-1,3-Dichloropropene	25	110.97	27.348	27.371	87754	31.78	1.7367	350.57	
1,1,2-Trichloroethane	25	133.40	27.845	27.805	225029	36.44	1.9912	334.35	
Toluene	34	92.14	28.476	28.446	469485	43.33	2.3680	575.68	
1,2-Dibromoethane	34	187.86	29.947	29.971	275175	81.76	4.4679	532.74	
Tetrachloroethylene	34	165.83	30.999	30.955	323054	83.97	4.5887	619.84	
Chlorobenzene	34	112.56	32.566	32.521	579593	54.71	2.9898	594.98	
Ethylbenzene	34	106.17	33.394	33.359	1005391	50.04	2.7342	576.88	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.783	757569	105.62	5.7716	1217.71	
Styrene	41	104.15	34.727	34.689	462188	44.25	2.4182	520.10	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.926	519070	67.06	3.6647	489.06	
o-Xylene	41	106.17	35.024	34.975	361544	49.15	2.6860	566.69	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.541	827135	51.69	2.8245	526.41	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.801	829071	53.75	2.9374	547.45	
1,3-Dichlorobenzene	41	147.00	40.328	40.343	615883	65.13	3.5589	542.31	J
1,4-Dichlorobenzene	41	147.00	40.525	40.550	570123	58.85	3.2160	490.06	
1,2-Dichlorobenzene	41	147.00	41.658	41.683	661130	69.11	3.7768	575.50	
1,2,4-Trichlorobenzene	41	181.45	47.866	47.902	382164	68.21	3.7274	460.15	
Hexachloro-1,3-butadiene	41	260.76	49.660	49.685	284864	86.91	4.7491	407.96	
Bromochloromethane (IS)	19	129.40	19.898	19.864	385226	121.00	6.6120	1144.58	
Difluorobenzene (IS)	25	114.00	23.340	23.303	1352485	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.413	1133561	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.167	655796	162.00	8.8525	1139.63	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 PNNL CCV LVL 3 20 cc 100 ml of ISTD

C01 315

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012602.d

HNF-4073
Rev. 0

Sample Info : TST 1330 PNNL CCV LvL 3 20 cc 100 ml of ISTD

C01 316

Date : 26-JAN-1999 09:09

Client ID: Lvl 3 20 cc

Instrument: hpdos6.i

Sample Info: TST 1330 PNNL CCV Lvl 3 20 cc

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

C01 317

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas_std.m
File : 69012603.d
Injection Date : 26-JAN-99 10:30 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680				0.0018	0.94	U
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818	9.893	46685	29.24	0.1462	74.34	J
Butane	23	58.12	11.000				0.0024	0.92	U
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733				0.0043	2.12	U
Acetonitrile	23	41.05	13.246				0.0043	2.32	U
Acetone	23	58.08	13.827				0.0024	0.93	U
Trichlorofluoromethane	23	137.37	14.281				0.0058	0.95	U
Isopropyl Alcohol	23	60.10	14.399				0.0062	2.29	U
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070				0.0029	0.92	U
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
112trichloro122trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152				0.0023	0.92	U
Propanol	23	60.10	17.181				0.0058	2.16	U
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523				0.0059	1.82	U
2-Butanone	23	72.11	18.711				0.0070	2.17	U
1-Hexene	23	84.16	19.372				0.0033	0.87	U
Hexane	23	86.18	19.944				0.0034	0.88	U
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927				0.0027	0.86	U
1-Butanol	31	74.12	22.381				0.0270	8.16	U
Benzene	31	78.11	22.855				0.0030	0.87	U
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991				0.0039	0.86	U
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215				0.0039	0.87	U

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368				0.0037	0.83	U
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489				0.0036	0.89	U
2-Hexanone	43	100.16	28.825				0.0038	0.85	U
Octane	43	114.23	30.432				0.0046	0.89	U
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401				0.0043	0.91	U
p/m-Xylene	43	106.17	33.826				0.0033	0.69	U
3-Heptanone	43	114.19	33.835				0.0044	0.87	U
2-Heptanone	54	114.19	33.964				0.0043	0.84	U
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033				0.0042	0.88	U
Nonane	54	128.26	35.379				0.0046	0.81	U
2-Octanone	54	128.21	38.774				0.0047	0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009				0.0061	0.96	U
Bromochloromethane (IS)	23	129.40	19.915	19.874	367443	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.302	1401925	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.417	1130833	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.177	752247	113.00	0.5650	72.74	

HNF-4073
Rev. 0

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012603.d

Sample Info : TST 1365 Method Blank

100 ml of ISTD

C01 320

02/04/99 07:49

69012603.d

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012603.d

HNF-4073
Rev. 0

Sample Info : TST 1365 Method Blank 100 ml of ISTD

C01 321

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL_std.m
File : 69012603.d
Injection Date : 26-JAN-99 10:30 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242				0.0050	0.92	U
Chloromethane	19	50.49	9.128				0.0021	0.91	U
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475				0.0100	6.99	U
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269				0.0027	0.92	U
Ethanol	19	46.07	12.880				0.0130	6.32	U
Acetonitrile	19	41.05	13.362				0.0040	2.21	U
Acetone	19	58.08	13.855				0.0071	2.76	U
Trichlorofluoromethane	19	137.37	14.269				0.0056	0.91	U
Pentane	19	72.00	15.067				0.0073	2.29	U
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885				0.0035	0.92	U
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418				0.0076	0.91	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.92	U
2-Butanone	19	72.11	18.725				0.0070	2.19	U
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106				0.0049	0.92	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846				0.0032	0.92	U
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719				0.0054	0.92	U
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0100	2.02	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476				0.0037	0.91	U
1,2-Dibromoethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394				0.0043	0.92	U

C01 322

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809				0.0087	1.84	U
Styrene	41	104.15	34.727				0.0043	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024				0.0043	0.92	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.874	350371	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.302	1393434	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.417	1136052	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.167	604786	162.00	0.8100	104.28	

HNF-4073
Rev. 0

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank

100 ml of ISTD

C01 324

02/04/99 08:14

69012603.d

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012603.d

HNF-4073
Rev. 0

Sample Info : TST 1365 Method Blank 100 ml of ISTD

C01 325

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: BB-1

HNF-4078
Rev. 0

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Instrument: hpdos6.i

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Propene

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

2 Propane

C01 328

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

3 Dichlorodifluoromethane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Chloromethane

Date : 26-JAN-1999 07:49

Client ID: LVL 3 20 cc

Instrument: hpdos6.i

Sample Info: TST 1330 SAS CCV LVL 3 20 cc

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Instrument: hpdos6.i

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

6 Butane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

7 Chloroethane

C01 333

Date : 26-JAN-1999 07:49

Client ID: LVL 3 20 cc

Sample Info: TST 1330 SAS CCV LVL 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

8 Ethanol

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

9 Acetonitrile

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

C01 336

Date: 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

12 Isopropyl Alcohol

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Column phase: DB-1

Operator: JOE

Column diameter: 0.32

HNF-4073
Rev. 0

13 Furan

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Instrument: hpdos6.i

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

15 Methylene Chloride

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JOE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

16 112trichloro122trifluoroethane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

17 Propanenitrile

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

18 Propanol

C01 344

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

19 2-Methylpentane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Instrument: hpdos6.i

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073

Rev. 0

20 Butanal

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

21 2-Butanone

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Instrument: hpdos6.i

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

27 Butanenitrile

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

28 1-Butanol

C01 353

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Benzene

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

30 Carbon Tetrachloride

Date : 26-JAN-1999 07:49

Client ID: LVL 3 20 cc

Sample Info: TST 1330 SAS CCV LVL 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

32 2-Pentanone

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

33 3-Methylhexane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

34 1,4-Dioxane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

35 Heptane

C01 359

Date : 26-JAN-1999 07:49

Client ID: LVL 3 20 cc

Sample Info: TST 1330 SAS CCV LVL 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HN5-4073
Rev. 0

36 4-Methyl-2-pentanone

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 Pyridine

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

38 1,1,2-Trichloroethane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

39 Toluene

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Instrument: hpdos6.i

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

40 2-Hexanone

C01 364

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

41 Octane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Instrument: hpdos6.i

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

42 Tetrachloroethylene

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Chlorobenzene

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

45 Ethylbenzene

C01 368

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

46 p/m-Xylene

C01 369

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

47 3-Heptanone

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

48 2-Heptanone

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

49 Cyclohexanone

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

50 Styrene

C01 373

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

51 1,1,2,2-Tetrachloroethane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

52 o-Xylene

Date : 26-JAN-1999 07:49

Client ID: LuL 3 20 cc

Sample Info: TST 1330 SAS CCV LuL 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

53 Nonane

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

55 2-Octanone

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

56 1,2,4-Trimethylbenzene

Date : 26-JAN-1999 07:49

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

57 Decane

C01 379

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HNF-4073
Rev. U

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr
100 ml of ISTD

HNF-4073
Rev. 0

Instrument ID : hpdos6.i
Method : sas_std.m
File : 69012604.d
Injection Date : 26-JAN-99 11:50 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-060
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 202 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.640	1293562	107.30	0.5312	282.76	
Propane	23	44.10	7.848	7.788	412451	107.96	0.5345	271.47	
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.95	U
Chloromethane	23	50.49	9.129				0.0021	0.92	U
Acetaldehyde	23	44.05	9.818	9.776	357462	226.93	1.1234	571.27	
Butane	23	58.12	11.000	10.939	3938370	302.33	1.4967	576.83	
Chloroethane	23	64.51	12.280				0.0025	0.88	U
Ethanol	23	46.07	12.733	12.682	1802940	273.58	1.3544	658.51	
Acetonitrile	23	41.05	13.246	13.303	132244	14.53	0.0719	39.25	
Acetone	23	58.08	13.827	13.786	360965	77.70	0.3847	148.35	
Trichlorofluoromethane	23	137.37	14.281	14.229	24937	3.90	0.0193	3.15	J
Isopropyl Alcohol	23	60.10	14.399				0.0061	2.27	U
Furan	23	68.08	14.666				0.0027	0.89	U
Pentane	23	72.00	15.070	15.009	1387619	123.81	0.6129	190.69	
Methylene Chloride	23	84.93	15.898				0.0034	0.89	U
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.359	7888	1.72	0.0085	1.02	J
Propanenitrile	23	55.08	17.152	17.147	105875	17.34	0.0858	34.91	
Propanol	23	60.10	17.181	17.187	177084	16.09	0.0797	29.69	
2-Methylpentane	23	86.18	18.385	18.320	228273	18.18	0.0900	23.39	
Butanal	23	72.11	18.523	18.478	46599	56.81	0.2812	87.36	
2-Butanone	23	72.11	18.711	18.685	167691	13.04	0.0645	20.05	J
1-Hexene	23	84.16	19.372	19.316	1495882	262.62	1.3001	346.03	
Hexane	23	86.18	19.944	19.888	1804663	223.10	1.1045	287.08	
Chloroform	23	119.38	20.122				0.0054	1.02	U
Tetrahydrofuran	23	72.11	20.852	20.835	8616	2.34	0.0116	3.59	J
Butanenitrile	31	69.11	21.927	21.880	473509	35.92	0.1778	57.64	
1-Butanol	31	74.12	22.381	22.334	246595	40.55	0.2007	60.66	J
Benzene	31	78.11	22.855	22.787	134866	6.27	0.0310	8.90	
Carbon Tetrachloride	31	153.82	23.131				0.0061	0.89	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991	23.933	93594	10.77	0.0533	11.91	
1,4-Dioxane	31	88.11	24.681				0.0089	2.27	U
Heptane	31	100.20	25.215	25.147	2921549	552.00	2.7327	610.90	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.293	73126	5.90	0.0292	6.53	J
Pyridine	31	79.10	26.615				0.0990	28.04	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.87	U
Toluene	43	92.14	28.489	28.435	489300	44.40	0.2198	53.43	
2-Hexanone	43	100.16	28.825	28.761	591650	54.50	0.2698	60.34	
Octane	43	114.23	30.432	30.361	488811	103.66	0.5132	100.63	
Tetrachloroethylene	43	165.83	31.004				0.0062	0.84	U
Chlorobenzene	43	112.56	32.572				0.0041	0.82	U
Ethylbenzene	43	106.17	33.401	33.334	32886	1.82	0.0090	1.90	J
p/m-Xylene	43	106.17	33.826	33.739	20492	3.36	0.0166	3.51	J
3-Heptanone	43	114.19	33.835	33.779	18146747	2151.63	10.6516	2089.47	E
2-Heptanone	54	114.19	33.964	33.898	4666344	303.82	1.5041	295.04	
Cyclohexanone	54	98.14	34.281	34.401	690898	383.32	1.8976	433.12	
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.94	U
o-Xylene	54	106.17	35.033				0.0041	0.87	U
Nonane	54	128.26	35.379	35.321	731971	66.37	0.3286	57.38	
2-Octanone	54	128.21	38.774	38.711	255279	18.94	0.0937	16.38	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0051	0.95	U
Decane	54	142.20	40.009	39.947	2099536	244.39	1.2099	190.58	
Bromochloromethane (IS)	23	129.40	19.915	19.848	362522	106.00	0.5248	90.84	
Difluorobenzene (IS)	31	114.00	23.349	23.291	1357851	106.00	0.5248	103.11	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.405	1169646	113.00	0.5594	104.81	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.160	1097274	113.00	0.5594	72.02	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	10.623	9236505	107.69	0.5331	213.26	NJ
1-Butene	23	56	106-98-9	11.855	1171043	13.65	0.0676	27.04	NJ
Butanenitrile, 2-methylene-	31	81	1647-11-6	23.587	849978	26.50	0.1312	36.28	NJ
1-Heptene	31	98	592-76-7	24.544	3735752	116.48	0.5766	131.80	NJ
(Z)-3-Heptene	31	98	7642-10-6	24.999	25633920	799.25	3.9567	904.39	NJ
2-Heptene	31	98	592-77-8	25.365	31384090	978.54	4.8443	1107.26	NJ
Pentanenitrile	31	83	110-59-8	27.348	1390398	43.35	0.2146	57.92	NJ
3,4-Heptadiene	31	96	2454-31-1	27.536	7385542	230.28	1.1400	266.00	NJ
2-Heptyne	43	96	1119-65-9	28.632	7174020	201.15	0.9958	232.35	NJ
4-Octene, (E)-	43	112	14850-23-8	28.889	2979092	83.53	0.4135	82.70	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.077	15400035	431.80	2.1376	420.02	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.729	22906745	642.27	3.1796	635.91	NJ
2-Octene, (E)-	43	112	13389-42-9	30.075	1150953	32.27	0.1598	31.95	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.203	4807113	134.78	0.6673	133.45	NJ
2-Octene	43	112	111-67-1	30.500	2083772	58.43	0.2892	57.85	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.766	4085032	114.54	0.5670	113.40	NJ
Hexanenitrile	43	97	628-73-9	32.692	793308	22.24	0.1101	25.43	NJ
4-Heptanone	43	114	123-19-3	33.146	11818243	331.37	1.6404	322.33	NJ
Unknown	43	0		33.502	924237	25.91	0.1283		J
n-Butyl ether	43	130	142-96-1	34.085	3521336	98.73	0.4888	84.22	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.664	6474665	95.96	0.4750	83.13	NJ

C01 382

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown	54	126		36.744	11802340	174.92	0.8659	153.95	J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.862	9190608	136.21	0.6743	118.01	J
3-Octen-2-one, (E)-	54	126	18402-82-9	37.120	11202136	166.03	0.8219	146.12	NJ
Unknown	54	128		37.288	2276949	33.75	0.1671	29.24	J
Heptanenitrile	54	111	629-08-3	37.673	2352988	34.87	0.1726	34.84	NJ
4-Octanone	54	128	589-63-9	38.009	2225687	32.99	0.1633	28.58	NJ
Unknown	54	124		39.394	8880019	131.61	0.6515	117.70	J
Unknown C10 Alkene/Cycloalkane (mw 140)	54	0		40.076	3590177	53.21	0.2634		J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.590	16374464	242.68	1.2014	207.01	NJ
Nonane, 2,6-dimethyl-	54	156	17302-28-2	41.065	4159543	61.65	0.3052	43.82	NJ
Decane, 3-methyl-	54	156	13151-34-3	41.836	1124110	16.66	0.0825	11.84	NJ
Cyclohexane, butyl-	54	140	1678-93-9	41.955	1918723	28.44	0.1408	22.52	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	54	0		42.193	1345533	19.94	0.0987		J
Octanenitrile	54	125	124-12-9	42.321	1373039	20.35	0.1007	18.05	NJ
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.528	1334235	19.77	0.0979	15.89	NJ
Unknown	54	168		43.825	4142026	61.39	0.3039	40.52	J
Undecane	54	156	1120-21-4	44.251	22539517	334.05	1.6537	237.46	NJ
Unknown	54	168		44.805	4370681	64.78	0.3207	42.76	J
Decane, 3,6-dimethyl-	54	170	17312-53-7	45.063	1223854	18.14	0.0898	11.83	NJ
Unknown C11 Alkane (mw 156)	54	156		45.498	2297880	34.06	0.1686	24.21	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	45.924	2280741	33.80	0.1673	24.66	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.300	2845189	42.17	0.2088	30.36	NJ
Heptane, 3-ethyl-2-methyl-	54	142	14676-29-0	46.508	2040345	30.24	0.1497	23.61	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.677	4469687	66.24	0.3279	48.33	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.875	2372403	35.16	0.1741	22.94	NJ
Undecane, 3-methyl-	54	170	1002-43-3	47.182	1677815	24.87	0.1231	16.22	NJ
5-Dodecene, (E)-	54	168	7206-16-8	47.836	2027552	30.05	0.1488	19.84	NJ
Unknown	54	168		47.985	1703478	25.25	0.1250	16.66	J
Dodecane	54	170	112-40-3	48.253	57722502	855.50	4.2351	558.04	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.868	13115391	194.38	0.9623	117.15	NJ
Cyclododecane	54	168	294-62-2	50.287	4888657	72.45	0.3587	47.82	NJ
Unknown C14 Alkane (mw 198)	54	198		51.111	9536955	141.35	0.6997	79.16	J
Tridecane	54	184	629-50-5	51.985	90492446	1341.18	6.6395	808.28	NJ
Tetradecane	54	198	629-59-4	55.460	15963452	236.59	1.1712	132.50	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	9091148
Diffuorobenzene (IS)	31	3399664
Chlorobenzene-d5 (IS)	43	4030156
1-Bromo-4-Fluorobenzene (IS)	54	7624392

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012604.d

HNF-4073
Rev. 0

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD

C01 384

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD

C01 385

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr
 : 100 ml of ISTD

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : sas_std.m
 File : 69012604.d
 Injection Date : 26-JAN-99 11:50 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-060
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 202 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.640	1293562	107.30	0.5312	282.76	
Propane	23	44.10	7.848	7.788	412451	107.97	0.5345	271.49	
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.95	U
Chloromethane	23	50.49	9.129				0.0021	0.92	U
Acetaldehyde	23	44.05	9.818	9.776	357462	226.92	1.1234	571.25	
Butane	23	58.12	11.000	10.939	3938370	302.33	1.4967	576.83	
Chloroethane	23	64.51	12.280				0.0025	0.88	U
Ethanol	23	46.07	12.733	12.682	2289681	347.43	1.7199	836.26	
Acetonitrile	23	41.05	13.246	13.303	132244	14.53	0.0719	39.25	
Acetone	23	58.08	13.827	13.786	360965	77.72	0.3848	148.39	
Trichlorofluoromethane	23	137.37	14.281	14.229	24937	3.90	0.0193	3.15	J
Isopropyl Alcohol	23	60.10	14.399	14.466	92123	7.87	0.0390	14.53	J
Furan	23	68.08	14.666				0.0027	0.89	U
Pentane	23	72.00	15.070	15.009	1387619	123.81	0.6129	190.69	
Methylene Chloride	23	84.93	15.898				0.0034	0.89	U
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.359	7888	1.72	0.0085	1.02	J
Propanenitrile	23	55.08	17.152	17.147	105875	17.34	0.0859	34.92	
Propanol	23	60.10	17.181	17.187	177084	16.09	0.0797	29.69	
2-Methylpentane	23	86.18	18.385	18.320	228273	18.18	0.0900	23.39	
Butanal	23	72.11	18.523	18.478	46599	56.80	0.2812	87.34	
2-Butanone	23	72.11	18.711	18.685	167691	13.04	0.0645	20.05	J
1-Hexene	23	84.16	19.372	19.316	1495882	262.70	1.3005	346.14	
Hexane	23	86.18	19.944	19.888	1804663	223.12	1.1045	287.10	
Chloroform	23	119.38	20.122				0.0054	1.02	U
Tetrahydrofuran	23	72.11	20.852	20.835	8616	2.34	0.0116	3.59	J
Butanenitrile	31	69.11	21.927	21.880	473509	35.92	0.1778	57.64	
1-Butanol	31	74.12	22.381	22.334	246595	40.54	0.2007	60.66	J
Benzene	31	78.11	22.855	22.787	134866	6.27	0.0310	8.90	
Carbon Tetrachloride	31	153.82	23.131				0.0061	0.89	U
2-Pentanone	31	86.13	23.438	23.409	234429	14.66	0.0726	18.88	
3-Methylhexane	31	100.20	23.991	23.933	93594	10.77	0.0533	11.91	
1,4-Dioxane	31	88.11	24.681				0.0089	2.27	U
Heptane	31	100.20	25.215	25.147	2921549	551.96	2.7325	610.85	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.293	73126	5.90	0.0292	6.53	J
Pyridine	31	79.10	26.615				0.0990	28.04	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.87	U
Toluene	43	92.14	28.489	28.435	489300	44.39	0.2197	53.42	
2-Hexanone	43	100.16	28.825	28.761	591650	54.49	0.2698	60.33	
Octane	43	114.23	30.432	30.361	488811	103.65	0.5131	100.62	
Tetrachloroethylene	43	165.83	31.004				0.0062	0.84	U
Chlorobenzene	43	112.56	32.572				0.0041	0.82	U
Ethylbenzene	43	106.17	33.401	33.334	32886	1.82	0.0090	1.90	J
p/m-Xylene	43	106.17	33.826	33.739	20492	3.36	0.0166	3.51	J
3-Heptanone	43	114.19	33.835	33.779	18146747	2151.65	10.6517	2089.49	E
2-Heptanone	54	114.19	33.964	33.898	4666344	303.76	1.5038	294.99	
Cyclohexanone	54	98.14	34.281				0.0093	2.11	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.94	U
o-Xylene	54	106.17	35.033				0.0041	0.87	U
Nonane	54	128.26	35.379	35.321	731971	66.36	0.3285	57.37	
2-Octanone	54	128.21	38.774	38.711	255279	18.94	0.0938	16.38	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0051	0.95	U
Decane	54	142.20	40.009	39.947	2099536	244.39	1.2099	190.58	
Bromochloromethane (IS)	23	129.40	19.915	19.848	362522	106.00	0.5248	90.84	
Difluorobenzene (IS)	31	114.00	23.349	23.291	1357851	106.00	0.5248	103.11	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.405	1169646	113.00	0.5594	104.81	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.160	1097274	113.00	0.5594	72.02	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1-Propene, 2-methyl-	23	56	115-11-7	10.623	9236505	107.69	0.5331	213.26	NJ
1-Butene	23	56	106-98-9	11.855	1171043	13.65	0.0676	27.04	NJ
Butanenitrile, 2-methylene-	31	81	1647-11-6	23.587	849978	26.50	0.1312	36.28	NJ
1-Heptene	31	98	592-76-7	24.544	3735752	116.48	0.5766	131.80	NJ
(Z)-3-Heptene	31	98	7642-10-6	24.999	25633920	799.25	3.9567	904.39	NJ
2-Heptene	31	98	592-77-8	25.365	31384090	978.54	4.8443	1107.26	NJ
Pentanenitrile	31	83	110-59-8	27.348	1390398	43.35	0.2146	57.92	NJ
3,4-Heptadiene	31	96	2454-31-1	27.536	7385542	230.28	1.1400	266.00	NJ
2-Heptyne	43	96	1119-65-9	28.632	7174020	201.15	0.9958	232.35	NJ
4-Octene, (E)-	43	112	14850-23-8	28.889	2979092	83.53	0.4135	82.70	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.077	15400035	431.80	2.1376	420.02	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.729	22906745	642.27	3.1796	635.91	NJ
2-Octene, (E)-	43	112	13389-42-9	30.075	1150953	32.27	0.1598	31.95	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.203	4807113	134.78	0.6673	133.45	NJ
2-Octene	43	112	111-67-1	30.500	2083772	58.43	0.2892	57.85	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.766	4085032	114.54	0.5670	113.40	NJ
Hexanenitrile	43	97	628-73-9	32.692	793308	22.24	0.1101	25.43	NJ
4-Heptanone	43	114	123-19-3	33.146	11818243	331.37	1.6404	322.33	NJ
Unknown	43	0		33.502	924237	25.91	0.1283		J
n-Butyl ether	43	130	142-96-1	34.085	3521336	98.73	0.4888	84.22	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.664	6474665	95.96	0.4750	83.13	NJ

C01 387

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown	54	126		36.744	11802340	174.92	0.8659	153.95	J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.862	9190608	136.21	0.6743	118.01	J
3-Octen-2-one, (E)-	54	126	18402-82-9	37.120	11202136	166.03	0.8219	146.12	NJ
Unknown	54	128		37.288	2275949	33.75	0.1671	29.24	J
Heptanenitrile	54	111	629-08-3	37.673	2352988	34.87	0.1726	34.84	NJ
4-Octanone	54	128	589-63-9	38.009	2225687	32.99	0.1633	28.58	NJ
Unknown	54	124		39.394	8880019	131.61	0.6515	117.70	J
Unknown C10 Alkene/Cycloalkane (mw 140)	54	0		40.076	3590177	53.21	0.2634		J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.590	16374464	242.68	1.2014	207.01	NJ
Nonane, 2,6-dimethyl-	54	156	17302-28-2	41.065	4159543	61.65	0.3052	43.82	NJ
Decane, 3-methyl-	54	156	13151-34-3	41.836	1124110	16.66	0.0825	11.84	NJ
Cyclohexane, butyl-	54	140	1678-93-9	41.955	1918723	28.44	0.1408	22.52	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	54	0		42.193	1345533	19.94	0.0987		J
Octanenitrile	54	125	124-12-9	42.321	1373039	20.35	0.1007	18.05	NJ
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.528	1334235	19.77	0.0979	15.89	NJ
Unknown	54	168		43.825	4142026	61.39	0.3039	40.52	J
Undecane	54	156	1120-21-4	44.251	22539517	334.05	1.6537	237.46	NJ
Unknown	54	168		44.805	4370681	64.78	0.3207	42.76	J
Decane, 3,6-dimethyl-	54	170	17312-53-7	45.063	1223854	18.14	0.0898	11.83	NJ
Unknown C11 Alkane (mw 156)	54	156		45.498	2297880	34.06	0.1686	24.21	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	45.924	2280741	33.80	0.1673	24.66	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.300	2845189	42.17	0.2088	30.36	NJ
Heptane, 3-ethyl-2-methyl-	54	142	14676-29-0	46.508	2040345	30.24	0.1497	23.61	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.677	4469687	66.24	0.3279	48.33	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.875	2372403	35.16	0.1741	22.94	NJ
Undecane, 3-methyl-	54	170	1002-43-3	47.182	1677815	24.87	0.1231	16.22	NJ
5-Dodecene, (E)-	54	168	7206-16-8	47.836	2027552	30.05	0.1488	19.84	NJ
Unknown	54	168		47.985	1703478	25.25	0.1250	16.66	J
Dodecane	54	170	112-40-3	48.253	57722502	855.50	4.2351	558.04	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.868	13115391	194.38	0.9623	117.15	NJ
Cyclododecane	54	168	294-62-2	50.287	4888657	72.45	0.3587	47.82	NJ
Unknown C14 Alkane (mw 198)	54	198		51.111	9536955	141.35	0.6997	79.16	J
Tridecane	54	184	629-50-5	51.985	90492446	1341.18	6.6395	808.28	NJ
Tetradecane	54	198	629-59-4	55.460	15963452	236.59	1.1712	132.50	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	9091148
Difluorobenzene (IS)	31	3399664
Chlorobenzene-d5 (IS)	43	4030156
1-Bromo-4-Fluorobenzene (IS)	54	7624392

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C01 388

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD

C01 389

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD

C01 390

Data File: /chem/hpdos6.1/SAS.b/69012604.d

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

C01 391

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Propene

C01 392

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. U

Column phase: DB-1

2 Propane

C01 393

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

6 Butane

C01 395

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 6

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

8 Ethanol

C01 396

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 7

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

9 Acetonitrile

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Acetone

C01 398

Data File: /chem/hpdos6.i/SAS.b/69012604.d
 Date : 26-JAN-99 11:50
 Client ID: BP @ 2.5 hr
 Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 9

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
 Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

C01 399

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Pentane

C01 400

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 11

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

16 112trichloro122trifluoroethane

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

17 Propanenitrile

C01 402

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 13

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

18 Propanol

C01 403

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 14

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

19 2-Methylpentane

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

20 Butanal

C01 405

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

21 2-Butanone

Data File: /chem/hpdos6.1/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 17

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

22 1-Hexene

C01 407

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 19

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

26 Tetrahydrofuran

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 20

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

27 Butanenitrile

C01 410

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Instrument: hpdos6.i

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

28 1-Butanol

C01 411

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Benzene

C01 412

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

33 3-Methylhexane

C01 413

Data File: /chem/hpdos6.i/SRS.b/69012604.d
 Date : 26-JAN-99 11:50
 Client ID: BP @ 2.5 hr
 Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 24

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
 Rev. 0

35 Heptane

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

36 4-Methyl-2-pentanone

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

39 Toluene

C01 416

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 2-Hexanone

C01 417

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

41 Octane

C01 418

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

45 Ethylbenzene

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 30

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

46 p/m-Xylene

C01 420

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 31

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HPF-4073

Rev. 0

47 3-Heptanone

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 32

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 2-Heptanone

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

49 Cyclohexanone

C01 423

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

53 Nonane

Date: 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 WF006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

55 2-Octanone

C01 425

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

57 Decane

C01 426

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Butene	106-98-9	nbs75k.1	62307	87	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	87	C4H8	56

C01 427

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CRS Number Library Entry Quality Formula Weight

1-Butene	106-98-9	nbs75k.l	62308	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.l	62305	87	C4H8	56
1-Butene	106-98-9	nbs75k.l	62307	87	C4H8	56

C01 428

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 42

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Butanenitrile, 2-methylene-
p-Benzoquinone
2,5-Cyclohexadiene-1,4-dione

CAS Number	Library	Entry	Quality	Formula	Weight
1647-11-6	nbs75k.1	445	94	C5H7N	81
106-51-4	nbs75k.1	63756	64	C6H4O2	108
106-51-4	WILEY138.1	118667	64	C6H4O2	108

C01 429

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 1-methyl-2-propyl-	4291-79-6	nbs75k.1	66074	83	C10H20	140
3-Heptene	592-78-9	nbs75k.1	63247	80	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	80	C7H14	98

C01 430

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 44

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	96	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	93	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	93	C7H14	98

C01 431

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(2)-3-Heptene	7642-10-6	nbs75k.1	1368	95	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	94	C7H14	98

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 47

Instrument: hpdos6.i

HNIF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	96	C7H14	98

C01 433

Data File: /chem/hpdos6.1/SAS.b/69012604.d

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 139B VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentanenitrile	110-59-8	WILEY138.1	116798	72	C5H9N	83
Pentanenitrile	110-59-8	nbs75k.1	514	50	C5H9N	83
Pentanenitrile	110-59-8	nbs75k.1	62698	40	C5H9N	83

C01 434

Data File: /chem/hpdos6.1/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 49

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	64	C7H12	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	81	C6H8O	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	WILEY139.1	593	81	C6H8O	96

C01 435

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
28823-41-8	WILEY138.1	117606	46	C7H12	96
591-48-0	nbs75k.1	63130	38	C7H12	96
41158-41-2	nbs75k.1	1103	38	C7H12	96

2,4-Hexadiene, 2-methyl-

Cyclohexene, 3-methyl-

Cyclopentane, 1-methyl-2-methylene-

Data File: /chem/hpdos6.i/SAS.b/69012604.d
 Date : 26-JAN-99 11:50
 Client ID: BP @ 2.5 hr
 Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 51

Instrument: hpdos6.i

HNF-4073
 Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
1119-65-9	nbs75k.1	63138	97	C7H12	96
1119-65-9	nbs75k.1	1141	80	C7H12	96
1119-65-9	WILEY138.1	602	80	C7H12	96

2-Heptyne

2-Heptyne

2-Heptyne

C01 437

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	91	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	91	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119060	91	C8H16	112

C01 438

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 53

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	91	C8H18	114
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	90	C8H18	114

C01 439

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

NNF-4073

Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	16883-48-0	nbs75k.1	2652	91	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	4950-28-6	nbs75k.1	2684	91	C8H16	112

C01 440

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64022	50	C8H16	112
2-Octene	111-67-1	nbs75k.1	2659	50	C8H16	112
4-Octene, (Z)-	7642-15-1	nbs75k.1	63990	50	C8H16	112

C01 441

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

3-Heptene, 3-methyl-
3-HEXENE, 3-ETHYL-
5-Methyl-3-heptene

CAS Number

Library

Entry

Quality Formula

Weight

7300-03-0

nbs75k.1

64039

80

C8H16

112

0-00-0

WILEY138.1

2676

90

C8H16

112

0-00-0

nbs75k.1

2641

86

C8H16

112

C01 442

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 57

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	91	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	94	C8H16	112
3-Octene, (Z)-	14850-22-7	nbs75k.1	2705	91	C8H16	112

C01 443

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 139B VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNIF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

2-HEPTENE, 3-METHYL-
1-Pentene, 3-ethyl-4-methyl-
Heptane, 3-methylene-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	95	C8H16	112
61847-90-1	nbs75k.1	2732	90	C8H16	112
1632-16-2	nbs75k.1	64033	90	C8H16	112

C01 444

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
trans-1-Butyl-2-methylcyclopropane	38851-70-6	nbs75k.1	2690	91	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	91	C8H16	112
TRANS-1-BUTYL-2-METHYLCYCLOPROPANE	38851-70-6	WILEY138.1	2732	91	C8H16	112

C01 445

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

Hexanenitrile

Hexanenitrile

Hexanenitrile

CAS Number	Library	Entry	Quality	Formula	Weight
628-73-9	nbs75k.1	63154	74	C6H11N	97
628-73-9	WILEY138.1	117636	74	C6H11N	97
628-73-9	WILEY138.1	117638	74	C6H11N	97

C01 446

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64150	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119313	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64153	90	C7H14O	114

C01 447

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

1,2-DIMETHYL-R-TRIAZOLE-3-IN-5-ONE

Cyclohexanone, oxime

4-Piperidinone, 1-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
23988-31-0	WILEY138.1	2745	50	C4H7N3O	113
100-64-1	WILEY138.1	119158	43	C6H11NO	113
1445-73-4	WILEY138.1	119157	40	C6H11NO	113

C01 448

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
n-Butyl ether	142-96-1	nbs75k.1	5535	47	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121219	56	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121220	50	C8H18O	130

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)

1,3,2-Dioxaborolane, 2,4-diethyl-

4-METHYL-2-PYRROLIDINONE

CAS Number

Library

Entry

Quality

Formula

Weight

nbs75k.1

4896

72

128

57633-63-3

WILEY138.1

5771

72

C6H13BO2

128

0-00-0

WILEY138.1

996

64

C5H9NO

99

C01 450

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

Cyclopentane, 1-ethyl-1-methyl-

Cyclopentane, 1-ethyl-1-methyl-

1-Hexyn-3-ol

CAS Number	Library	Entry	Quality	Formula	Weight
16747-50-5	nbs75k.1	2727	50	C8H16	112
16747-50-5	WILEY138.1	2705	50	C8H16	112
105-31-7	nbs75k.1	1263	38	C6H10O	98

C01 451

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer0)

1,3,2-Dioxaborolane, 2,4-diethyl-

1,1'-Bicyclohexyl-1,1'-diol

1,1'-BICYCLOHEXYL-1,1'-BIS(TRIMETHYLSILY

CAS Number	Library	Entry	Quality	Formula	Weight
57633-63-3	nbs75k.1	4896	72	C6H13B02	128
2888-11-1	nbs75k.1	22423	72	C12H22O2	198
19009-71-3	WILEY138.1	85996	72	C18H38O2S12	342

Data File: /chem/hpdos6.1/SAS.b/69012604.d

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
18402-82-9	nbs75k.1	4533	32	C8H14O	126
629-96-9	nbs75k.1	42525	35	C20H42O	298
4984-01-4	nbs75k.1	66070	32	C10H20	140

3-Octen-2-one, (E)-

1-Eicosanol

1-Octene, 3,7-dimethyl-

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

2-Pentene, 4-methyl-, (Z)-

2-Pentene, 4-methyl-, (Z)-

2-Pentene, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
691-38-3	nbs75k.1	601	45	C6H12	84
691-38-3	WILEY138.1	116909	45	C6H12	84
625-27-4	nbs75k.1	595	43	C6H12	84

C01 454

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	2435	76	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	118929	76	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	59	C7H13N	111

C01 455

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65060	64	C8H16O	128
4-Heptanone, 2-methyl-	626-33-5	nbs75k.1	65080	90	C8H16O	128
4-Heptanone, 2-methyl-	626-33-5	nbs75k.1	5087	80	C8H16O	128

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
2-Azabicyclo[2.2.1]heptane	279-24-3	WILEY138.1	699	83	C6H11N	97
Hexanenitrile	628-73-9	nbs75k.1	63154	42	C6H11N	97
Hexanenitrile	628-73-9	WILEY138.1	117636	42	C6H11N	97

C01 457

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

2H-1,3-Benzoxazine, 6-chloro-3-cyclohexy

Cyclopropane, 1-pentyl-2-propyl-

1-Nonanol

CAS Number	Library	Entry	Quality	Formula	Weight
35183-44-9	nbs75k.1	34096	38	C14H18ClNO	251
41977-33-7	nbs75k.1	11090	38	C11H22	154
143-08-8	nbs75k.1	66369	38	C9H20O	144

CU1 458

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 76

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65292	78	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65290	78	C8H18O	130

C01 459

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Nonane, 2,6-dimethyl-

Decane, 4-methyl-

Decane, 4-methyl-

CAS Number

Library

Entry

Quality

Formula

Weight

17302-28-2

WILEY138.1

15630

72

C11H24

156

2847-72-5

WILEY138.1

124560

94

C11H24

156

2847-72-5

nbs75k.1

67324

90

C11H24

156

C01 460

Data File: /chem/hpdos6.1/SRS.b/69012604.d

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
13151-34-3	nbs75k.1	67315	72	C11H24	156
638-67-5	WILEY138.1	134295	50	C23H48	324
17312-75-3	nbs75k.1	19057	47	C13H28	184

Decane, 3-methyl-

Tricosane

Nonane, 5-methyl-5-propyl-

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 79

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66055	76	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66056	76	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	7540	72	C10H20	140

C01 462

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

3-Undecene, 6-methyl-, (E)-

Decane, 2,6,6-trimethyl-

3-Undecene, 6-methyl-, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
74630-52-7	nbs75k.1	14747	50	C12H24	168
62108-24-1	nbs75k.1	19023	50	C13H28	184
74630-52-7	WILEY138.1	20695	50	C12H24	168

Data File: /chem/hpdos6.i/SAS.b/69012604.d
 Date : 26-JAN-99 11:50
 Client ID: BP @ 2.5 hr
 Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
 Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	83	C8H15N	125
Octanenitrile	124-12-9	WILEY138.1	5025	83	C8H15N	125
Hexanenitrile	628-73-9	WILEY138.1	117636	37	C6H11N	97

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 5-methyl-	13151-35-4	nbs75k.1	67316	52	C11H24	156
Decane, 5-methyl-	13151-35-4	nbs75k.1	11605	52	C11H24	156
Decane, 5-methyl-	13151-35-4	WILEY138.1	124561	52	C11H24	156

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67322	87	C11H24	156
Decane, 2-methyl-	6975-98-0	WILEY139.1	124556	87	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.1	67321	81	C11H24	156

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.1	15361	72	C12H26	170
Decane, 2,9-dimethyl-	1002-17-1	WILEY138.1	21662	72	C12H26	170
Nonane, 5-(1-methylpropyl)-	62185-54-0	nbs75k.1	19016	64	C13H28	184

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122343	98	C10H18	138
Naphthalene, decahydro-	91-17-8	nbs75k.1	65933	95	C10H18	138
Naphthalene, decahydro-	91-17-8	WILEY138.1	122339	95	C10H18	138

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

4(1H)-Pyridinone, 2,3-dihydro-1-methyl-

4(1H)-Pyridinone, 2,3-dihydro-1-methyl-

3-Buten-2-one, 4-(1-aziridinyl)-

CAS Number	Library	Entry	Quality	Formula	Weight
35488-00-7	nbs75k.1	2418	58	C6H9NO	111
35488-00-7	WILEY138.1	2353	58	C6H9NO	111
18277-57-1	WILEY138.1	2342	49	C6H9NO	111

C01 469

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 89

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	nbs75k.1	67317	95	C11H24	156
Undecane	1120-21-4	nbs75k.1	67319	94	C11H24	156
Undecane	1120-21-4	WILEY138.1	124548	94	C11H24	156

C01 470

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

4(3H)-Pyrimidinone

7-Oxabicyclo[4.1.0]heptane, 2-methyl-

4(3H)-Pyrimidinone

CAS Number	Library	Entry	Quality	Formula	Weight
51953-17-4	nbs75k.1	1060	43	C4H4N2O	96
5410-22-0	nbs75k.1	2607	43	C7H12O	112
51953-17-4	WILEY138.1	548	43	C4H4N2O	96

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Decane, 3,6-dimethyl-

3,6-Dimethyldecane

Undecane, 5-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
17312-53-7	nbs75k.1	15348	93	C12H26	170
17312-53-7	WILEY138.1	21664	93	C12H26	170
1632-70-8	WILEY138.1	126019	90	C12H26	170

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Undecane, 4-methyl-

Undecane, 4-methyl-

Nonane, 5-(1-methylpropyl)-

CAS Number	Library	Entry	Quality	Formula	Weight
2980-69-0	nbs75k.1	68256	72	C12H26	170
2980-69-0	WILEY138.1	126017	72	C12H26	170
62185-54-0	nbs75k.1	19016	64	C13H28	184

C01 473

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2968-76-1	nbs75k.1	67009	91	C11H20	152
Naphthalene, decahydro-2-methyl-	2968-76-1	WILEY138.1	124046	91	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2968-76-1	WILEY138.1	13881	91	C11H20	152

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	67185	78	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	90	C11H22	154
Cyclohexane, undecyl-	54105-66-7	nbs75k.1	31654	78	C17H34	238

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.1	8080	59	C10H22	142
Heptane, 4-propyl-	3178-29-8	nbs75k.1	66210	72	C10H22	142
Heptane, 4-propyl-	3178-29-8	WILEY138.1	10257	72	C10H22	142

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	90	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	89	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	89	C11H20	152

C01 477

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

HMF-4073

Rev. 0

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Undecane, 2-methyl-

7045-71-8

nbs75k.1

15356

90

C12H26

170

Undecane, 2-methyl-

7045-71-8

WILEY138.1

21649

90

C12H26

170

Undecane, 2-methyl-

7045-71-8

nbs75k.1

68257

83

C12H26

170

C01 478

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	WILEY138.1	126013	43	C12H26	170
Decane, 3,8-dimethyl-	17312-55-9	nbs75k.1	68255	72	C12H26	170
Undecane, 5-ethyl-	17453-94-0	WILEY138.1	27739	59	C13H28	184

C01 479

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
5-Dodecene, (E)-	7206-16-8	nbs75k.1	14714	94	C12H24	168
2-Dodecene, (Z)-	7206-26-0	nbs75k.1	14743	94	C12H24	168
3-Dodecene, (E)-	7206-14-6	nbs75k.1	68109	94	C12H24	168

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

4-Undecene, 4-methyl-, (Z)-

4-Undecene, 4-methyl-, (Z)-

3-Octene, 2,6-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
74630-57-2	nbs75k.1	14768	43	C12H24	168
74630-57-2	WILEY138.1	20705	43	C12H24	168
6874-28-8	nbs75k.1	7579	30	C10H20	140

C01 481

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HPL-4073
REV. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	95	C12H26	170
Dodecane	112-40-3	nbs75k.1	15347	94	C12H26	170
Dodecane	112-40-3	nbs75k.1	68251	94	C12H26	170

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	96	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69032	90	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	127264	90	C13H28	184

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclododecane	294-62-2	nbs75k.1	14784	83	C12H24	168
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	91	C13H26	182
Cyclopentane, butyl-	2040-95-1	nbs75k.1	64938	83	C9H18	126

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNP-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C14 Alkane (mw 198)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Octane, 2,3,7-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	nbs75k.1	22538	90	C14H30	198
26730-14-3	WILEY138.1	128289	90	C14H30	198
62016-34-6	nbs75k.1	11603	83	C11H24	156

Data File: /chem/hpdos6.i/SAS.b/69012604.d
Date : 26-JAN-99 11:50
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 111

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNH-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	69017	97	C13H28	184
Tridecane	629-50-5	WILEY138.1	127252	97	C13H28	184
Tridecane	629-50-5	nbs75k.1	18989	96	C13H28	184

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	96	C14H30	198
Tetradecane	629-59-4	WILEY138.1	128276	96	C14H30	198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr
100 ml of ISTD

HNF-4073

Rev. 0

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 69012604.d
Injection Date : 26-JAN-99 11:50 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-060
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 202 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	19	120.91	8.242	8.201	9057	0.97	0.0048	0.89	J
Chloromethane	19	50.49	9.128	9.077	8207	0.78	0.0039	1.71	J
1,2-dichloro-1,1,2,2-tetrafluoroethane	19	170.92	9.727				0.0069	0.91	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.90	U
Methanol	19	32.04	10.475	10.387	813384	136.15	0.6740	471.22	
1,3-Butadiene	19	54.00	10.721				0.0035	1.46	U
Chloroethane	19	64.51	12.269				0.0026	0.91	U
Ethanol	19	46.07	12.880	12.682	1802940	568.25	2.8131	1367.78	E
Acetonitrile	19	41.05	13.362	13.303	135658	24.45	0.1210	66.04	
Acetone	19	58.08	13.855	13.786	354913	181.08	0.8964	345.73	
Trichlorofluoromethane	19	137.37	14.269	14.229	24937	3.87	0.0192	3.13	J
Pentane	19	72.00	15.067	15.009	1387619	157.96	0.7820	243.29	
1,1-Dichloroethene	19	96.94	15.586				0.0039	0.90	U
Methylene Chloride	19	84.93	15.885				0.0035	0.91	U
1,1,2-trichloro-1,2,2-trifluoroethane	19	187.38	16.418				0.0076	0.90	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.91	U
2-Butanone	19	72.11	18.725	18.695	43431	27.25	0.1349	41.91	
cis-1,2-Dichloroethene	19	96.94	19.536				0.0039	0.90	U
Chloroform	19	119.38	20.106				0.0049	0.91	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.91	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.91	U
Benzene	25	78.11	22.846	22.787	134866	7.15	0.0354	10.15	
Carbon Tetrachloride	25	153.82	23.123				0.0062	0.90	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.90	U
Trichloroethene	25	131.39	24.719	24.722	163282	31.39	0.1554	26.49	
cis-1,3-Dichloropropene	25	110.97	26.324				0.0099	2.00	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0099	2.00	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.62	U
Toluene	34	92.14	28.476	28.435	489300	43.77	0.2167	52.68	
1,2-Dibromoethane	34	187.86	29.947				0.0076	0.91	U
Tetrachloroethylene	34	165.83	30.999				0.0076	1.03	U
Chlorobenzene	34	112.56	32.566				0.0046	0.91	U
Ethylbenzene	34	106.17	33.394	33.334	32886	1.59	0.0079	1.66	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
p/m-Xylene	34	106.17	33.809	33.739	20492	2.77	0.0137	2.89	J
Styrene	41	104.15	34.727				0.0042	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.787	53976	6.47	0.0320	4.28	J
o-Xylene	41	106.17	35.024				0.0043	0.91	U
1,3,5-Trimethylbenzene	41	120.19	38.516	38.187	12581	0.73	0.0036	0.67	J
1,2,4-Trimethylbenzene	41	120.19	39.844	39.789	13517	0.81	0.0040	0.75	J
1,3-Dichlorobenzene	41	147.00	40.328				0.0594	9.05	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0059	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0059	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0074	0.92	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0104	0.89	U
Bromochloromethane (IS)	19	129.40	19.898	19.848	362522	121.00	0.5990	103.69	
Difluorobenzene (IS)	25	114.00	23.340	23.291	1357851	106.00	0.5248	103.11	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.405	1169646	113.00	0.5594	104.81	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.150	706623	162.00	0.8020	103.24	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD

C01 490

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD

C01 491

Date : 26-JAN-99 11:50

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

C01 492

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1389 VP006-106 BP @T=5.5 hr
100 ml of ISTD; Sample rerunInstrument ID : hpdos6.i
Method : sas_std.m
File : 69012606.d
Injection Date : 26-JAN-99 15:21 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-106
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 202 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.631	731947	243.70	1.2064	642.21	
Propane	23	44.10	7.848	7.799	228129	239.68	1.1866	602.69	
Dichlorodifluoromethane	23	120.91	8.242	8.154	39541	16.19	0.0801	14.84	
Chloromethane	23	50.49	9.129	9.060	13088	6.98	0.0345	15.33	
Acetaldehyde	23	44.05	9.818	9.828	167341	426.41	2.1109	1073.44	E
Butane	23	58.12	11.000	10.932	2405564	741.20	3.6693	1414.19	E
Chloroethane	23	64.51	12.280				0.0025	0.88	U
Ethanol	23	46.07	12.733	12.716	1158062	705.33	3.4918	1697.75	
Acetonitrile	23	41.05	13.246	13.268	168850	74.46	0.3686	201.15	
Acetone	23	58.08	13.827	13.800	331167	286.13	1.4165	546.30	
Trichlorofluoromethane	23	137.37	14.281	14.205	39094	24.55	0.1215	19.82	
Isopropyl Alcohol	23	60.10	14.399	14.431	70428	24.16	0.1196	44.59	
Furan	23	68.08	14.666				0.0027	0.89	U
Pentane	23	72.00	15.070	15.004	791087	283.32	1.4026	436.36	
Methylene Chloride	23	84.93	15.898	15.832	8620	6.52	0.0323	8.51	J
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422	16.354	3851	3.37	0.0167	1.99	J
Propanenitrile	23	55.08	17.152	17.132	131878	86.69	0.4291	174.52	
Propanol	23	60.10	17.181	17.172	208605	76.08	0.3766	140.38	
2-Methylpentane	23	86.18	18.385	18.315	125204	40.01	0.1981	51.49	
Butanal	23	72.11	18.523	18.454	27445	134.29	0.6648	206.51	
2-Butanone	23	72.11	18.711	18.670	166777	52.05	0.2577	80.04	
1-Hexene	23	84.16	19.372	19.301	796130	561.01	2.7773	739.20	
Hexane	23	86.18	19.944	19.873	684151	339.49	1.6806	436.83	
Chloroform	23	119.38	20.122				0.0054	1.02	U
Tetrahydrofuran	23	72.11	20.852	20.820	11162	12.16	0.0602	18.69	
Butanenitrile	31	69.11	21.927	21.875	380889	106.69	0.5282	171.19	
1-Butanol	31	74.12	22.381	22.348	342713	208.06	1.0300	311.29	
Benzene	31	78.11	22.855	22.782	164322	28.19	0.1396	40.02	
Carbon Tetrachloride	31	153.82	23.131				0.0061	0.89	U
2-Pentanone	31	86.13	23.438	23.394	200764	46.38	0.2296	59.71	
3-Methylhexane	31	100.20	23.991	23.907	41441	17.60	0.0871	19.48	
1,4-Dioxane	31	88.11	24.681				0.0089	2.27	U
Heptane	31	100.20	25.215	25.141	1617780	1128.58	5.5870	1249.00	E

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HMF-4073
Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.297	45695	13.62	0.0674	15.07	
Pyridine	31	79.10	26.615				0.0990	28.04	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.87	U
Toluene	43	92.14	28.489	28.418	270638	90.93	0.4501	109.43	
2-Hexanone	43	100.16	28.825	28.754	541403	184.68	0.9142	204.46	
Octane	43	114.23	30.432	30.354	247933	194.69	0.9638	189.00	
Tetrachloroethylene	43	165.83	31.004				0.0062	0.84	U
Chlorobenzene	43	112.56	32.572				0.0041	0.82	U
Ethylbenzene	43	106.17	33.401	33.316	26824	5.50	0.0273	5.75	J
p/m-Xylene	43	106.17	33.826	33.731	21403	13.00	0.0644	13.58	
3-Heptanone	43	114.19	33.835	33.761	12660982	5558.62	27.5179	5398.04	E
2-Heptanone	54	114.19	33.964	33.889	3255662	604.95	2.9948	587.48	
Cyclohexanone	54	98.14	34.281				0.0093	2.11	U
Styrene	54	104.15	34.735	34.670	9786	2.01	0.0100	2.14	J
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.94	U
o-Xylene	54	106.17	35.033	34.976	6727	2.33	0.0115	2.43	J
Nonane	54	128.26	35.379	35.312	393607	101.86	0.5043	88.07	
2-Octanone	54	128.21	38.774	38.692	165113	34.95	0.1730	30.23	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0051	0.95	U
Decane	54	142.20	40.009	39.937	1164641	386.90	1.9154	301.72	
Bromochloromethane (IS)	23	129.40	19.915	19.844	90318	106.00	0.5248	90.84	
Difluorobenzene (IS)	31	114.00	23.349	23.275	367761	106.00	0.5248	103.11	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.387	315881	113.00	0.5594	104.81	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.152	384479	113.00	0.5594	72.02	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	10.617	6289369	206.92	1.0244	409.74	NJ
1-Butene	23	56	106-98-9	11.849	810988	26.68	0.1321	52.83	NJ
1-Butene, 2-methyl-	23	70	563-46-2	14.796	422775	13.91	0.0689	22.03	NJ
Butanenitrile, 2-methylene-	31	81	1647-11-6	23.582	571095	60.59	0.2999	82.95	NJ
3-Heptene, (E)-	31	98	14686-14-7	23.690	495302	52.55	0.2601	59.46	NJ
1-Heptene	31	98	592-76-7	24.539	2281239	242.02	1.1981	273.86	NJ
(Z)-3-Heptene	31	98	7642-10-6	24.993	14557644	1544.46	7.6458	1747.62	NJ
2-Heptene	31	98	592-77-8	25.349	17483272	1854.84	9.1824	2098.83	NJ
Pentanenitrile	31	83	110-59-8	27.342	1013321	107.51	0.5322	143.63	NJ
3,4-Heptadiene	31	96	2454-31-1	27.530	3898444	413.60	2.0475	477.75	NJ
2-Heptyne	43	96	1119-65-9	28.626	4063171	373.84	1.8507	431.83	NJ
4-Octene, (E)-	43	112	14850-23-8	28.882	1623708	149.39	0.7396	147.91	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.070	8172392	751.91	3.7223	731.41	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.712	10269520	944.86	4.6775	935.50	NJ
2-Octene, (E)-	43	112	13389-42-9	30.068	550585	50.66	0.2508	50.16	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.196	2590749	238.37	1.1800	236.01	NJ
2-Octene	43	112	111-67-1	30.492	890578	81.94	0.4056	81.13	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.759	2372543	218.29	1.0806	216.13	NJ
3-Hexanone, 5-methyl-	43	114	623-56-3	31.322	495220	45.56	0.2256	44.32	NJ
Hexanenitrile	43	97	628-73-9	32.684	743521	68.41	0.3387	78.21	NJ
4-Heptanone	43	114	123-19-3	33.138	8140361	748.96	3.7077	728.54	NJ

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
n-Butyl ether	43	130	142-96-1	34.077	1960267	180.36	0.8929	153.85	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.646	4460428	142.62	0.7060	123.56	J
Unknown	54	126		36.725	7816403	249.92	1.2372	219.95	J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.844	6130730	196.02	0.9704	169.82	J
3-Octen-2-one, (E)-	54	126	18402-82-9	37.111	6750417	215.84	1.0685	189.96	NJ
Unknown	54	128		37.279	1675000	53.56	0.2651	46.40	J
Heptanenitrile	54	111	629-08-3	37.654	1495355	47.81	0.2367	47.77	NJ
4-Octanone	54	128	589-63-9	38.000	1228088	39.27	0.1944	34.02	NJ
Unknown	54	124		39.374	5584618	178.56	0.8840	159.69	J
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		40.056	2248741	71.90	0.3559	56.95	J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.609	10636729	340.10	1.6837	290.11	NJ
Decane, 3-methyl-	54	156	13151-34-3	41.835	548792	17.55	0.0869	12.47	NJ
Cyclohexane, butyl-	54	140	1678-93-9	41.944	1011573	32.34	0.1601	25.62	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		42.181	664852	21.26	0.1052	16.84	J
Octanenitrile	54	125	124-12-9	42.310	940338	30.07	0.1488	26.67	NJ
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.516	702027	22.45	0.1111	18.04	NJ
Unknown	54	0		43.823	2746043	87.80	0.4347		J
Undecane	54	156	1120-21-4	44.238	14158741	452.71	2.2411	321.81	NJ
Unknown	54	168		44.793	2533793	81.02	0.4011	53.48	J
Decane, 3,6-dimethyl-	54	170	17312-53-7	45.050	710182	22.71	0.1124	14.81	NJ
Unknown C11 Alkane (mw 156)	54	156		45.495	1245739	39.83	0.1972	28.31	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	45.911	1242116	39.72	0.1966	28.97	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.287	1505520	48.14	0.2383	34.66	NJ
Heptane, 3-ethyl-2-methyl-	54	142	14676-29-0	46.495	1154158	36.90	0.1827	28.82	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.653	2521245	80.61	0.3991	58.81	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.861	1306575	41.78	0.2068	27.25	NJ
Undecane, 3-methyl-	54	170	1002-43-3	47.168	847283	27.09	0.1341	17.67	NJ
6-Dodecene, (E)-	54	168	7206-17-9	47.831	1025193	32.78	0.1623	21.64	NJ
Dodecane	54	170	112-40-3	48.238	35712071	1141.86	5.6528	744.83	NJ
Naphthalene, decahydro-2,6-dimethyl-	54	166	1618-22-0	48.753	773359	24.73	0.1224	16.52	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.852	5834908	186.57	0.9236	112.44	NJ
Cyclododecane	54	168	294-62-2	50.269	2691585	86.06	0.4260	56.81	NJ
Unknown C12 Alkane (mw 170)	54	170		51.103	5426369	173.50	0.8589	113.18	J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.579	2809592	89.83	0.4447	54.74	J
Tridecane	54	184	629-50-5	51.966	68385262	2186.55	10.8245	1317.77	NJ
Tetradecane	54	198	629-59-4	55.449	21158767	676.53	3.3492	378.90	NJ

Internal Standard Information for TICS

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	3221887
Difluorobenzene (IS)	31	999129
Chlorobenzene-d5 (IS)	43	1228177
1-Bromo-4-Fluorobenzene (IS)	54	3534120

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICS

F--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C01 495

HNF-4015
R0

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1389 VP006-106 BP @T=5.5 hr 100 ml of ISTD; Sample rerun

HNF-4073
RD

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1389 VP006-106 BP @T=5.5 hr 100 ml of ISTD; Sample rerun

02/08/99 09:52

69012606.d

C01 497

Page 5

Data File: /chem/hpdos6.i/SAS.b/69012606.d

Page 1

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

001 498

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

1 Propene

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Propane

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

3 Dichlorodifluoromethane

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Chloromethane

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

6 Butane

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 WP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

8 Ethanol

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

9 Acetonitrile

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

WVF-4073
Rev. 0

Column phase: DB-1

10 Acetone

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

12 Isopropyl Alcohol

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

C01 510

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

15 Methylene Chloride

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

16 112trichloro122trifluoroethane

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

17 Propanenitrile

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanol

C01 514

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 2-Methylpentane

Date: 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 WP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

20 Butanol

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

21 2-Butanone

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

22 1-Hexene

C01 518

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

C01 519

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

26 Tetrahydrofuran

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

27 Butanenitrile

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

28 1-Butanol

C01 522

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

29 Benzene

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

32 2-Pentanone

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

33 3-Methylhexane

Date : 26-JAN-99 15:21

Client ID: BP 07=5.5 hr

Sample Info: TST 1389 VP006-106 BP 07=5.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

35 Heptane

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

36 4-Methyl-2-pentanone

C01 527

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

39 Toluene

C01 528

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

40 2-Hexanone

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

41 Octane

C01 530

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

45 Ethylbenzene

C01 531

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 p/n-Xylene

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

47 3-Heptanone

C01 533

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

48 2-Heptanone

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

50 Styrene

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

52 o-Xylene

C01 536

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

53 Nonane

C01 537

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 WP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

55 2-Octanone

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

57 Decane

C01 539

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

1-Propene, 2-methyl-

1-Butene

1-Butene

CAS Number	Library	Entry	Quality	Formula	Weight
115-11-7	nbs75k.1	62306	90	C4H8	56
106-98-9	nbs75k.1	62307	87	C4H8	56
106-98-9	nbs75k.1	62309	87	C4H8	56

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62307	58	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	86	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	86	C4H8	56

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1399 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	90	CH ₈ H ₁₀	70
Cyclopropane, 1,1-dimethyl-	1630-94-0	nbs75k.1	235	87	CH ₈ H ₁₀	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62458	87	CH ₈ H ₁₀	70

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

2-Pentene, (Z)-

2-Pentene

2-Pentene

CAS Number	Library	Entry	Quality	Formula	Weight
627-20-3	WILEY138.1	116335	90	CEH10	70
109-68-2	nbs75k.1	231	87	CEH10	70
109-68-2	WILEY138.1	116333	87	CEH10	70

HMF-4073
Rev. 0

C01 543

Date : 26-JAN-99 15:21

Client ID: BP 0T=5.5 hr

Sample Info: TST 1389 VP006-106 BP 0T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexene, (E)-	13269-52-8	nbs75k.1	62750	80	C6H12	84
3-Hexene, (E)-	13269-52-8	nbs75k.1	584	80	C6H12	84
3-Hexene, (E)-	13269-52-8	WILEY138.1	116893	80	C6H12	84

C01 544

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile	109-74-0	nbs75k.1	200	56	C4H7N	69
Butanenitrile	109-74-0	nbs75k.1	62423	40	C4H7N	69
2-Propenenitrile, 2-methyl-	126-98-7	nbs75k.1	164	12	C4H5N	67

C01 545

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexene, 3-methyl-, (E)-	3899-36-3	nbs75k.1	1359	87	C7H14	98
3-Hexene, 3-methyl-, (E)-	3899-36-3	WILEY138.1	912	87	C7H14	98
3-Hexene, 3-methyl-, (Z)-	4914-89-0	nbs75k.1	1355	83	C7H14	98

C01 546

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Butanenitrile, 2-methylene-
1,2-Butadiene
1,2-Butadiene

CAS Number	Library	Entry	Quality	Formula	Weight
1647-11-6	nbs75k.1	445	91	C5H7N	81
590-19-2	nbs75k.1	63	52	C4H6	54
590-19-2	nbs75k.1	62289	50	C4H6	54

C01 547

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	90	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	80	C7H14	98
3-Heptene, (E)-	14686-14-7	WILEY138.1	900	80	C7H14	98

C01 548

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

1-Heptene

592-76-7

nbs75k.1

63242

96

C7H14

98

1-Heptene

592-76-7

nbs75k.1

1335

93

C7H14

98

1-Heptene

592-76-7

WILEY138.1

897

93

C7H14

98

C01 549

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98

C01 550

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	96	C7H14	98

C01 551

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, methyl-	108-87-2	nbs75k.1	1326	72	C7H14	98
Cyclohexane, methyl-	108-87-2	WILEY138.1	942	72	C7H14	98
Cyclohexane, methyl-	108-87-2	nbs75k.1	63235	64	C7H14	98

C01 552

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentanenitrile	110-59-8	WILEY138.1	116798	64	CSH9N	83
Pentanenitrile	110-59-8	nbs75k.1	62698	56	CSH9N	83
Pentanenitrile	110-59-8	nbs75k.1	514	47	CSH9N	83

C01 553

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	72	C7H12	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	93	C6H8O	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	WILEY138.1	593	83	C6H8O	96

C01 554

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

HMF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	95	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	94	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	94	C7H12	96

C01 555

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, (E)-	14850-23-8	WILEY138.1	119060	91	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	91	C8H16	112
N-OCTAN-3-ENE	0-00-0	WILEY138.1	119057	91	C8H16	112

C01 556

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

HPL-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	83	C8H18	114
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	80	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119373	78	C8H18	114

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64033	83	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.	4850-28-6	nbs75k.1	2684	91	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.	4850-28-6	WILEY138.1	2716	91	C8H16	112

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64022	90	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	60	C8H16	112
4-Octene, (Z)-	7642-15-1	nbs75k.1	63990	60	C8H16	112

C01 559

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
REV. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	86	C8H16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	91	C8H16	112
2-PENTENE, 3-ETHYL-2-METHYL-	0-00-0	WILEY138.1	2690	83	C8H16	112

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1399 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

2-Octene

111-67-1

WILEY138.1

119054

90

C₈H₁₆

112

2-Octene, (E)-

13389-42-9

nbs75k.1

2689

91

C₈H₁₆

112

3-Octene, (Z)-

14850-22-7

nbs75k.1

2705

91

C₈H₁₆

112

C01 561

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	95	C8H16	112
1632-16-2	nbs75k.1	64033	83	C8H16	112
38851-69-3	nbs75k.1	2683	72	C8H16	112

2-HEPTENE, 3-METHYL-

Heptane, 3-methylene-

cis-1-Butyl-2-methylcyclopropane

C01 562

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
trans-1-Butyl-2-methylcyclopropane	38851-70-6	nbs75k.1	2690	91	C8H16	112
TRANS-1-BUTYL-2-METHYLCYCLOPROPANE	38851-70-6	WILEY138.1	2732	91	C8H16	112
3-Octene, (E)-	14919-01-8	nbs75k.1	64020	90	C8H16	112

C01 563

Date : 26-JUN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	62	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	58	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	WILEY138.1	3101	58	C7H14O	114

C01 564

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	586	58	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	58	C6H12	84
1-Octanol	111-87-5	nbs75k.1	65279	53	C8H18O	130

C01 565

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Cyclohexene, 1,2-dimethyl-
trans-1-Butenylcyclopentane
1,4-Pentadiene, 3-propyl-

CAS Number

Library

Entry

Quality

Formula

Weight

1674-10-8

nbs75k.1

63881

55

C8H14

110

0-00-0

nbs75k.1

4214

43

C9H16

124

996-83-8

nbs75k.1

2388

43

C8H14

110

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 WP006-106 BP QT=5.5 hr

Operator: JCE

HMF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanenitrile	628-73-9	nbs75k.1	63154	74	C6H11N	97
Hexanenitrile	628-73-9	WILEY138.1	117638	74	C6H11N	97
Hexanenitrile	628-73-9	nbs75k.1	1174	64	C6H11N	97

C01 567

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64151	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64150	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64153	91	C7H14O	114

C01 568

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
n-Butyl ether	142-96-1	nbs75k.1	65306	72	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	72	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121219	72	C8H18O	130

C01 569

Date : 26-JAN-99 15:21

Client ID: BP 0T=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP 0T=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: BB-1

HNF-4073
Rev. 0

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)

1,3,2-Dioxaborolane, 2,4-diethyl-

1,3,2-Dioxaborolane, 2,4-diethyl-

1,1'-Bicyclohexyl-1,1'-diol

CAS Number

Library

Entry

Quality

Formula

Weight

57633-63-3

nbs75k.1

4896

72

C6H13BO2

128

57633-63-3

WILEY138.1

5771

72

C6H13BO2

128

2888-11-1

nbs75k.1

22423

64

C12H22O2

198

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown

Cyclopentane, 1-ethyl-1-methyl-

Cyclopentane, 1-ethyl-1-methyl-

1H-1,2,4-Triazole, 3-propyl-

CAS Number	Library	Entry	Quality	Formula	Weight
16747-50-5	nbs75k.1	2727	50	C8H16	112
16747-50-5	WILEY138.1	2705	50	C8H16	112
19932-60-6	WILEY138.1	2329	40	C5H9N3	111

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)

3,5-Diamino-1,2,4-triazole

1H-1,2,4-Triazole-3,5-diamine

1,1'-Bicyclohexyl-1,1'-diol

CAS Number	Library	Entry	Quality	Formula	Weight
1455-77-2	nbs75k.1	1372	64	C2H5N5	99
1455-77-2	WILEY138.1	117824	64	C2H5N5	99
2888-11-1	nbs75k.1	22423	56	C12H22O2	198

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one, (E)-	18402-82-9	WILEY138.1	5296	35	C8H14O	126
4-Methyl-2-methyleneoxepane	64507-65-9	WILEY138.1	5378	43	C8H14O	126
Oxazole, trimethyl-	20662-84-4	WILEY138.1	2343	38	C6H9NO	111

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
1H-Pyrazole, 4,5-dihydro-5-methyl-	1568-20-3	nbs75k.1	546	47	C4H8N2	84
2-Nonen-4-one	32064-72-5	nbs75k.1	7506	47	C9H16O	140
Furan, 2,3-dihydro-3-methyl-	1708-27-6	nbs75k.1	577	47	C5H8O	84

C01 574

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

WNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63909	59	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	2359	59	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	2435	58	C7H13N	111

C01 575

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
589-63-9	nbs75k.1	5058	68	C8H16O	128
626-33-5	nbs75k.1	65080	81	C8H16O	128
626-33-5	nbs75k.1	5087	74	C8H16O	128

4-Octanone

4-Heptanone, 2-methyl-

4-Heptanone, 2-methyl-

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

2-Azabicyclo[2.2.1]heptane

1-Buten-4-yl methacrylate

Butanedinitrile, 2,3-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
279-24-3	WILEY138.1	699	83	C6H11N	97
0-00-0	WILEY138.1	9179	42	C6H12O2	140
16411-13-5	nbs75k.1	2112	37	C6H8N2	108

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1399 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: BB-1

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)
Cyclopropane, pentyl-
Cyclobutanone, 2,3,3-trimethyl-
Cyclobutanone, 2,3,3-trimethyl-

CRS Number	Library	Entry	Quality	Formula	Weight
2511-91-3	nbs75k.1	2656	38	C8H16	112
28290-01-9	nbs75k.1	2629	38	C7H12O	112
28290-01-9	WILEY138.1	2558	38	C7H12O	112

C01 578

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
104-76-7	WILEY138.1	121202	90	C8H18O	130
104-76-7	nbs75k.1	65294	83	C8H18O	130
58175-57-8	nbs75k.1	5527	64	C8H18O	130

1-Hexanol, 2-ethyl-

1-Hexanol, 2-ethyl-

2-Propyl-1-pentanol

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

HNH-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	67324	93	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	124557	93	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	87	C11H24	156

C01 580

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	11604	38	C11H24	156
Dodecane, 2,5-dimethyl-	56292-65-0	nbs75k.1	22531	47	C14H30	198
Dodecane, 2,5-dimethyl-	56292-65-0	WILEY138.1	34140	47	C14H30	198

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66055	76	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66056	68	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	66067	64	C10H20	140

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

W-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

Tridecane, 6-methyl-

Tridecane, 6-methyl-

Dodecane, 3-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
13287-21-3	WILEY138.1	34138	59	C14H30	198
13287-21-3	nbs75k.1	22532	50	C14H30	198
17312-57-1	nbs75k.1	19011	47	C13H28	184

C01 583

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HMF-4070
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	64	C8H15N	125
8-Azabicyclo[3.2.1]octan-3-one, 8-methyl	532-24-1	nbs75k.1	65971	72	C8H13NO	139
8-Azabicyclo[3.2.1]octan-3-one, 8-methyl	532-24-1	nbs75k.1	65970	72	C8H13NO	139

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 4-ethyl-	2216-32-2	nbs75k.1	5148	50	C9H20	128
4,4-Dimethylcyclooctene	0-00-0	nbs75k.1	7023	50	C10H18	138
Heptane, 4-ethyl-	2216-32-2	WILEY138.1	6041	50	C9H20	128

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	WILEY138.1	124559	53	C11H24	156
Decane, 3,3,6-trimethyl-	62338-14-1	nbs75k.1	19028	45	C13H28	184
Octane, 3,3-dimethyl-	4110-44-5	nbs75k.1	8088	45	C10H22	142

C01 586

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67322	72	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.1	11614	64	C11H24	156
Heptadecane, 2,6,10,15-tetramethyl-	54833-48-6	nbs75k.1	42196	64	C21H44	296

Date : 26-JAN-99 15:21

Client ID: BP 0T=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1389 VP006-106 BP 0T=5.5 hr

Operator: JCE

HMF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	91	C11H24	156
Nonane, 5-(2-methylpropyl)-	62185-53-9	nbs75k.1	19015	64	C13H28	184
Nonane, 3,7-dimethyl-	17302-32-8	nbs75k.1	11601	64	C11H24	156

C01 588

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65955	94	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122344	94	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122343	94	C10H18	138

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown

3-Buten-2-one, 4-(1-aziridinyl)-

2-ETHYL-5-PENTYL-5-PYRROLINE

3-Buten-2-one, 4-(1-aziridinyl)-

CAS Number	Library	Entry	Quality	Formula	Weight
18277-57-1	WILEY138.1	2342	53	C6H9NO	111
61772-94-9	WILEY138.1	19967	50	C11H21N	167
18277-57-1	nbs75k.1	2425	49	C6H9NO	111

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	nbs75k.1	67317	95	C11H24	156
Undecane	1120-21-4	nbs75k.1	67319	93	C11H24	156
Undecane	1120-21-4	WILEY138.1	124548	93	C11H24	156

C01 591

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match

Unknown

3-Buten-2-one, 4-(2,2-dimethyl-1-aziridin

CAS Number	Library	Entry	Quality	Formula	Weight
50838-17-0	nbs75k.1	7191	38	C8H13NO	139
5410-22-0	nbs75k.1	2607	38	C7H12O	112
80839-93-6	WILEY138.1	693	38	C6H11N	97

7-Oxabicyclo[4.1.0]heptane, 2-methyl-

1-(2-Methylpropenyl)aziridine

C01 592

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3,6-dimethyl-	17312-53-7	nbs75k.1	15348	87	C12H26	170
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	91	C12H26	170
2,6-Dimethyldecane	13150-81-7	nbs75k.1	15357	91	C12H26	170

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Undecane, 4-methyl-

Undecane, 4-methyl-

Hexadecane, 2,6,10,14-tetramethyl-

CAS Number

Library

Entry

Quality Formula

Weight

2980-69-0

nbs75k.1

68256

64 C12H26

170

2980-69-0

WILEY138.1

126017

64 C12H26

170

638-36-8

WILEY138.1

132694

64 C20H42

282

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNIF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	94	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	94	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	94	C11H20	152

C01 595

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1399 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	87	C11H22	154
Cyclohexane, pentyl-	4292-92-6	WILEY138.1	14841	87	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	86	C11H22	154

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.1	8080	45	C10H22	142
Decane, 2,5-dimethyl-	17312-50-4	nbs75k.1	15368	52	C12H26	170
Decane, 2,5-dimethyl-	17312-50-4	WILEY138.1	21661	52	C12H26	170

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124046	89	C11H20	152
1H-Indene, octahydro-, cis-	4551-51-3	WILEY138.1	120442	87	C9H16	124
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	76	C11H20	152

C01 598

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	90	C12H26	170
Undecane, 2-methyl-	7045-71-8	WILEY138.1	21649	90	C12H26	170
Dodecane, 2-methyl-	1560-97-0	nbs75k.1	19039	72	C13H28	184

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	83	C12H26	170
Undecane, 3-methyl-	1002-43-3	WILEY138.1	126014	83	C12H26	170
Undecane, 3-methyl-	1002-43-3	WILEY138.1	21651	83	C12H26	170

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
6-Dodecene, (E)-	7206-17-9	nbs75k.1	68115	93	C12H24	168
Cyclopropane, 1-hexyl-2-propyl-, cis-	74630-58-3	nbs75k.1	14772	94	C12H24	168
2-Dodecene, (Z)-	7206-26-0	nbs75k.1	14743	94	C12H24	168

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclododecanemethanol:	1892-12-2	nbs75k.1	22485	90	C13H26O	198
Diisoamylene	54063-09-1	nbs75k.1	7607	38	C10H20	140
1H-1,2,4-Triazole, 1-ethyl-	16778-70-4	WILEY138.1	665	38	C4H7N3	97

C01 602

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	95	C12H26	170
Dodecane	112-40-3	nbs75k.1	68251	94	C12H26	170
Dodecane	112-40-3	WILEY138.1	126000	94	C12H26	170

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	nbs75k.1	14151	87	C12H22	166
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14152	92	C12H22	166
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	WILEY138.1	19758	92	C12H22	166

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	96	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69032	94	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	127264	94	C13H28	184

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclododecane	294-62-2	nbs75k.1	68128	53	C12H24	168
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	91	C13H26	182
Cyclopentane, butyl-	2040-95-1	nbs75k.1	64938	74	C9H18	126

C01 606

Date : 26-JAN-99 15:21

Client ID: BP @T=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP @T=5.5 hr

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Octane, 2,3,7-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	nbs75k.1	22538	86	C14H30	198
26730-14-3	WILEY138.1	128289	86	C14H30	198
62016-34-6	nbs75k.1	11603	78	C11H24	156

C01 607

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C13 Alkene/Cycloalkane (mw 182)

Cyclooctane, 1,4-dimethyl-, trans-

Cyclooctane, 1,4-dimethyl-, trans-

4-Nonene, 5-butyl-

CAS Number	Library	Entry	Quality	Formula	Weight
13151-98-9	nbs75k.1	7608	90	C10H20	140
13151-98-9	WILEY138.1	9537	90	C10H20	140
7367-38-6	nbs75k.1	18496	87	C13H26	182

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	69017	97	C13H28	184
Tridecane	629-50-5	nbs75k.1	18989	96	C13H28	184
Tridecane	629-50-5	WILEY138.1	127252	96	C13H28	184

Date : 26-JAN-99 15:21

Client ID: BP QT=5.5 hr

Sample Info: TST 1389 VP006-106 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	96	C14H30	198
Tetradecane	629-59-4	WILEY138.1	128276	96	C14H30	198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1389 VP006-106 BP @T=5.5 hr
100 ml. of ISTD; Sample rerunInstrument ID : hpdos6.i
Method : PNNL std.m
File : 69012606.d
Injection Date : 26-JAN-99 15:21 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-106
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 202 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.154	39541	17.01	0.0842	15.60	
Chloromethane	19	50.49	9.128	9.060	13087	4.99	0.0247	10.95	
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727				0.0069	0.91	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.90	U
Methanol	19	32.04	10.475	10.419	626683	420.99	2.0841	1457.05	E
1,3-Butadiene	19	54.00	10.721				0.0035	1.46	U
Chloroethane	19	64.51	12.269				0.0026	0.91	U
Ethanol	19	46.07	12.880	12.716	1146736	1450.50	7.1807	3491.36	E
Acetonitrile	19	41.05	13.362	13.268	95028	68.73	0.3403	185.67	
Acetone	19	58.08	13.855	13.800	279720	572.75	2.8354	1093.53	
Trichlorofluoromethane	19	137.37	14.269	14.205	39094	24.37	0.1206	19.67	
Pentane	19	72.00	15.067	15.004	791087	361.42	1.7892	556.64	
1,1-Dichloroethene	19	96.94	15.586				0.0039	0.90	U
Methylene Chloride	19	84.93	15.885	15.832	8620	9.09	0.0450	11.87	
1,1,2-Trichloroethane	19	187.38	16.418	16.354	3851	5.15	0.0255	3.05	J
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.91	U
2-Butanone	19	72.11	18.725	18.670	46247	116.47	0.5766	179.10	
cis-1,2-Dichloroethene	19	96.94	19.536				0.0039	0.90	U
Chloroform	19	119.38	20.106				0.0049	0.91	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.91	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.91	U
Benzene	25	78.11	22.846	22.782	164322	32.15	0.1592	45.65	
Carbon Tetrachloride	25	153.82	23.123				0.0062	0.90	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.90	U
Trichloroethene	25	131.39	24.719	24.716	27588	19.58	0.0969	16.53	
cis-1,3-Dichloropropene	25	110.97	26.324				0.0099	2.00	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0099	2.00	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.62	U
Toluene	34	92.14	28.476	28.418	270638	89.64	0.4438	107.89	
1,2-Dibromoethane	34	187.86	29.947				0.0076	0.91	U
Tetrachloroethylene	34	165.83	30.999				0.0076	1.03	U
Chlorobenzene	34	112.56	32.566				0.0046	0.91	U
Ethylbenzene	34	106.17	33.394	33.316	26824	4.79	0.0237	5.00	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ug/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.731	21403	10.71	0.0530	11.19	J
Styrene	41	104.15	34.727	34.670	9786	3.30	0.0163	3.51	J
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0068	0.90	U
o-Xylene	41	106.17	35.024	34.976	6727	3.22	0.0159	3.36	J
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.90	U
1,2,4-Trimethylbenzene	41	120.19	39.844	39.789	12715	2.90	0.0144	2.67	J
1,3-Dichlorobenzene	41	147.00	40.328				0.0594	9.05	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0059	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0059	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0074	0.92	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0104	0.89	U
Bromochloromethane (IS)	19	129.40	19.898	19.844	90331	121.00	0.5990	103.69	
Difluorobenzene (IS)	25	114.00	23.340	23.275	367761	106.00	0.5248	103.11	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.387	315881	113.00	0.5594	104.81	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.142	186489	162.00	0.8020	103.24	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012606.d

HNF-4073
Rev. 0

Sample Info : TST 1389 VP006-106 BP @T=5.5 hr 100 ml of ISTD; Sample rerun

C01 613

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1389 VP006-106 BP @T=5.5 hr 100 ml of ISTD; Sample rerun

HNH-4073
Rev. 0

TST BATCH FILE

69012801.b

Handwritten: HNF
2/23/99

TST Analysis-Case Narrative
C-106 Sluicing Test
Samples Run on 1/28/99

Three samples were run on 1/28/99: VP006-060-1398, VP006-084-1314, and VP006-076-1395. All three were archive samples from previous splits. The first two were run as replicate checks and the third was a rerun of a sample previously run on 1/25/99 which had failed due to loss of coolant. Following the autotune (2424V), the PNNL daily calibration checks and method blank were run. The BFB tune check showed satisfactory performance. The PNNL standard showed continuing problems with low yields for the TO-14 compounds but satisfactory performance for the other compounds in the mix. For example, recovery was 93% for methanol. The overall recovery for the PNNL standard was 72%. Because of overlap and nondetects, only methanol is used for quantitation from the PNNL standard. The SAS standard showed somewhat better performance. All compounds in the daily SAS check standard showed satisfactory recovery (75-125%) except: propene (68%), propane (58%), chloromethane (62%), chloroethane (59%), acetaldehyde (156%), butane (71%), acetonitrile (67%), pentane (70%), methylene chloride (72%), 2-methylpentane (68%), butanal (186%), hexane (72%), butanenitrile (69%), butanol (25%), benzene (69%), carbon tetrachloride (69%), 3-methylhexane (72%), heptane (72%), pyridine (22%), styrene (74%), 2-octanone (68%). Overall average recovery was 83% for the SAS mixture. The method blank was clean.

Internal standard yields on the three samples reflect the split on the initial run. Internal standard consistency was otherwise satisfactory for standards and samples.

Sequence Name: C:\HPCHEM\1\SEQUENCE\69012801.S
Comment:
Operator: JCE
Data Path: C:\HPCHEM\1\DATA\69012801.b\
Pre-Seq Cmd:
Post-Seq Cmd:

HMF-4073
Rev. 0

Method Sections To Run On A Barcode Mismatch
(X) Full Method (X) Inject Anyway
() Reprocessing Only () Don't Inject

Line Type	Vial	DataFile	Method	Sample Name
1 Calibration	1	69012801	TVP10	TST 1330 SAS CCV LVL 3 20 cc
2 Calibration	2	69012802	TVP10	TST 1330 PNNL CCV LVL 3 20 cc
3 Blank	7	69012803	TVP10	TST 1365 Method Blank
4 Sample	8	69012804	TVP10	TST 1398 VP006-060 BP @ 2.5 hr
5 Sample	9	69012805	TVP10	TST 1394 VP006-084 BP @T=2.0 hr
6 Sample	10	69012806	TVP10	TST 1395 VP006-076 BP @T=5.5 hr
7 Blank	1	-----	BAKE	Shutdown

C01 617

Instrument: 5971 - System 6
 Thu Jan 28 05:03:30 1999

C:\HPCHEM\1\5971\ATUNE.U

Scan: 10.00 - 650.00 Samples: 16 Thresh: 150 Step: 0.10
 143 peaks Base: 69.00 Abundance: 876352

C01 618

Data File : C:\HPCHEM\1\DATA\69012801.B\69012803.D
 Acq On : 28 Jan 99 9:10 am
 Sample : TST 1365 Method Blank
 Misc : 100 ml of ISTD

Vial: 7
 Operator: JCE
 Inst : 5971 - Sy
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\LOOP40.M
 Title : VOC mixture

Peak Apex is scan: 3034

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.1	7287	PASS
75	95	30	66	49.2	20943	PASS
95	95	100	100	100.0	42588	PASS
96	95	5	9	6.7	2872	PASS
173	174	0	2	0.1	35	PASS
174	95	50	120	82.7	35223	PASS
175	174	4	9	7.5	2640	PASS
176	174	93	101	93.3	32878	PASS
177	176	5	9	7.0	2305	PASS

C01-619

TST Daily Calibration
PNNL Calibration Mix
Run on 1/28/99
Initial Calibration on 12/14/98

HNF-4073
Rev. 0

Compound Name	Expected PPB	Amount Found	%Recovery	Flags		
				Low	High	CLP
Dichlorodifluoromethane	1000	766	77%			
Chloromethane	1000	624	62%	****		
1,2-dichloro-1,1,2,2-tetrafluoroeth	1000	750	75%	****		
Vinyl Chloride	1000	751	75%			
Methanol	3100	2895	93%			
1,3-Butadiene	1600	1564	98%			
Chloroethane	1000	892	89%			
Ethanol	700	693	99%			
Acetonitrile	2400	2255	94%			
Acetone	3000	3144	105%			
Trichlorofluoromethane	1000	771	77%			
Pentane	2500	2481	99%			
1,1-Dichloroethene	1000	778	78%			
Methylene Chloride	1000	761	76%			
1,1,2-trichloro-1,1,2,2-trifluoroethane	1000	842	84%			
1,1-Dichloroethane	1000	712	71%	****		
2-Butanone	2400	2597	108%			
cis-1,2-Dichloroethene	1000	751	75%			
Chloroform	1000	781	78%			
1,2-Dichloroethane	1000	704	70%	****		
1,1,1-Trichloroethane	1000	614	61%	****		
Benzene	1000	651	65%	****		
Carbon Tetrachloride	1000	521	52%	****		
1,2-Dichloropropane	1000	581	58%	****		
Trichloroethene	1000	632	63%	****		
cis-1,3-Dichloropropene	900	435	48%	****		
trans-1,3-Dichloropropene	900	303	34%	****		
1,1,2-Trichloroethane	1000	404	40%	****		
Toluene	1000	647	65%	****		
1,2-Dibromoethane	1000	552	55%	****		
Tetrachloroethylene	1000	729	73%	****		
Chlorobenzene	1000	672	67%	****		
Ethylbenzene	1000	671	67%	****		
p/m-Xylene	2000	1406	70%	****		
Styrene	1000	624	62%	****		
1,1,2,2-Tetrachloroethane	1000	570	57%	****		
o-Xylene	1000	689	69%	****		
1,3,5-Trimethylbenzene	1000	698	70%	****		
1,2,4-Trimethylbenzene	1000	694	69%	****		
1,3-Dichlorobenzene	1000	698	70%	****		
1,4-Dichlorobenzene	1000	690	69%	****		
1,2-Dichlorobenzene	1000	705	71%	****		
1,2,4-Trichlorobenzene	1000	680	68%	****		
Hexachloro-1,3-butadiene	1000	705	71%	****		

Average recovery

72%

C01 620

SAS Calibration Mix
Run on 1/28/99
Initial Calibration on 1/19/99

HNF-4073
 Rev. 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Propene	1020	689	68%	****		
Propane	990	572	58%	****		
Dichlorodifluoromethane	1048	856	82%			
Chloromethane	1010	628	62%	****		
Acetaldehyde	1060	1656	156%		****	
Butane	1006	715	71%	****		
Chloroethane	960	567	59%	****		
Ethanol	920	863	94%			
Acetonitrile	1010	677	67%	****		
Acetone	1010	953	94%			
Trichlorofluoromethane	1035	1000	97%			
Isopropyl Alcohol	1000	1040	104%			
Furan	990	912	92%			
Pentane	998	696	70%	****		
Methylene Chloride	978	700	72%	****		
112trichloro122trifluoroethane	1014	799	79%			
Propanenitrile	1000	813	81%			
Propanol	940	757	81%			
2-Methylpentane	959	654	68%	****		
Butanal	790	1473	186%		****	
2-Butanone	950	953	100%			
1-Hexene	949	712	75%			
Hexane	963	689	72%	****		
Chloroform	1129	866	77%			
Tetrahydrofuran	1000	1016	102%			
Butanenitrile	940	646	69%	****		
1-Butanol	890	223	25%	****		
Benzene	950	652	69%	****		
Carbon Tetrachloride	979	676	69%	****		
2-Pentanone	960	911	95%			
3-Methylhexane	942	682	72%	****		
1,4-Dioxane	1000	925	92%			
Heptane	951	687	72%	****		
4-Methyl-2-pentanone	910	865	95%			
Pyridine	852	187	22%	****		
1,1,2-Trichloroethane	964	721	75%	****		
Toluene	963	728	76%			
2-Hexanone	930	841	90%			
Octane	973	775	80%			
Tetrachloroethylene	930	792	85%			
Chlorobenzene	900	691	77%			
Ethylbenzene	990	783	79%			
p/m-Xylene	1983	1802	91%			
3-Heptanone	950	1147	121%			
2-Heptanone	920	929	101%			
Cyclohexanone	930	1075	116%			

C01 621

SAS Calibration Mix
Run on 1/28/99
Initial Calibration on 1/19/99

HNF-4073
Rev. 0

Compound Name	Expected PPB	PPB Found	% Recovery	Flags		
				Low	High	CLP
Styrene	1007	745	74%	****		
1,1,2,2-Tetrachloroethane	1044	896	86%			
o-Xylene	960	869	90%			
Nonane	888	703	79%			
2-Octanone	910	615	68%	****		
1,2,4-Trimethylbenzene	1051	907	86%			
Decane	1053	961	91%			

Average recovery

83%

794.92

C01 622

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012801.d
Lab Smp Id: SAS CCV
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: LVL 3 20 cc
Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	521049	260524	1042098	275294	-47.17
31 Difluorobenzene (IS)	1891825	945912	3783650	1077981	-43.02
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	936618	-41.89
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	660913	-39.51

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER =====	UPPER =====		
23 Bromochloromethane (	19.90	19.40	20.40	19.88	-0.09
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.32	-0.09
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.44	-0.06
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.19	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

C01 623

□(s10H

Data File: /chem/hpdos6.i/69012801_PNNL.b/69012802.d

Page 1

Report Date: 05-Feb-1999 10:19

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS

AREA AND RT SUMMARY

Instrument ID: hpdos6.i

Calibration Date: JAN/19/99

Lab File ID: 69012802.d

Calibration Time: 1018

Lab Smp Id: PNNL CCV

Client Smp ID: LvL 3 20 cc

Analysis Type: VAPOR

Level: LOW

Quant Type: ISTD

Sample Type: AIR

Operator: JCE

Method File: /chem/hpdos6.i/PNNL_std.m

Misc Info: 100 ml of ISTD

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (	521049	260524	1042098	329376	-36.79
25 Difluorobenzene (IS)	1891825	945912	3783650	1188418	-37.18
34 Chlorobenzene-d5 (IS	1611664	805832	3223328	1003160	-37.76
41 1-Bromo-4-Fluorobenz	1092515	546258	2185030	566220	-48.17

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
19 Bromochloromethane (	19.90	19.40	20.40	19.88	-0.08
25 Difluorobenzene (IS)	23.34	22.84	23.84	23.32	-0.08
34 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.44	-0.06
41 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.18	-0.04

AREA UPPER LIMIT = +100% of internal standard area.

AREA LOWER LIMIT = - 50% of internal standard area.

RT UPPER LIMIT = + 0.50 minutes of internal standard RT.

RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

□(s10H

Data File: /chem/hpdos6.i/69012801_SAS.b/69012803.d
Report Date: 05-Feb-1999 10:18

Page 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012803.d
Lab Smp Id: Method Blank
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD
Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: Method Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	521049	260524	1042098	293454	-43.68
31 Difluorobenzene (IS)	1891825	945912	3783650	1116641	-40.98
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	884472	-45.12
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	594910	-45.55

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
23 Bromochloromethane (	19.90	19.40	20.40	19.89	-0.02
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.32	-0.08
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.43	-0.07
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.20	0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/hpdos6.i/SAS.b/69012804.d
Report Date: 05-Feb-1999 10:15

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012804.d
Lab Smp Id: VP006-060 REP
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD; rerun for dup

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP @ 2.5 hr
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
23 Bromochloromethane (	521049	260524	1042098	224410	-56.93
31 Difluorobenzene (IS)	1891825	945912	3783650	956425	-49.44
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	817049	-49.30
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	763197	-30.14

<-

COMPOUND	STANDARD	RT LIMIT		SAMPLE	% DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
23 Bromochloromethane (	19.90	19.40	20.40	19.87	-0.12
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.32	-0.10
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.44	-0.06
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.19	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /chem/hpdos6.i/SAS.b/69012805.d
Report Date: 05-Feb-1999 10:16

Page: 1

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012805.d
Lab Smp Id: VP006-084 REP
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP @T=2.0 hr
Level: LOW
Sample Type: AIR

Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD; rerun for dup

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER	UPPER		
23 Bromochloromethane (	521049	260524	1042098	178925	-65.66
31 Difluorobenzene (IS)	1891825	945912	3783650	1072879	-43.29
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	911570	-43.44
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	871374	-20.24

<-

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER	UPPER		
23 Bromochloromethane (	19.90	19.40	20.40	19.87	-0.12
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.32	-0.10
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.44	-0.07
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.19	-0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Pacific Northwest National Laboratory

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: hpdos6.i
Lab File ID: 69012806.d
Lab Smp Id: VP006-076 Rerun
Analysis Type: VAPOR
Quant Type: ISTD
Operator: JCE
Method File: /chem/hpdos6.i/sas_std.m
Misc Info: 100 ml of ISTD; Sample rerun

Calibration Date: JAN/19/99
Calibration Time: 1018
Client Smp ID: BP @T=5.5 hr
Level: LOW
Sample Type: AIR

COMPOUND =====	STANDARD =====	AREA LIMIT		SAMPLE =====	% DIFF =====
		LOWER	UPPER		
23 Bromochloromethane (	521049	260524	1042098	151958	-70.84
31 Difluorobenzene (IS)	1891825	945912	3783650	1091776	-42.29
43 Chlorobenzene-d5 (IS	1611664	805832	3223328	927554	-42.45
54 1-Bromo-4-Fluorobenz	1092515	546258	2185030	896767	-17.92

<-

COMPOUND =====	STANDARD =====	RT LIMIT		SAMPLE =====	% DIFF =====
		LOWER	UPPER		
23 Bromochloromethane (	19.90	19.40	20.40	19.89	-0.06
31 Difluorobenzene (IS)	23.34	22.84	23.84	23.33	-0.05
43 Chlorobenzene-d5 (IS	32.46	31.96	32.96	32.44	-0.05
54 1-Bromo-4-Fluorobenz	36.20	35.70	36.70	36.19	-0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073
Rev. 0Sample Info : TST 1330 SAS CCV Lvl 3 20 cc
100 ml of ISTDInstrument ID : hpdos6.i
Method : sas_std.m
File : 690I2801.d
Injection Date : 28-JAN-99 06:00 Operator : JCE
Matrix : AIR Lab. Sample ID: SAS CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.669	216919	23.69	1.2948	689.24	
Propane	23	44.10	7.848	7.817	59823	20.62	1.1269	572.38	
Dichlorodifluoromethane	23	120.91	8.242	8.211	629478	84.54	4.6197	855.85	
Chloromethane	23	50.49	9.129	9.087	148156	25.92	1.4163	628.35	
Acetaldehyde	23	44.05	9.818	9.874	71267	59.58	3.2556	1655.51	
Butane	23	58.12	11.000	10.947	335699	33.94	1.8544	714.69	
Chloroethane	23	64.51	12.280	12.246	89450	29.87	1.6323	566.80	
Ethanol	23	46.07	12.733	12.866	162477	32.47	1.7741	862.58	
Acetonitrile	23	41.05	13.246	13.368	156946	22.71	1.2410	677.17	
Acetone	23	58.08	13.827	13.840	159512	45.23	2.4715	953.18	
Trichlorofluoromethane	23	137.37	14.281	14.244	544619	112.20	6.1311	999.76	
Isopropyl Alcohol	23	60.10	14.399	14.441	453802	51.08	2.7911	1040.27	
Furan	23	68.08	14.666	14.629	365221	50.73	2.7722	912.11	
Pentane	23	72.00	15.070	15.032	348644	40.97	2.2385	696.43	
Methylene Chloride	23	84.93	15.898	15.860	195661	48.54	2.6526	699.61	
112trichloro122trifluoroethane	23	187.38	16.422	16.392	426671	122.33	6.6846	799.10	
Propanenitrile	23	55.08	17.152	17.160	169503	36.56	1.9980	812.55	
Propanol	23	60.10	17.181	17.229	310680	37.17	2.0314	757.11	
2-Methylpentane	23	86.18	18.385	18.362	439432	46.08	2.5179	654.47	
Butanal	23	72.11	18.523	18.500	54064	86.77	4.7417	1472.95	
2-Butanone	23	72.11	18.711	18.697	548272	56.13	3.0673	952.80	
1-Hexene	23	84.16	19.372	19.337	211711	48.96	2.6754	712.08	
Hexane	23	86.18	19.944	19.919	297999	48.52	2.6512	689.10	
Chloroform	23	119.38	20.122	20.087	454482	84.42	4.6129	865.55	
Tetrahydrofuran	23	72.11	20.852	20.826	167628	59.87	3.2718	1016.34	
Butanenitrile	31	69.11	21.927	21.919	381469	36.45	1.9920	645.65	
1-Butanol	31	74.12	22.381	22.480	65179	13.50	0.7376	222.93	J
Benzene	31	78.11	22.855	22.816	710957	41.61	2.2739	652.11	
Carbon Tetrachloride	31	153.82	23.131	23.112	304723	84.91	4.6398	675.67	
2-Pentanone	31	86.13	23.438	23.418	813540	64.10	3.5027	910.96	
3-Methylhexane	31	100.20	23.991	23.960	385398	55.84	3.0512	682.11	
1,4-Dioxane	31	88.11	24.681	24.669	235560	66.58	3.6382	924.94	
Heptane	31	100.20	25.215	25.182	236297	56.23	3.0729	686.94	

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Page 1

C01 629

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.353	696706	70.82	3.8698	865.45	
Pyridine	31	79.10	26.615	28.579	41010	12.05	0.6586	186.50	J
1,1,2-Trichloroethane	31	133.40	27.858	27.830	242611	78.53	4.2911	720.54	
Toluene	43	92.14	28.489	28.461	483743	54.80	2.9945	728.00	
2-Hexanone	43	100.16	28.825	28.815	598515	68.84	3.7615	841.24	
Octane	43	114.23	30.432	30.391	273124	72.33	3.9522	775.01	
Tetrachloroethylene	43	165.83	31.004	30.972	344382	107.31	5.8637	792.05	
Chlorobenzene	43	112.56	32.572	32.547	591340	63.53	3.4715	690.85	
Ethylbenzene	43	106.17	33.401	33.375	980984	67.90	3.7105	782.84	
p/m-Xylene	43	106.17	33.826	33.799	762961	156.28	8.5399	1801.76	
3-Heptanone	43	114.19	33.835	33.828	722845	107.03	5.8487	1147.31	
2-Heptanone	54	114.19	33.964	33.986	802279	86.71	4.7381	929.44	
Cyclohexanone	54	98.14	34.281	34.272	93603	86.23	4.7119	1075.47	
Styrene	54	104.15	34.735	34.706	529709	63.42	3.4657	745.39	
1,1,2,2-Tetrachloroethane	54	167.85	34.973	34.944	530365	122.87	6.7143	896.04	
o-Xylene	54	106.17	35.033	35.013	374293	75.35	4.1175	868.72	
Nonane	54	128.26	35.379	35.358	489714	73.71	4.0276	703.40	
2-Octanone	54	128.21	38.774	38.794	522904	64.41	3.5198	614.95	
1,2,4-Trimethylbenzene	54	120.19	39.850	39.819	862648	89.01	4.8640	906.51	
Decane	54	142.20	40.009	39.977	577865	111.68	6.1026	961.31	
Bromochloromethane (IS)	23	129.40	19.915	19.879	275294	106.00	5.7923	1002.69	
Difluorobenzene (IS)	31	114.00	23.349	23.319	1077981	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.439	936618	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.186	660913	113.00	6.1749	794.92	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Tetradecane	54	198	629-59-4	55.507	802439	30.34	1.6578	187.54	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	2400430
Difluorobenzene (IS)	31	4970099
Chlorobenzene-d5 (IS)	43	2854861
1-Bromo-4-Fluorobenzene (IS)	54	2988937

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below BQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 SAS CCV LVL 3 20 cc 100 ml of ISTD

C01 631

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012801.d

HNF-4073
Rev. 0

Sample Info : TST 1330 SAS CCV LVL 3 20 cc 100 ml of ISTD

C01 632

Date : 28-JAN-99 06:00

Client ID: LVL 3 20 cc

Sample Info: TST 1330 SAS CCV LVL 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

C01 633

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Propene

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

2 Propane

C01 635

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

3 Dichlorodifluoromethane

C01 636

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Chloromethane

C01 637

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

5 Acetaldehyde

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

6 Butane

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

7 Chloroethane

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

8 Ethanol

Date: 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

9 Acetonitrile

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

10 Acetone

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Trichlorofluoromethane

Date : 28-JUN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JOE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

12 Isopropyl Alcohol

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

13 Furan

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Pentane

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

15 Methylene Chloride

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

16 112trichloro122trifluoroethane

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

17 Propanenitrile

Date : 28-JAN-99 06:00

Client ID: LVL 3 20 cc

Sample Info: TST 1330 SAS CCV LVL 3 20 cc

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

18 Propanol

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

19 2-Methylpentane

C01 652

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

HNF-4973
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

20 Butanal

Date : 28-JAN-99 06:00

Client ID: LVL 3 20 cc

Sample Info: TST 1330 SAS CCV LVL 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

21 2-Butanone

C01 654

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

24 Hexane

C01 656

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNH-4073
Rev. 0

25 Chloroform

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4573
Rev. 0

27 Butanenitrile

C01 659

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

28 1-Butanol

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

29 Benzene

C01 661

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

30 Carbon Tetrachloride

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

32 2-Pentanone

C01 663

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNIF-4073
Rev. 0

33 3-Methylhexane

C01 664

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

34 1,4-Dioxane

C01 665

Date: 28-JAN-99 06:00

Client ID: Lvl. 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4070
Rev. 0

Column phase: DB-1

35 Heptane

C01 666

Date: 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

36 4-Methyl-2-pentanone

C01 667

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HPLC-4073
Rev. 0

37 Pyridine

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

38 1,1,2-Trichloroethane

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNP-4073
Rev. 0

39 Toluene

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073

Rev. 0

40 2-Hexanone

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

41 Octane

C01 672

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4072
Rev. 0

42 Tetrachloroethylene

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Chlorobenzene

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

45 Ethylbenzene

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 p/m-Xylene

C01 676

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

47 3-Heptanone

C01 677

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

48 2-Heptanone

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

49 Cyclohexanone

C01 679

Date : 28-JAN-99 06:00

Client ID: LVL 3 20 cc

Sample Info: TST 1330 SAS CCV LVL 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

50 Styrene

C01 680

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: BB-1

HNF-4073
Rev. 0

51 1,1,2,2-Tetrachloroethane

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

52 o-Xylene

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

53 Nonane

C01 683

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

55 2-Octanone

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CCV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

56 1,2,4-Trimethylbenzene

C01 685

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

57 Decane

C01 686

Date : 28-JAN-99 06:00

Client ID: Lvl 3 20 cc

Sample Info: TST 1330 SAS CDV Lvl 3 20 cc

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69661	96	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69659	96	C14H30	198
Tetradecane	629-59-4	WILEY138.1	128276	96	C14H30	198

C01 687

Data File: /chem/hpdos6.i/69012801_SAS,b/69012803.d

Page 1

Date : 28-JAN-99 09:10

Client ID: Method Blank

Instrument: hpdos6.1

Sample Info: TST 1365 Method Blank

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

C01 688

Sample Info : TST 1330 PNNL CCV LVL 3 20 cc
100 ml of ISTD

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 69012802.d
Injection Date : 28-JAN-99 07:50 Operator : JCE
Matrix : AIR Lab. Sample ID: PNNL CCV
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

HNF-4073
Rev. 0

VolumeFactor: 18.3 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.191	641389	75.69	4.1360	766.25	
Chloromethane	19	50.49	9.128	9.087	246322	25.74	1.4064	623.94	
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727	9.757	717556	104.69	5.7206	749.72	
Vinyl Chloride	19	62.50	10.150	10.190	216501	38.37	2.0965	751.40	
Methanol	19	32.04	10.475	10.525	411293	75.77	4.1407	2894.84	
1,3-Butadiene	19	54.00	10.721	10.751	326053	69.00	3.7703	1563.99	
Chloroethane	19	64.51	12.269	12.238	113832	47.03	2.5701	892.44	
Ethanol	19	46.07	12.880	12.976	75139	26.07	1.4243	692.54	J
Acetonitrile	19	41.05	13.362	13.321	381285	75.63	4.1329	2255.21	
Acetone	19	58.08	13.855	13.843	265690	149.20	8.1528	3144.33	
Trichlorofluoromethane	19	137.37	14.269	14.247	506450	86.58	4.7309	771.43	
Pentane	19	72.00	15.067	15.035	1164804	145.94	7.9750	2481.11	
1,1-Dichloroethene	19	96.94	15.586	15.626	188446	61.59	3.3656	777.69	
Methylene Chloride	19	84.93	15.885	15.863	182584	52.81	2.8860	761.18	
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418	16.385	351400	128.83	7.0401	841.59	
1,1-Dichloroethane	19	98.96	18.009	18.059	374718	57.60	3.1474	712.42	
2-Butanone	19	72.11	18.725	18.709	221512	152.99	8.3601	2596.94	
cis-1,2-Dichloroethene	19	96.94	19.536	19.566	182052	59.50	3.2514	751.31	
Chloroform	19	119.38	20.106	20.089	448175	76.19	4.1633	781.18	
1,2-Dichloroethane	19	98.96	21.418	21.458	249510	56.90	3.1091	703.76	
1,1,1-Trichloroethane	25	133.40	21.920	21.951	404873	66.90	3.6557	613.85	
Benzene	25	78.11	22.846	22.827	685784	41.53	2.2692	650.75	
Carbon Tetrachloride	25	153.82	23.123	23.103	326330	65.50	3.5791	521.20	
1,2-Dichloropropane	25	112.99	24.285	24.325	246685	53.61	2.9297	580.80	
Trichloroethene	25	131.39	24.719	24.759	308985	67.86	3.7084	632.23	
cis-1,3-Dichloropropene	25	110.97	26.324	26.374	206298	39.47	2.1568	435.36	
trans-1,3-Dichloropropene	25	110.97	27.348	27.388	66716	27.50	1.5027	303.32	
1,1,2-Trichloroethane	25	133.40	27.845	27.831	238720	43.99	2.4040	403.67	
Toluene	34	92.14	28.476	28.462	466755	48.68	2.6602	646.73	
1,2-Dibromoethane	34	187.86	29.947	29.998	252165	84.66	4.6265	551.65	
Tetrachloroethylene	34	165.83	30.999	30.972	336191	98.75	5.3961	728.89	
Chlorobenzene	34	112.56	32.566	32.548	578955	61.76	3.3747	671.59	
Ethylbenzene	34	106.17	33.394	33.375	1034190	58.16	3.1782	670.54	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HAZ-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.789	774103	121.96	6.6642	1406.04	
Styrene	41	104.15	34.727	34.705	478607	53.07	2.9003	623.77	
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.942	522301	78.16	4.2708	569.95	
o-Xylene	41	106.17	35.024	35.001	379295	59.72	3.2636	688.57	
1,3,5-Trimethylbenzene	41	120.19	38.516	38.556	946344	68.49	3.7428	697.56	
1,2,4-Trimethylbenzene	41	120.19	39.844	39.816	907421	68.14	3.7236	693.97	
1,3-Dichlorobenzene	41	147.00	40.328	40.368	684566	83.84	4.5816	698.16	J
1,4-Dichlorobenzene	41	147.00	40.525	40.576	693225	82.88	4.5291	690.15	
1,2-Dichlorobenzene	41	147.00	41.658	41.699	699429	84.69	4.6276	705.16	
1,2,4-Trichlorobenzene	41	181.45	47.866	47.917	487645	100.81	5.5087	680.04	
Hexachloro-1,3-butadiene	41	260.76	49.660	49.700	425178	150.24	8.2097	705.23	
Bromochloromethane (IS)	19	129.40	19.898	19.882	329376	121.00	6.6120	1144.58	
Difluorobenzene (IS)	25	114.00	23.340	23.321	1188418	106.00	5.7923	1138.15	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.439	1003160	113.00	6.1749	1156.88	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.183	566220	162.00	8.8525	1139.63	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 PNNL CCV Lvl 3 20 cc 100 ml of ISTD

C01 691

02/05/99 10:19

69012802.d

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1330 PNNL CCV LvL 3 20 cc 100 ml of ISTD

C01 692

Page 1

Instrument: hpdcs6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

CO1 693

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank
100 ml of ISTD

HNF-4073

Rev. 0

Instrument ID : hpdos6.i
Method : sas std.m
File : 69012803.d
Injection Date : 28-JAN-99 09:10 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680				0.0018	0.94	U
Propane	23	44.10	7.848				0.0044	2.26	U
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818				0.0190	9.66	U
Butane	23	58.12	11.000				0.0024	0.92	U
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733				0.0043	2.12	U
Acetonitrile	23	41.05	13.246				0.0043	2.32	U
Acetone	23	58.08	13.827				0.0024	0.93	U
Trichlorofluoromethane	23	137.37	14.281				0.0058	0.95	U
Isopropyl Alcohol	23	60.10	14.399				0.0062	2.29	U
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070				0.0029	0.92	U
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
112trichloro122trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152				0.0023	0.92	U
Propanol	23	60.10	17.181				0.0058	2.16	U
2-Methylpentane	23	86.18	18.385				0.0034	0.88	U
Butanal	23	72.11	18.523				0.0059	1.82	U
2-Butanone	23	72.11	18.711				0.0070	2.17	U
1-Hexene	23	84.16	19.372				0.0033	0.87	U
Hexane	23	86.18	19.944				0.0034	0.88	U
Chloroform	23	119.38	20.122				0.0055	1.03	U
Tetrahydrofuran	23	72.11	20.852				0.0029	0.92	U
Butanenitrile	31	69.11	21.927				0.0027	0.86	U
1-Butanol	31	74.12	22.381				0.0270	8.16	U
Benzene	31	78.11	22.855				0.0030	0.87	U
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438				0.0034	0.88	U
3-Methylhexane	31	100.20	23.991				0.0039	0.86	U
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215				0.0039	0.87	U

02/05/99 10:18

69012803.d

Page 1

C01 694

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368				0.0037	0.83	U
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489				0.0036	0.89	U
2-Hexanone	43	100.16	28.825				0.0038	0.85	U
Octane	43	114.23	30.432				0.0046	0.89	U
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401				0.0043	0.91	U
p/m-Xylene	43	106.17	33.826				0.0033	0.69	U
3-Heptanone	43	114.19	33.835				0.0044	0.87	U
2-Heptanone	54	114.19	33.964				0.0043	0.84	U
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735				0.0043	0.92	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033				0.0042	0.88	U
Nonane	54	128.26	35.379				0.0046	0.81	U
2-Octanone	54	128.21	38.774				0.0047	0.83	U
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009				0.0061	0.96	U
Bromochloromethane (IS)	23	129.40	19.915	19.893	293454	106.00	0.5300	91.75	
Difluorobenzene (IS)	31	114.00	23.349	23.320	1116641	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.434	884472	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.203	594910	113.00	0.5650	72.74	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank

100 ml of ISTD

C01 696

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012803.d

HNF-4073
Rev. 0

Sample Info : TST 1365 Method Blank

100 ml of ISTD

C01 697

02/05/99 10:18

69012803.d

Page 4

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 6 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS C01-698 THRU PAGE C02- 067 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Sample Info : TST 1365 Method Blank
100 ml of ISTD

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 69012803.d
Injection Date : 28-JAN-99 09:10 Operator : JCE
Matrix : AIR Lab. Sample ID: Method Blank
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: BLANK

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242				0.0050	0.92	U
Chloromethane	19	50.49	9.128				0.0021	0.91	U
1,1,1,2-tetrachloroethane	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475				0.0100	6.99	U
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269				0.0027	0.92	U
Ethanol	19	46.07	12.880				0.0130	6.32	U
Acetonitrile	19	41.05	13.362				0.0040	2.21	U
Acetone	19	58.08	13.855				0.0071	2.76	U
Trichlorofluoromethane	19	137.37	14.269				0.0056	0.91	U
Pentane	19	72.00	15.067				0.0073	2.29	U
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885				0.0035	0.92	U
1,1,1,2-tetrachloroethane	19	187.38	16.418				0.0076	0.91	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.92	U
2-Butanone	19	72.11	18.725				0.0070	2.19	U
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106				0.0049	0.92	U
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846				0.0032	0.92	U
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719				0.0054	0.92	U
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0100	2.02	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476				0.0037	0.91	U
1,2-Dibromoethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394				0.0043	0.92	U

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809				0.0087	1.84	U
Styrene	41	104.15	34.727				0.0043	0.91	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024				0.0043	0.92	U
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0049	0.91	U
1,2,4-Trimethylbenzene	41	120.19	39.844				0.0049	0.91	U
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.893	281454	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.320	1124328	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.434	922044	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.194	465136	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1365 Method Blank

100 ml of ISTD

C01 700

02/05/99 10:19

69012803.d

Page 3

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HP MS 69012803.d

HNF-4073
Rev. 0

Sample Info : TST 1365 Method Blank 100 ml of ISTD

001 701

Data File: /chem/hpdos6.1/69012801_PNNL.b/69012803.d

Page 1

Date : 28-JAN-99 09:10

Client ID: Method Blank

Sample Info: TST 1365 Method Blank

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

C01 702

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HNF-4073

Rev. 0

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr
 100. ml of ISTD; rerun for dup

Instrument ID : hpdos6.i
 Method : sas std.m
 File : 690I2804.d
 Injection Date : 28-JAN-1999 10:32 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-060 REP
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42.08	7.680	7.650	850308	113.94	0.5697	303.27	
Propane	23	44.10	7.848	7.817	283850	120.03	0.6002	304.84	
Dichlorodifluoromethane	23	120.91	8.242				0.0052	0.96	U
Chloromethane	23	50.49	9.129				0.0021	0.93	U
Acetaldehyde	23	44.05	9.818	9.845	118911	121.94	0.6097	310.05	
Butane	23	58.12	11.000	10.958	2859257	354.57	1.7729	683.28	
Chloroethane	23	64.51	12.280				0.0025	0.89	U
Ethanol	23	46.07	12.733	12.720	1392075	341.23	1.7061	829.55	
Acetonitrile	23	41.05	13.246	13.321	76994	13.67	0.0683	37.29	
Acetone	23	58.08	13.827	13.824	255667	88.93	0.4446	171.49	
Trichlorofluoromethane	23	137.37	14.281	14.248	18316	4.63	0.0231	3.77	J
Isopropyl Alcohol	23	60.10	14.399	14.494	61496	8.49	0.0425	15.82	J
Furan	23	68.08	14.666				0.0027	0.90	U
Pentane	23	72.00	15.070	15.026	1015721	146.41	0.7320	227.74	
Methylene Chloride	23	84.93	15.898				0.0034	0.90	U
112trichloro122trifluoroethane	23	187.38	16.422				0.0077	0.93	U
Propanenitrile	23	55.08	17.152	17.174	70970	18.78	0.0939	38.19	
Propanol	23	60.10	17.181	17.224	126495	18.57	0.0928	34.60	
2-Methylpentane	23	86.18	18.385	18.347	164854	21.21	0.1060	27.56	
Butanal	23	72.11	18.523	18.505	15340	30.20	0.1510	46.91	
2-Butanone	23	72.11	18.711	18.722	83312	10.46	0.0523	16.25	J
1-Hexene	23	84.16	19.372	19.342	1084146	307.57	1.5378	409.31	
Hexane	23	86.18	19.944	19.905	1258617	251.38	1.2569	326.69	
Chloroform	23	119.38	20.122	20.082	3958	0.90	0.0045	0.85	J
Tetrahydrofuran	23	72.11	20.852	20.851	6141	2.69	0.0135	4.18	J
Butanenitrile	31	69.11	21.927	21.916	346148	37.28	0.1864	60.42	
1-Butanol	31	74.12	22.381	22.359	130889	30.55	0.1528	46.17	J
Benzene	31	78.11	22.855	22.813	104266	6.88	0.0344	9.86	
Carbon Tetrachloride	31	153.82	23.131				0.0062	0.90	U
2-Pentanone	31	86.13	23.438	23.445	170933	15.18	0.0759	19.74	
3-Methylhexane	31	100.20	23.991	23.948	68481	11.18	0.0559	12.50	
1,4-Dioxane	31	88.11	24.681				0.0090	2.29	U
Heptane	31	100.20	25.215	25.172	2007432	538.44	2.6922	601.85	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.327	51688	5.92	0.0296	6.62	J
Pyridine	31	79.10	26.615				0.1000	28.32	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0052	0.88	U
Toluene	43	92.14	28.489	28.458	340665	44.24	0.2212	53.77	
2-Hexanone	43	100.16	28.825	28.794	432950	57.08	0.2854	63.83	
Octane	43	114.23	30.432	30.384	340095	103.24	0.5162	101.22	
Tetrachloroethylene	43	165.83	31.004				0.0063	0.85	U
Chlorobenzene	43	112.56	32.572				0.0042	0.83	U
Ethylbenzene	43	106.17	33.401	33.364	24755	1.96	0.0098	2.07	J
p/m-Xylene	43	106.17	33.826	33.750	15876	3.73	0.0186	3.93	J
3-Heptanone	43	114.19	33.835	33.799	12803115	2173.18	10.8659	2131.50	E
2-Heptanone	54	114.19	33.964	33.928	3191094	298.66	1.4933	292.93	
Cyclohexanone	54	98.14	34.281				0.0094	2.13	U
Styrene	54	104.15	34.735	34.708	4624	0.48	0.0024	0.52	J
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0071	0.95	U
o-Xylene	54	106.17	35.033	35.004	4574	0.80	0.0040	0.84	J
Nonane	54	128.26	35.379	35.340	508894	66.33	0.3316	57.92	
2-Octanone	54	128.21	38.774	38.738	187612	20.01	0.1001	17.48	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0052	0.96	U
Decane	54	142.20	40.009	39.974	1506490	252.12	1.2606	198.58	
Bromochloromethane (IS)	23	129.40	19.915	19.875	224410	106.00	0.5300	91.75	
Diffluorobenzene (IS)	31	114.00	23.349	23.316	956425	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.436	817049	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.189	763197	113.00	0.5650	72.74	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	10.642	5878820	98.21	0.4911	196.42	NJ
1-Butene	23	56	106-98-9	11.874	770950	12.88	0.0644	25.76	NJ
Butanenitrile, 2-methylene-	31	81	1647-11-6	23.612	438038	19.02	0.0951	26.30	NJ
3-Heptene, (E)-	31	98	14686-14-7	23.721	584002	25.36	0.1268	28.98	NJ
1-Heptene	31	98	592-76-7	24.569	2709421	117.66	0.5883	134.47	NJ
(Z)-3-Heptene	31	98	7642-10-6	25.023	18565112	806.22	4.0311	921.39	NJ
2-Heptene	31	98	592-77-8	25.379	22673292	984.62	4.9231	1125.28	NJ
Pentanenitrile	31	83	110-59-8	27.372	931172	40.44	0.2022	54.57	NJ
3,4-Heptadiene	31	96	2454-31-1	27.560	4838606	210.12	1.0506	245.14	NJ
2-Heptyne	43	96	1119-65-9	28.655	5018199	182.02	0.9101	212.35	NJ
4-Octene, (E)-	43	112	14850-23-8	28.912	2157990	78.27	0.3914	78.27	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.110	10979817	398.25	1.9913	391.27	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.752	16511420	598.89	2.9945	598.89	NJ
2-Octene, (E)-	43	112	13389-42-9	30.087	842401	30.56	0.1528	30.56	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.226	3673064	133.23	0.6661	133.23	NJ
2-Octene	43	112	111-67-1	30.532	1630318	59.13	0.2957	59.13	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.789	3054479	110.79	0.5540	110.79	NJ
1-BUTYL-2-METHYLCYCLOPROPANE (ISOMER)	43	112		31.045	1834709	66.55	0.3327	66.55	NJ
Unknown	43	114		31.381	763959	27.71	0.1385	27.22	J
Hexanenitrile	43	97	628-73-9	32.723	1616478	22.36	0.1118	25.82	NJ
4-Heptanone	43	114	123-19-3	33.167	8244290	299.03	1.4952	293.79	NJ

69012804.d

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
n-Butyl ether	43	130	142-96-1	34.106	2447583	88.78	0.4439	76.49	NJ
3-Heptanol	54	116	589-82-2	34.441	4482003	94.57	0.4729	91.31	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.683	4625331	97.60	0.4880	85.40	J
Unknown	54	126		36.772	8356890	176.34	0.8817	156.74	J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.891	6622177	139.73	0.6987	122.27	J
3-Octen-2-one	54	126	1669-44-9	37.148	7818254	164.97	0.8249	146.64	NJ
Unknown	54	128		37.316	1617621	34.13	0.1707	29.87	J
Heptanenitrile	54	111	629-08-3	37.701	1630023	34.39	0.1720	34.70	NJ
4-Octanone	54	128	589-63-9	38.037	1562921	32.98	0.1649	28.86	NJ
Unknown	54	124		39.410	6243697	131.75	0.6587	119.00	J
Unknown	54	140		40.102	2604805	54.96	0.2748	43.97	J
1-Hexanol, 2-ethyl	54	130	104-76-7	40.626	7677335	162.00	0.8100	139.57	NJ
Nonane, 2,6-dimethyl-	54	156	17302-28-2	41.091	2104555	44.41	0.2220	31.88	NJ
Decane, 3-methyl-	54	156	13151-34-3	41.861	7579095	15.99	0.0800	11.48	NJ
Cyclohexane, butyl-	54	140	1678-93-9	41.990	1328403	28.03	0.1402	22.42	NJ
Octanenitrile	54	125	124-12-9	42.346	904368	19.08	0.0954	17.10	NJ
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.562	959966	20.26	0.1013	16.44	NJ
Unknown	54	154		43.859	2931164	61.85	0.3092	44.98	J
Undecane	54	156	1120-21-4	44.274	16184142	341.50	1.7075	245.18	NJ
Unknown	54	168		44.828	2906068	61.32	0.3066	40.88	J
Decane, 3,6-dimethyl-	54	170	17312-53-7	45.086	871531	18.39	0.0919	12.12	NJ
Unknown C12 Alkene/Cycloalkane (mw 168)	54	168		45.531	1682087	35.49	0.1775	23.66	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	45.956	1697266	35.81	0.1791	26.39	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.323	2020688	42.64	0.2132	31.01	NJ
Heptane, 3-ethyl-2-methyl-	54	142	14676-29-0	46.540	1491079	31.46	0.1573	24.82	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.699	3223233	68.01	0.3401	50.11	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.907	1685402	35.56	0.1778	23.43	NJ
Undecane, 3-methyl-	54	170	1002-43-3	47.214	1073164	22.64	0.1132	14.92	NJ
6-Dodecene, (E)-	54	168	7206-17-9	47.858	1206580	25.46	0.1273	16.97	NJ
Dodecane	54	170	112-40-3	48.274	4169869	879.87	4.3993	579.68	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.899	9456213	199.53	0.9977	121.45	NJ
Cyclododecane	54	168	294-62-2	50.306	3474404	73.31	0.3666	48.87	NJ
Unknown	54	168		50.564	1169486	24.68	0.1234	16.45	J
Unknown C12 Alkane (mw 170)	54	170		50.723	1331645	28.10	0.1405	18.51	J
Unknown C12 Alkane (mw 170)	54	170		51.000	585121	12.35	0.0617	8.13	J
Unknown C14 Alkane (mw 198)	54	198		51.139	6784534	143.16	0.7158	80.98	J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.616	3165496	66.79	0.3340	41.10	J
Tridecane	54	184	629-50-5	52.003	66961179	1412.92	7.0646	860.04	NJ
Tetradecane	54	198	629-59-4	55.484	10654437	224.82	1.1241	127.17	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	6345124
Difluorobenzene (IS)	31	2440914
Chlorobenzene-d5 (IS)	43	3115391
1-Bromo-4-Fluorobenzene (IS)	54	5355292

C01 705

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD; rerun for dup

C01 706

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD; rerun for dup

C01 707

C01 708

Data File: /chem/hpdos6.i/SAS.b/69012804.d

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Page 2

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

1 Propene

C01 709

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

2 Propane

C01 710

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

6 Butane

C01 712

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

8 Ethanol

C01 713

Data File: /chem/hpdos6.i/SAS.b/69012804.d
Date : 28-JAN-1999 10:32
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 7

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

9 Acetonitrile

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

10 Acetone

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Trichlorofluoromethane

C01 716

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

17 Propanenitrile

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanol

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 2-Methylpentane

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

20 Butanal

Data File: /chem/hpdc06.i/SAS.b/69012804.d
Date : 28-JAN-1999 10:32
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 15

Instrument: hpdc06.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

21 2-Butanone

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

22 1-Hexene

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: BB-1

HNF-4078
Rev. 0

24 Hexane

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

25 Chloroform

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

27 Butanenitrile

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

28 1-Butanol

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

29 Benzene

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 139B VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4079
Rev. 0

Column phase: DB-1

32 2-Pentanone

CD1 730

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

33 3-Methylhexane

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

35 Heptane

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4079
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

36 4-Methyl-2-pentanone

C01 733

Data File: /chem/hpdos6.1/SRS.b/69012804.d
Date : 28-JAN-1999 10:32
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 27

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

39 Toluene

C01 734

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

40 2-Hexanone

C01 735

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

41 Octane

C01 736

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

45 Ethylbenzene

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

46 p/m-Xylene

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

47 3-Heptanone

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

48 2-Heptanone

C01 740

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

50 Styrene

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

52 o-Xylene

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

53 Nonane

C01 743

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

55 2-Octanone

C01 744

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

57 Decane

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Butene	106-98-9	nbs75k.1	62307	87	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	87	C4H8	56

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNIF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62307	83	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	87	C4H8	56

Data File: /chem/hpdos6.1/SAS.b/69012804.d
Date : 28-JAN-1999 10:32
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 42

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Butanenitrile, 2-methylene-
p-Benzoquinone
2,5-Cyclohexadiene-1,4-dione

CAS Number	Library	Entry	Quality	Formula	Weight
1647-11-6	nbs75k.1	445	95	C5H7N	81
106-51-4	nbs75k.1	63756	64	C6H4O2	108
106-51-4	WILEY138.1	118667	64	C6H4O2	108

C01 748

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

3-Heptene, (E)-

3-Heptene

3-Heptene

CAS Number	Library	Entry	Quality	Formula	Weight
14686-14-7	nbs75k.1	63260	87	C7H14	98
592-78-9	nbs75k.1	63247	86	C7H14	98
592-78-9	WILEY138.1	901	86	C7H14	98

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	96	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	90	C7H14	98
1-Heptene	592-76-7	WILEY138.1	897	87	C7H14	98

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	94	C7H14	98

C01 751

Data File: /chem/hpdos6.i/SAS.b/69012804.d
 Date : 28-JAN-1999 10:32
 Client ID: BP @ 2.5 hr
 Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 47

Instrument: hpdos6.i

HNF-4073
 Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentanenitrile	110-59-8	nbs75k.1	514	43	C5H9N	83
Pentanenitrile	110-59-8	nbs75k.1	62698	40	C5H9N	83
Pentanenitrile	110-59-8	WILEY138.1	116798	36	C5H9N	83

C01 753

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	64	C7H12	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	70	C6H8O	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	WILEY138.1	593	70	C6H8O	96

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	96	C7H12	96
Cyclopropane, trimethylmethylene-	34462-28-7	nbs75k.1	63123	70	C7H12	96
1,4-Hexadiene, 5-methyl-	763-88-2	nbs75k.1	1152	68	C7H12	96

C01 755

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	91	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64041	91	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119060	91	C8H16	112

C01 756

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119373	78	C8H18	114

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	94	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	94	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	16883-48-0	nbs75k.1	2652	91	C8H16	112

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4078
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64022	38	C8H16	112
Cyclopentane, 2-propenyl-	3524-75-2	WILEY138.1	2270	43	C8H14	110
4-Octene, (E)-	14850-23-8	nbs75k.1	64042	42	C8H16	112

C01 759

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	86	C ₈ H ₁₆	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	87	C ₈ H ₁₆	112
3-HEXENE, 3,4-DIMETHYL-	0-00-0	WILEY138.1	2683	86	C ₈ H ₁₆	112

C01 760

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	WILEY138.1	119055	91	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	94	C8H16	112
2-Octene	111-67-1	nbs75k.1	63998	91	C8H16	112

C01 761

Data File: /chem/hpdos6.1/SAS.b/69012804.d
Date : 28-JAN-1999 10:32
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 57

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	95	C8H16	112
1632-16-2	nbs75k.1	64033	90	C8H16	112
61847-80-1	nbs75k.1	2732	90	C8H16	112

2-HEPTENE, 3-METHYL-
Heptane, 3-methylene-
1-Pentene, 3-ethyl-4-methyl-

C01 762

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

1-BUTYL-2-METHYLCYCLOPROPANE (ISOMER)

WILEY138.1

2731

95

C8H16

112

cis-1-Butyl-2-methylcyclopropane

38851-69-3

nbs75k.1

2683

94

C8H16

112

trans-1-Butyl-2-methylcyclopropane

38851-70-6

nbs75k.1

2690

94

C8H16

112

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

Hexane, 2,4-dimethyl-

Hexane, 2,4-dimethyl-

1-Iodoundecane

CAS Number

Library

Entry

Quality

Formula

Weight

589-43-5

nbs75k.1

64212

53

C8H18

114

589-43-5

WILEY138.1

119377

53

C8H18

114

4282-44-4

nbs75k.1

39685

52

C11H23I

282

Date : 28-JAN-1993 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Hexanenitrile
1,7-Octadiene
O-Ethyl selenohexanoate

CAS Number	Library	Entry	Quality	Formula	Weight
626-73-9	nbs75k.1	1174	74	C6H11N	97
3710-30-3	WILEY138.1	118886	78	C8H14	110
62448-78-6	nbs75k.1	24729	74	C8H16OSe	208

WIF-4073
Rev. 0

Data File: /chem/hpdos6.1/SAS.b/69012804.d
Date : 28-JAN-1993 10:32
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 61

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64150	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119313	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119317	91	C7H14O	114

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
n-Butyl ether	142-96-1	nbs75k.1	65306	72	C8H18O	130
n-Butyl ether	142-96-1	nbs75k.1	65307	64	C8H18O	130
n-Butyl ether	142-96-1	nbs75k.1	5535	47	C8H18O	130

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

NMF-4070

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64381	90	C7H16O	116
3-Heptanol	589-82-2	WILEY138.1	119618	90	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	3383	83	C7H16O	116

C01 768

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 WP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)

CAS Number

Library

Entry

Quality

Formula

Weight

1,3,2-Dioxaborolane, 2,4-diethyl-

57633-63-3

nbs75k.1

4896

72

C6H13BO2

128

1,3,2-Dioxaborolane, 2,4-diethyl-

57633-63-3

WILEY138.1

5771

72

C6H13BO2

128

2,5-DIMETHYL-1-DEUTEROCYCLOTETRAZENOBORA

20546-17-2

WILEY138.1

715

59

C2H6DBN4

98

Date : 26-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

1-Methyl-2-cyclopenten-1-ol

Cyclopentane, 1-ethyl-1-methyl-

Cyclopentane, 1-ethyl-1-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
40459-88-9	WILEY138.1	844	56	C6H10O	98
16747-50-5	nbs75k.1	2727	50	C8H16	112
16747-50-5	WILEY138.1	2705	50	C8H16	112

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)

1,3,2-Dioxaborolane, 2,4-diethyl-

1,3,2-Dioxaborolane, 2,4-diethyl-

4-METHYL-2-PYRROLIDINONE

CAS Number	Library	Entry	Quality	Formula	Weight
57633-63-3	nbs75k.1	4896	72	C6H13BO2	128
57633-63-3	WILEY138.1	5771	72	C6H13BO2	128
0-00-0	WILEY138.1	996	64	C5H9NO	99

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one	1669-44-9	nbs75k.1	4551	38	C ₈ H ₁₄ O	126
3-Hepten-2-one, 3-methyl-	39899-08-6	nbs75k.1	4596	50	C ₈ H ₁₄ O	126
3-Hepten-2-one, 3-methyl-	39899-08-6	WILEY138.1	5303	50	C ₈ H ₁₄ O	126

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown

2-Pentene, 4-methyl-, (Z)-

2-Pentene, 4-methyl-, (Z)-

2-Pentene, 4-methyl-, (Z)-

CAS Number	Library	Entry	Quality	Formula	Weight
691-38-3	nbs75k.1	601	49	C6H12	84
691-38-3	WILEY138.1	116909	49	C6H12	84
691-38-3	nbs75k.1	62772	46	C6H12	84

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HPLC-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63907	87	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	2435	70	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	118929	70	C7H13N	111

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65061	80	C8H16O	128
4-Heptanone, 2-methyl-	626-33-5	nbs75k.1	65080	86	C8H16O	128
4-Heptanone, 2-methyl-	626-33-5	nbs75k.1	5087	83	C8H16O	128

C01 775

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, 2,6-dimethyl-	4057-42-5	WILEY138.1	122507	76	C10H20	140
1-Hexene, 3,3,5-trimethyl-	13427-43-5	nbs75k.1	64967	70	C9H18	126
1-Hexene, 3,5,5-trimethyl-	4316-65-8	WILEY138.1	120620	70	C9H18	126

C01 776

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

NNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown

2-Azabicyclo[2.2.1]heptane

Hexanenitrile

1-Buten-4-yl methacrylate

CAS Number

Library

Entry

Quality

Formula

Weight

279-24-3

WILEY138.1

699

83

C6H11N

97

628-73-9

nbs75k.1

63154

42

C6H11N

97

0-00-0

WILEY138.1

9179

42

C8H12O2

140

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Instrument: hpdos6.1

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Operator: JCE

NNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown

2H-1,3-Benzoxazine, 6-chloro-3-cyclohexy

1-Nonanol

1-Nonanol

CAS Number	Library	Entry	Quality	Formula	Weight
35183-44-9	nbs75k.1	34096	38	C14H18ClNO	251
143-08-8	nbs75k.1	66369	38	C9H20O	144
143-08-8	WILEY138.1	122966	38	C9H20O	144

Data File: /chem/hpdos6.i/SAS.b/69012804.d
 Date : 28-JAN-1999 10:32
 Client ID: BP @ 2.5 hr
 Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 74

Instrument: hpdos6.i

HRF-4073
 Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	CEH180	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121201	83	CEH180	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65292	78	CEH180	130

C01 779

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nonane, 2,6-dimethyl-	17302-28-2	nbs75k.1	11598	83	C11H24	156
Nonane, 2,6-dimethyl-	17302-28-2	WILEY138.1	15630	83	C11H24	156
Octane, 3,3-dimethyl-	4110-44-5	nbs75k.1	66216	78	C10H22	142

C01 780

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Instrument: hpdos6.1

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Operator: JCE

HMF-4070
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	59	C11H24	156
Nonane, 3,7-dimethyl-	17302-32-8	nbs75k.1	11601	59	C11H24	156
Nonane, 3,7-dimethyl-	17302-32-8	WILEY138.1	15631	59	C11H24	156

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

NIF-4078
REV. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66055	76	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66057	72	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	7540	68	C10H20	140

C01 782

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Instrument: hpdos6.1

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HPL-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octane, 2,3-dimethyl-	7146-60-3	nbs75k.1	66214	53	C10H22	142
Tridecane, 6-methyl-	13287-21-3	nbs75k.1	22532	50	C14H30	198
1-Decanol, 2-ethyl-	21078-65-9	WILEY138.1	28569	50	C12H26O	186

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Instrument: hpdos6.1

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	40	C8H15N	125
Cyclohexyl 5-cyanopentanoate	0-00-0	WILEY138.1	38986	33	C12H19NO2	209
Octanenitrile	124-12-9	WILEY138.1	5025	33	C8H15N	125

C01 784

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

WTF-4078
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 5-methyl-	13151-35-4	nbs75k.1	67316	74	C11H24	156
Decane, 5-methyl-	13151-35-4	WILEY138.1	124561	74	C11H24	156
Undecane, 5,7-dimethyl-	17312-83-3	nbs75k.1	19013	59	C13H28	184

C01 785

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Instrument: hpdos6.i

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HRIF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67322	94	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.1	67321	87	C11H24	156
Decane, 2-methyl-	6975-98-0	WILEY138.1	124552	87	C11H24	156

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: BB-1

Column diameter: 0.32

HNP-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	78	C11H24	156
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	78	C11H24	156
Decane, 3-methyl-	13151-34-3	WILEY138.1	15625	78	C11H24	156

C01 787

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Instrument: hpdos6.1

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
REV. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	7108	94	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122347	94	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122343	93	C10H18	138

C01 788

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HPL-4078
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

4(1H)-Pyridinone, 2,3-dihydro-1-methyl-

4(1H)-Pyridinone, 2,3-dihydro-1-methyl-

3-Buten-2-one, 4-(1-aziridinyl)-

CAS Number	Library	Entry	Quality	Formula	Weight
35488-00-7	nbs75k.1	2418	53	C6H9NO	111
35488-00-7	WILEY138.1	2353	53	C6H9NO	111
18277-57-1	WILEY138.1	2342	49	C6H9NO	111

C01 789

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	nbs75k.1	67317	95	C11H24	156
Undecane	1120-21-4	WILEY138.1	124548	94	C11H24	156
Undecane	1120-21-4	nbs75k.1	67319	93	C11H24	156

C01 790

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

N-METHYLTETRAHYDRO-2,1-BORAZARENE

Imidazole, 2-acetamino-5-methyl-

Cyclopentane, (1-methylbutyl)-

CAS Number

Library

Entry

Quality

Formula

Weight

38369-75-4

WILEY138.1

681

45

C5H12BN

97

0-00-0

nbs75k.1

7135

43

C6H9N3O

139

4737-43-3

nbs75k.1

7570

38

C10H20

140

C01 791

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3,6-dimethyl-	17312-53-7	nbs75k.1	15348	91	C12H26	170
2,6-Dimethyldecane	13150-81-7	nbs75k.1	15357	96	C12H26	170
3,6-Dimethyldecane	17312-53-7	WILEY138.1	21664	91	C12H26	170

C01 792

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C12 Alkene/Cycloalkane (mw 168)						
Undecane, 4-methyl-	2980-69-0	nbs75k.1	68256	87	C12H26	170
Undecane, 4-methyl-	2980-69-0	WILEY138.1	126017	87	C12H26	170
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	70270	80	C15H32	212

C01 793

Data File: /chem/hpdos6.i/SAS.b/69012804.d
Date : 28-JAN-1999 10:32
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 90

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	91	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	91	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	91	C11H20	152

C01 794

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	67185	90	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	87	C11H22	154
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	83	C11H22	154

C01 795

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.1	66211	78	C10H22	142
Heptane, 3-ethyl-2-methyl-	14676-29-0	WILEY138.1	10259	78	C10H22	142
Heptane, 4-propyl-	3178-29-8	nbs75k.1	8079	72	C10H22	142

HMF-4073
Rev. 0

C01 796

Data File: /chem/hpdos6.i/SAS.b/69012804.d
Date : 28-JAN-1999 10:32
Client ID: BP @ 2.5 hr
Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Page 93

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	92	C11H20	152
TRANS-ANTI-1-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13978	92	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	76	C11H20	152

C01 797

Date : 28-JAN-1993 10:32

Client ID: BP @ 2.5 hr

Instrument: hpdos6.i

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

WVF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	WILEY138.1	126011	94	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	91	C12H26	170
Undecane, 2-methyl-	7045-71-8	WILEY138.1	21649	91	C12H26	170

C01 798

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	78	C12H26	170
Decane, 3,8-dimethyl-	17312-55-9	nbs75k.1	68255	86	C12H26	170
Undecane, 3-methyl-	1002-43-3	WILEY138.1	126014	78	C12H26	170

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Instrument: hpdos6.1

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

REF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane 5-cyclohexyl-, 5-cyclohexyl-	13151-76-3	nbs75k.1	28770	43	C16H32	224
3-Hexene, 3-ethyl-2,5-dimethyl-	62339-08-3	nbs75k.1	7530	43	C16H20	140
Decane 5-cyclohexyl-, 5-cyclohexyl-	13151-76-3	WILEY138.1	46074	43	C16H32	224

C01 800

224225

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	15347	96	C12H26	170
Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	WILEY138.1	126006	96	C12H26	170

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	96	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69032	91	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	127264	91	C13H28	184

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclododecane	294-62-2	nbs75k.1	14784	60	C12H24	168
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	94	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	WILEY138.1	127048	94	C13H26	182

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Cyclohexanol, 4-ethyl-4-methyl-3-(1-meth	55869-52-8	nbs75k.1	18958	27	C12H24O	184
Cyclohexanol, 4-ethyl-4-methyl-3-(1-meth	55869-52-8	WILEY138.1	27692	27	C12H24O	184
Undecane, 4,8-dimethyl-	17301-33-6	nbs75k.1	69027	22	C13H28	184

C01 804

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4873
Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Decane, 2,9-dimethyl-

Undecane, 2,3-dimethyl-

Undecane, 2,3-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
1002-17-1	nbs75k.1	15361	64	C12H26	170
17312-77-5	nbs75k.1	18990	64	C13H28	184
17312-77-5	WILEY138.1	27742	64	C13H28	184

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Dodecane, 3-methyl-

Tetradecane, 6,9-dimethyl-

Tetradecane, 6,9-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
17312-57-1	nbs75k.1	69025	83	C13H28	184
55045-13-1	nbs75k.1	29253	72	C16H34	226
55045-13-1	WILEY138.1	46984	72	C16H34	226

HMF-4073
Rev. 0

C01 806

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Unknown C14 Alkane (mw 198)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Decane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	nbs75k.1	22538	86	C14H30	198
26730-14-3	WILEY138.1	128289	86	C14H30	198
6975-98-0	nbs75k.1	67321	78	C11H24	156

C01 807

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

WILEY-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C13 Alkene/Cycloalkane (mw 182)

Cyclopentane, 1-pentyl-2-propyl-

Cyclopentane, 1-pentyl-2-propyl-

4-Nonene, 5-butyl-

CAS Number	Library	Entry	Quality	Formula	Weight
62199-51-3	nbs75k.1	18495	93	C13H26	182
62199-51-3	WILEY138.1	26864	93	C13H26	182
7367-38-6	nbs75k.1	18496	87	C13H26	182

Date : 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Sample Info: TST 1398 WP006-060 BP @ 2.5 hr

Instrument: hpdos6.i

WVF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	18989	96	C13H28	184
Tridecane	629-50-5	nbs75k.1	69017	96	C13H28	184
Tridecane	629-50-5	nbs75k.1	69019	95	C13H28	184

Date: 28-JAN-1999 10:32

Client ID: BP @ 2.5 hr

Instrument: hpdos6.i

Sample Info: TST 1398 VP006-060 BP @ 2.5 hr

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	98	C14H30	198
Tetradecane	629-59-4	WILEY138.1	128276	96	C14H30	198

C01 810

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr
100 ml of ISTD; rerun for dup

HP-4070
Rev. 0

Instrument ID : hpdos6.i
Method : PNNL std.m
File : 69012804.d
Injection Date : 28-JAN-1999 10:32 Operator : JCE
Matrix : AIR Lab. Sample ID: VP006-060 REP
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242	8.211	5664	0.92	0.0046	0.85	J
Chloromethane	19	50.49	9.128	9.077	6971	1.00	0.0050	2.23	J
12dichlorol122-tetrafluoroeth	19	170.92	9.727				0.0070	0.92	U
Vinyl Chloride	19	62.50	10.150				0.0025	0.91	U
Methanol	19	32.04	10.475	10.455	423573	107.62	0.5381	376.20	
1,3-Butadiene	19	54.00	10.721				0.0035	1.47	U
Chloroethane	19	64.51	12.269				0.0027	0.92	U
Ethanol	19	46.07	12.880	12.720	1395594	667.66	3.3383	1623.15	B
Acetonitrile	19	41.05	13.362	13.321	76994	21.06	0.1053	57.47	
Acetone	19	58.08	13.855	13.824	241055	186.68	0.9334	359.99	
Trichlorofluoromethane	19	137.37	14.269	14.248	18316	4.32	0.0216	3.52	J
Pentane	19	72.00	15.067	15.026	1015721	175.51	0.8776	273.02	
1,1-Dichloroethene	19	96.94	15.586				0.0040	0.91	U
Methylene Chloride	19	84.93	15.885				0.0035	0.92	U
112trichlorol122trifluoroethane	19	187.38	16.418				0.0076	0.91	U
1,1-Dichloroethane	19	98.96	18.009				0.0040	0.92	U
2-Butanone	19	72.11	18.725	18.722	23368	22.26	0.1113	34.57	
cis-1,2-Dichloroethene	19	96.94	19.536				0.0040	0.91	U
Chloroform	19	119.38	20.106	20.082	3958	0.93	0.0046	0.87	J
1,2-Dichloroethane	19	98.96	21.418				0.0040	0.92	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0054	0.92	U
Benzene	25	78.11	22.846	22.813	104266	7.85	0.0392	11.25	
Carbon Tetrachloride	25	153.82	23.123				0.0063	0.91	U
1,2-Dichloropropane	25	112.99	24.285				0.0046	0.91	U
Trichloroethene	25	131.39	24.719	24.747	112790	30.78	0.1539	26.24	
cis-1,3-Dichloropropene	25	110.97	26.324				0.0100	2.02	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0100	2.02	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0037	0.63	U
Toluene	34	92.14	28.476	28.458	340665	43.62	0.2181	53.03	
1,2-Dibromomethane	34	187.86	29.947				0.0077	0.92	U
Tetrachloroethylene	34	165.83	30.999				0.0077	1.04	U
Chlorobenzene	34	112.56	32.566				0.0046	0.92	U
Ethylbenzene	34	106.17	33.394	33.364	24755	1.71	0.0085	1.80	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ug/m ³	ppbv	Flags
p/m-Xylene	34	106.17	33.809	33.750	15870	3.07	0.0153	3.24	J
Styrene	41	104.15	34.727	34.708	4624	0.60	0.0030	0.65	J
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0069	0.91	U
o-Xylene	41	106.17	35.024	35.004	4574	0.84	0.0042	0.89	J
1,3,5-Trimethylbenzene	41	120.19	38.516	38.215	10088	0.86	0.0043	0.80	J
1,2,4-Trimethylbenzene	41	120.19	39.844	39.816	9303	0.82	0.0041	0.76	J
1,3-Dichlorobenzene	41	147.00	40.328				0.0600	9.14	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0060	0.91	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0060	0.91	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0075	0.93	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0105	0.90	U
Bromochloromethane (IS)	19	129.40	19.898	19.875	238831	121.00	0.6050	104.73	
Difluorobenzene (IS)	25	114.00	23.340	23.316	956425	106.00	0.5300	104.14	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.436	817049	113.00	0.5650	105.85	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.179	482930	162.00	0.8100	104.28	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/08/99 09:52

69012804.d

Page 2

HNF-4073
Rev. 0

C01 813

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD; rerun for dup
C01 814

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1398 VP006-060 BP @ 2.5 hr 100 ml of ISTD; rerun for dup

C01 815

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 BP @T=2.0 hr
 100-ml of ISTD; rerun for dup

HMF-4073
Rev. 0

Instrument ID : hpdos6.i
 Method : sas_std.m
 File : 69012805.d
 Injection Date : 28-JAN-99 11:52 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-084 REP
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 222 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.650	848965	142.68	0.6427	342.13	
Propane	23	44.10	7.848	7.817	298683	158.41	0.7136	362.45	
Dichlorodifluoromethane	23	120.91	8.242				0.0047	0.87	U
Chloromethane	23	50.49	9.129				0.0019	0.84	U
Acetaldehyde	23	44.05	9.818	9.864	123480	158.82	0.7154	363.79	
Butane	23	58.12	11.000	10.958	3709274	576.92	2.5987	1001.57	E
Chloroethane	23	64.51	12.280				0.0023	0.80	U
Ethanol	23	46.07	12.733	12.917	80025	24.60	0.1108	53.88	
Acetonitrile	23	41.05	13.246	13.370	88846	19.78	0.0891	48.62	
Acetone	23	58.08	13.827	13.853	185437	80.90	0.3644	140.54	
Trichlorofluoromethane	23	137.37	14.281	14.247	16221	5.14	0.0232	3.78	J
Isopropyl Alcohol	23	60.10	14.399				0.0055	2.06	U
Furan	23	68.08	14.666				0.0025	0.82	U
Pentane	23	72.00	15.070	15.036	1188085	214.79	0.9675	301.00	
Methylene Chloride	23	84.93	15.898				0.0031	0.81	U
112trichloro122trifluoroethane	23	187.38	16.422				0.0070	0.83	U
Propanenitrile	23	55.08	17.152	17.174	95917	31.83	0.1434	58.32	
Propanol	23	60.10	17.181	17.223	101284	18.65	0.0840	31.30	
2-Methylpentane	23	86.18	18.385	18.347	180105	29.06	0.1309	34.02	
Butanal	23	72.11	18.523	18.524	18798	46.42	0.2091	64.96	
2-Butanone	23	72.11	18.711	18.731	93968	14.80	0.0667	20.71	
1-Hexene	23	84.16	19.372	19.342	1186892	422.31	1.9023	506.32	
Hexane	23	86.18	19.944	19.914	766165	191.92	0.8645	224.71	
Chloroform	23	119.38	20.122				0.0050	0.93	U
Tetrahydrofuran	23	72.11	20.852	20.881	8917	4.90	0.0221	6.86	J
Butanenitrile	31	69.11	21.927	21.915	451170	43.32	0.1951	63.25	
1-Butanol	31	74.12	22.381	22.369	121696	25.32	0.1141	34.47	J
Benzene	31	78.11	22.855	22.822	122951	7.23	0.0326	9.34	
Carbon Tetrachloride	31	153.82	23.131				0.0055	0.81	U
2-Pentanone	31	86.13	23.438	23.444	192256	15.22	0.0686	17.83	
3-Methylhexane	31	100.20	23.991	23.957	65509	9.54	0.0430	9.60	
1,4-Dioxane	31	88.11	24.681				0.0081	2.06	U
Heptane	31	100.20	25.215	25.181	2189049	523.42	2.3577	527.08	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HMF-4078
Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4-Methyl-2-pentanone	31	100.16	26.368	26.336	58835	6.01	0.0271	6.05	J
Pyridine	31	79.10	26.615				0.0901	25.52	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0047	0.79	U
Toluene	43	92.14	28.489	28.457	340021	39.58	0.1783	43.34	
2-Hexanone	43	100.16	28.825	28.793	524677	62.00	0.2793	62.46	
Octane	43	114.23	30.432	30.393	328185	89.29	0.4022	78.87	
Tetrachloroethylene	43	165.83	31.004				0.0057	0.77	U
Chlorobenzene	43	112.56	32.572				0.0037	0.74	U
Ethylbenzene	43	106.17	33.401	33.374	23411	1.66	0.0075	1.58	J
p/m-Xylene	43	106.17	33.826	33.749	19788	4.16	0.0188	3.96	J
3-Heptanone	43	114.19	33.835	33.799	16462086	2504.51	11.2816	2213.04	E
2-Heptanone	54	114.19	33.964	33.928	4259312	349.15	1.5727	308.51	
Cyclohexanone	54	98.14	34.281				0.0084	1.92	U
Styrene	54	104.15	34.735				0.0039	0.83	U
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0064	0.86	U
o-Xylene	54	106.17	35.033	34.985	3916	0.60	0.0027	0.57	J
Nonane	54	128.26	35.379	35.350	552440	63.06	0.2841	49.61	
2-Octanone	54	128.21	38.774	38.739	234308	21.89	0.0986	17.23	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0046	0.86	U
Decane	54	142.20	40.009	39.975	1631965	239.22	1.0775	169.74	
Bromochloromethane (IS)	23	129.40	19.915	19.874	178925	106.00	0.4775	82.65	
Difluorobenzene (IS)	31	114.00	23.349	23.316	1072879	106.00	0.4775	93.82	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.436	911570	113.00	0.5090	95.36	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.189	871374	113.00	0.5090	65.53	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1-Propene, 2-methyl-	23	56	115-11-7	10.652	7888007	216.62	0.9758	390.31	NJ
1-Butene	23	56	106-98-9	11.332	537656	14.77	0.0665	26.60	NJ
1-Butene, 2-methyl-	23	70	563-46-2	14.829	555288	15.25	0.0687	21.98	NJ
Butanenitrile, 2-methylene-	31	81	1647-11-6	23.622	665382	25.98	0.1170	32.36	NJ
1-Heptene	31	98	592-76-7	24.569	3131203	122.25	0.5507	125.87	NJ
(Z)-3-Heptene	31	98	7642-10-6	25.023	20470803	799.25	3.6002	822.91	NJ
2-Heptene	31	98	592-77-8	25.389	25108839	980.34	4.4159	1009.36	NJ
Pentanenitrile	31	83	110-59-8	27.371	1174221	45.85	0.2065	55.73	NJ
3,4-Heptadiene	31	96	2454-31-1	27.559	5477228	213.85	0.9633	224.77	NJ
2-Heptyne	43	96	1119-65-9	28.655	5760267	215.22	0.9694	226.20	NJ
4-Octene, (E)-	43	112	14850-23-8	28.912	2480991	92.69	0.4175	83.51	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.109	12062894	450.69	2.0302	398.91	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.751	13755408	513.93	2.3150	463.00	NJ
2-Octene, (E)-	43	112	13389-42-9	30.097	665008	24.85	0.1119	22.38	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.225	3361821	125.60	0.5658	113.16	NJ
2-Octene	43	112	111-67-1	30.531	1290291	48.21	0.2172	43.43	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.798	2813378	105.11	0.4735	94.70	NJ
1-BUTYL-2-METHYLCYCLOPROPANE (isomer)	43	112		31.045	1692457	63.23	0.2848	56.97	NJ
3-Hexanone, 5-methyl-	43	114	623-56-3	31.361	520762	19.46	0.0876	17.22	NJ
Hexanenitrile	43	97	628-73-9	32.712	738708	27.60	0.1243	28.71	NJ
4-Heptanone	43	114	123-19-3	33.176	10542325	393.88	1.7742	348.62	NJ

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

4073
Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
3-Heptanol	54	116	589-82-2	34.431	4718989	82.91	0.3735	72.12	NJ
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.683	6051151	106.31	0.4789	83.81	NJ
Unknown	54	126		36.763	10282334	180.65	0.8137	144.67	J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.881	8037527	141.21	0.6361	111.32	J
3-Octen-2-one	54	126	1669-44-9	37.148	9030335	158.65	0.7147	127.05	NJ
Heptanenitrile	54	111	629-08-3	37.702	2013638	35.38	0.1594	32.16	NJ
4-Octanone	54	128	589-63-9	38.038	1804574	31.70	0.1428	24.99	NJ
Unknown	54	124		39.411	7692756	135.15	0.6088	109.98	J
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		40.093	3073659	54.00	0.2432	38.92	J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.617	14422171	253.38	1.1414	196.67	NJ
Nonane, 2,6-dimethyl-	54	156	17302-28-2	41.092	2056659	36.13	0.1628	23.37	NJ
Cyclohexane, butyl-	54	140	1678-93-9	41.981	1496116	26.29	0.1184	18.94	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		42.219	1016906	17.87	0.0805	12.88	J
Octanenitrile	54	125	124-12-9	42.347	1229286	21.60	0.0973	17.43	NJ
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.554	996682	17.51	0.0789	12.80	NJ
Unknown	54	154		43.860	3615117	63.51	0.2861	41.61	J
Undecane	54	156	1120-21-4	44.276	18116021	318.28	1.4337	205.86	NJ
Unknown	54	168		44.830	3482673	61.19	0.2756	36.75	J
2,6-Dimethyldecane	54	170	13150-81-7	45.087	835265	14.67	0.0661	8.71	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	54	154		45.533	1719897	30.22	0.1361	19.80	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	45.958	1696281	29.80	0.1342	19.78	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.324	2105446	36.99	0.1666	24.24	NJ
Heptane, 4-propyl-	54	142	3178-29-8	46.532	1192728	20.96	0.0944	14.89	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.701	3161007	55.54	0.2502	36.87	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.899	1709519	30.03	0.1353	17.83	NJ
Undecane, 3-methyl-	54	170	1002-43-3	47.216	1439332	25.29	0.1139	15.01	NJ
3-Dodecene, (Z)-	54	168	7239-23-8	47.859	1550905	27.25	0.1227	16.37	NJ
Dodecane	54	170	112-40-3	48.276	47069501	826.97	3.7251	490.83	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.900	9709844	170.59	0.7684	93.55	NJ
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54	182	54676-39-0	50.308	3808772	66.92	0.3014	37.10	NJ
Unknown C14 Alkane (mw 198)	54	198		51.142	7330607	128.79	0.5801	65.63	J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.618	3855002	67.73	0.3051	37.55	J
Tridecane	54	184	629-50-5	52.015	84497212	1484.53	6.6871	814.08	NJ
Tetradecane	54	198	629-59-4	55.489	24810181	435.89	1.9635	222.13	NJ

Internal Standard Information for TICS

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	3859819
Difluorobenzene (IS)	31	2714913
Chlorobenzene-d5 (IS)	43	3024461
1-Bromo-4-Fluorobenzene (IS)	54	6431770

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICS

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

C01 818

HNF-4073
Rev. 0

HP MS 69012805.d

Sample Info : TST 1394 VP006-084 BP @T=2.0 hr 100 ml of ISTD; rerun for dup

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 BP @T=2.0 hr 100 ml of ISTD; rerun for dup

C01 820

Instrument: hpdcs6.i

WHF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

C01 821

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

1 Propene

C01 822

Date: 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Propane

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Acetaldehyde

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

6 Butane

C01 825

Date: 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 WP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HMF-4070
REV. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

8 Ethanol

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HPL-4073
REV. 0

9 Acetonitrile

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Acetone

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HRIF-4073
Rev. 0

11 Trichlorofluoromethane

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

14 Pentane

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

17 Propanenitrile

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

WVF-4073
Rev. 0

18 Propanol

C01 832

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNP-4073
REV. 0

19 2-Methylpentane

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
REV. 0

20 Butanal

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HPL-4070
Rev. 0

21 2-Butanone

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

C01 836

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Hexane

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

27 Butanenitrile

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Column phase: DB-1

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

28 1-Butanol

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4078
Rev. 0

29 Benzene

C01 841

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

32 2-Pentanone

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

33 3-Methylhexane

C01 843

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

35 Heptane

C01 844

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

36 4-Methyl-2-pentanone

C01 845

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

39 Toluene

C01 846

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

40 2-Hexanone

C01 847

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4078
Rev. 0

Column phase: DB-1

41 Octane

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

45 Ethylbenzene

HNF-4015
RO

Data File: /chem/hpdos6.1/SAS.b/69012805.d

Page 30

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

46 p/m-Xylene

HVF-4073
120

Data File: /chem/hpdos6.i/SAS.b/69012805.d

Page 31

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

47 3-Heptanone

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

NIF-4073
REV. 0

48 2-Heptanone

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

49 Cyclohexanone

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HPLC-40/3
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

52 o-Xylene

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HPLC-1073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

53 Nonane

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

HPLC-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

55 2-Octanone

C01 855

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

57 Decane

C01 856

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

1-Propene, 2-methyl-

1-Butene

1-Butene

CAS Number

Library

Entry

Quality

Formula

Weight

115-11-7

nbs75k.1

62306

90

C4H8

56

106-98-9

nbs75k.1

62309

87

C4H8

56

106-98-9

WILEY138.1

116017

87

C4H8

56

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

HPLC-MS
Rev 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62309	83	C4H8	56
1-Butene	106-98-9	nbs75k.1	62308	83	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	83	C4H8	56

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HPT-8070
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62307	91	C4H8	56
1-Butene	106-98-9	nbs75k.1	62308	91	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	91	C4H8	56

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HPLC-MS
Rev 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	nbs75k.1	225	72	CEH10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	62467	90	CEH10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	WILEY138.1	116343	90	CEH10	70

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (Z)-	627-20-3	nbs75k.1	62456	87	CEH10	70
2-Pentene, (Z)-	627-20-3	WILEY138.1	116335	87	CEH10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62458	86	CEH10	70

C01 861

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HPL-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	91	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	91	C6H12	84
2-Hexene, (E)-	4050-45-7	WILEY138.1	116890	91	C6H12	84

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

NNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	WILEY138.1	116888	87	C6H12	84
2-Hexene, (Z)-	7688-21-3	WILEY138.1	116886	87	C6H12	84
2-Hexene	592-43-8	nbs75k.1	62758	86	C6H12	84

C01 863

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 WP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

2-Ethylacrolein
Cyclohexene
2-Butenal, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
922-63-4	nbs75k.1	551	52	CEH8O	84
110-83-8	WILEY138.1	116789	45	CEH10	82
1115-11-3	nbs75k.1	62741	38	CEH8O	84

C01 864

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HPLC-4078
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: BB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile, 2-methylene-	1647-11-6	nbs75k.1	445	94	C5H7N	81
Cyclohexene, 4-ethenyl-	100-40-3	nbs75k.1	63797	64	C8H12	108
Cyclohexene, 4-ethenyl-	100-40-3	WILEY138.1	118758	64	C8H12	108

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

3-Heptene, (E)-

14696-14-7

nbs75k.1

63260

87

C7H14

98

3-Heptene

592-78-9

nbs75k.1

63247

86

C7H14

98

3-Heptene

592-78-9

WILEY138.1

901

86

C7H14

98

C01 866

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

H08-4078
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	96	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	93	C7H14	98
1-Heptene	592-76-7	WILEY138.1	897	93	C7H14	98

C01 867

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HPLC-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	94	C7H14	98

C01 868

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98

C01 869

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

HNF-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentanenitrile	110-59-8	nbs75k.1	514	72	CEH9N	83
Pentanenitrile	110-59-8	WILEY138.1	116798	56	CEH9N	83
Pentanedinitrile	544-13-8	nbs75k.1	63065	40	CEH6N2	94

C01 870

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	76	C7H12	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	70	C6H8O	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	WILEY138.1	593	70	C6H8O	96

C01 871

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	96	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	94	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	94	C7H12	96

HMF-4073
Rev. 0

C01 872

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	91	C ₈ H ₁₆	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119060	91	C ₈ H ₁₆	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64041	90	C ₈ H ₁₆	112

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119373	78	C8H18	114

C01 874

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	70	C8H16	112
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	86	C5H10	70
Octane, 3-methyl-6-methylene-	74630-07-2	nbs75k.1	7581	72	C10H20	140

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64022	42	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64041	55	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	2645	55	C8H16	112

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HNN-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	86	C ₈ H ₁₆	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	90	C ₈ H ₁₆	112
5-Methyl-3-heptene	0-00-0	nbs75k.1	2641	86	C ₈ H ₁₆	112

C01 877

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	90	C8H16	112
3-Octene, (E)-	14919-01-8	nbs75k.1	2682	90	C8H16	112
2-Octene	111-67-1	WILEY138.1	119055	90	C8H16	112

Date : 28-JAN-93 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

HMF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C ₈ H ₁₆	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	90	C ₈ H ₁₆	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64033	74	C ₈ H ₁₆	112

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-064 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-BUTYL-2-METHYLCYCLOPROPANE (isomer)		WILEY138.1	2731	93	C ₈ H ₁₆	112
trans-1-Butyl-2-methylcyclopropane	38851-70-6	nbs75k.1	2690	89	C ₈ H ₁₆	112
TRANS-1-BUTYL-2-METHYLCYCLOPROPANE	38851-70-6	WILEY138.1	2732	89	C ₈ H ₁₆	112

C01 880

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64194	58	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	58	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	53	C7H14O	114

C01 881

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

HPLC-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanenitrile	628-73-9	WILEY138.1	117636	74	C ₆ H ₁₁ N	97
Hexanedinitrile	111-69-3	nbs75k.1	63760	72	C ₆ H ₈ N ₂	108
Hexanedinitrile	111-69-3	WILEY138.1	118674	72	C ₆ H ₈ N ₂	108

C01 882

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

H71P-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64150	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64153	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119313	91	C7H14O	114

C01 883

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64382	90	C7H16O	116
3-Heptanol	589-82-2	WILEY138.1	119621	90	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	3383	83	C7H16O	116

C01 884

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

NNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	WILEY138.1	120623	96	C9H18	126
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	nbs75k.1	4624	95	C9H18	126
1-Nonene	124-11-8	nbs75k.1	64956	95	C9H18	126

C01 885

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HPLC-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane (isomer)		WILEY138.1	6005	42	C ₈ H ₁₆ O	128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	64	C ₆ H ₁₃ BO ₂	128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	WILEY138.1	5771	64	C ₆ H ₁₃ BO ₂	128

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

1-Methyl-2-cyclopenten-1-ol

Cyclopentane, 1-ethyl-1-methyl-

Cyclopentane, 1-ethyl-1-methyl-

CAS Number

Library

Entry

Quality

Formula

Weight

40459-88-9

WILEY138.1

844

56

C6H10O

98

16747-50-5

nbs75k.1

2727

50

C8H16

112

16747-50-5

WILEY138.1

2705

50

C8H16

112

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane (isomer)

1,1'-Bicyclohexyl-1,1'-diol

1,1'-BICYCLOHEXYL-1,1'-DIOL

1,1'-BICYCLOHEXYL-1,1'-BIS(TRIMETHYLSILYL

CAS Number	Library	Entry	Quality	Formula	Weight
2888-11-1	nbs75k.1	22423	72	C12H22O2	198
2888-11-1	WILEY138.1	34005	72	C12H22O2	198
19009-71-3	WILEY138.1	85996	72	C18H38O2Si2	342

C01 888

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HPL-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one	1669-44-9	WILEY138.1	5297	38	C8H14O	126
Cyclohexane, 1,4-dimethyl-2-octadecyl-	55282-02-5	nbs75k.1	50819	56	C26H52	364
Cyclohexane, 1,4-dimethyl-2-octadecyl-	55282-02-5	WILEY138.1	91309	56	C26H52	364

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4078
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, (2-methylpropyl)-	3788-32-7	nbs75k.1	4630	47	C ₉ H ₁₈	126
Cyclopentane, (2-methylpropyl)-	3788-32-7	WILEY138.1	5449	47	C ₉ H ₁₈	126
2,2-Dimethyl-3-heptene trans	19550-75-5	nbs75k.1	4627	46	C ₉ H ₁₈	126

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.i

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

HPL-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63907	87	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	64	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	118930	64	C7H13N	111

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

NRF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	5058	93	C8H16O	128
4-Octanone	589-63-9	WILEY138.1	120861	93	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65061	87	C8H16O	128

C01 892

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

NBS-4170
Rev 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, 2,6-dimethyl-	4057-42-5	nbs75k.1	66054	70	C10H20	140
Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2	nbs75k.1	7580	53	C10H20	140
2-Octene, 2,6-dimethyl-	4057-42-5	nbs75k.1	7538	53	C10H20	140

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown

2-Azabicyclo[2.2.1]heptane

Hexanenitrile

Hexanenitrile

CAS Number

Library

Entry

Quality

Formula

Weight

279-24-3

WILEY138.1

699

83

C6H11N

97

628-73-9

nbs75k.1

63154

42

C6H11N

97

628-73-9

WILEY138.1

117638

42

C6H11N

97

C01 894

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HPL-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

Formic acid, octyl ester

Cycloheptane

1-Nonanol

CAS Number	Library	Entry	Quality	Formula	Weight
112-32-3	nbs75k.1	11985	38	C9H18O2	158
291-64-5	nbs75k.1	63231	38	C7H14	98
143-08-8	nbs75k.1	66369	38	C9H20O	144

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

WILEY-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65290	78	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121192	78	C ₈ H ₁₈ O	130

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nonane, 2,6-dimethyl-	17302-28-2	nbs75k.1	11598	91	C11H24	156
Nonane, 2,6-dimethyl-	17302-28-2	WILEY138.1	15630	91	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	67324	90	C11H24	156

C01 897

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.l	70270	53	C15H32	212
10-Methylnonadecane	0-00-0	nbs75k.l	39858	50	C20H42	282
Decane, 3,8-dimethyl-	17312-55-9	nbs75k.l	68255	47	C12H26	170

C01 898

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

HPL-4078
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66055	76	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66056	68	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	66067	64	C10H20	140

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

1-Octanol, 2-butyl-

1-Octanol, 2-butyl-

Tridecane, 6-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
3913-02-8	nbs75k.1	69110	50	C12H26O	186
3913-02-8	WILEY138.1	127411	50	C12H26O	186
13287-21-3	nbs75k.1	22532	43	C14H30	198

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HPLC-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	83	C8H15N	125
Octanenitrile	124-12-9	WILEY138.1	5025	83	C8H15N	125
1H-Pyrazole, 3-methyl-	1453-58-3	nbs75k.1	455	43	C4H6N2	82

Data File: /chem/hpdos6.1/SAS.b/69012805.d

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HNF-4079

Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
17302-27-1	nbs75k.1	11616	68	C11H24	156
13151-35-4	nbs75k.1	67316	68	C11H24	156
13151-35-4	WILEY138.1	124561	68	C11H24	156

Nonane, 2,5-dimethyl-

Decane, 5-methyl-

Decane, 5-methyl-

C01 902

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67321	91	C11H24	156
Decane, 2-methyl-	6975-98-0	WILEY138.1	124551	91	C11H24	156
Decane, 2-methyl-	6975-98-0	WILEY138.1	124552	91	C11H24	156

C01 903

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VPO06-084 BP QT=2.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	78	C11H24	156
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	78	C11H24	156
Decane, 3-methyl-	13151-34-3	WILEY138.1	15625	78	C11H24	156

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	7108	94	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65955	94	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122344	94	C10H18	138

C01 905

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown

4(1H)-Pyridinone, 2,3-dihydro-1-methyl-

4(1H)-Pyridinone, 2,3-dihydro-1-methyl-

3-Buten-2-one, 4-(1-aziridinyl)-

CAS Number

Library

Entry

Quality Formula

Weight

35488-00-7

nbs75k.1

2418

46

C6H9NO

111

35488-00-7

WILEY138.1

2353

46

C6H9NO

111

18277-57-1

WILEY138.1

2342

46

C6H9NO

111

C01 906

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	nbs75k.1	67317	95	C11H24	156
Undecane	1120-21-4	nbs75k.1	67319	93	C11H24	156
Undecane	1120-21-4	WILEY138.1	124548	91	C11H24	156

C01 907

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
13	60813-89-0	WILEY138.1	14512	78	C9H14S	154
(+)-(1S,2R)-1-Butyl-2-ethylcyclopentane	87761-04-4	WILEY138.1	14839	53	C11H22	154
Cyclohexane, 2,4-diethyl-1-methyl-	61142-70-9	nbs75k.1	11072	52	C11H22	154

C01 908

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

N-METHYLTETRAHYDRO-2,1-BORAZARENE

4(3H)-Pyrimidinone

4(3H)-Pyrimidinone

CAS Number	Library	Entry	Quality	Formula	Weight
38369-75-4	WILEY138.1	681	49	CEH12BN	97
51953-17-4	nbs75k.1	1060	46	C4H4N2O	96
51953-17-4	WILEY138.1	548	43	C4H4N2O	96

C01 909

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2,6-Dimethyldecane	13150-81-7	nbs75k.1	15357	93	C12H26	170
2,6-Dimethyldecane	13150-81-7	nbs75k.1	15357	93	C12H26	170
3,6-Dimethyldecane	17312-53-7	WILEY138.1	21664	93	C12H26	170

C01 910

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

Undecane, 4-methyl-

Undecane, 4-methyl-

Dodecane, 2,6,10-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
2980-69-0	nbs75k.1	68256	83	C12H26	170
2980-69-0	WILEY138.1	126017	83	C12H26	170
3891-98-3	nbs75k.1	70270	72	C15H32	212

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	91	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	91	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	91	C11H20	152

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	90	C11H22	154
Cyclohexane, pentyl-	4292-92-6	WILEY138.1	14841	90	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	87	C11H22	154

C01 913

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 4-propyl-	3178-29-8	nbs75k.1	8079	72	C10H22	142
Heptane, 4-propyl-	3178-29-8	nbs75k.1	8079	72	C10H22	142
Heptane, 4-(1-methylethyl)-	52896-87-4	nbs75k.1	8084	64	C10H22	142

C01 914

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	94	C11H20	152
TRANS-ANTI-1-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13878	94	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124046	90	C11H20	152

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Undecane, 2-methyl-
Undecane, 2-methyl-
Undecane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
7045-71-8	nbs75k.1	15356	91	C12H26	170
7045-71-8	WILEY138.1	21649	91	C12H26	170
7045-71-8	nbs75k.1	68257	81	C12H26	170

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	WILEY138.1	126013	76	C12H26	170
Dodecane, 3-methyl-	17312-57-1	nbs75k.1	19011	53	C13H28	184
Dodecane, 3-methyl-	17312-57-1	nbs75k.1	69025	53	C13H28	184

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Dodecene, (Z)-	7239-23-8	nbs75k.1	68121	94	C12H24	168
3-Dodecene, (Z)-	7239-23-8	nbs75k.1	68121	94	C12H24	168
Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8	nbs75k.1	14774	94	C12H24	168

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

4-Undecene, 4-methyl-

7-Tetradecanol

5-UNDECENE, 6-METHYL-, CIS/TRANS

CAS Number

Library

Entry

Quality

Formula

Weight

61142-40-3

nbs75k.1

14748

47

C12H24

168

0-00-0

nbs75k.1

26414

47

C14H30O

214

83687-45-0

WILEY138.1

20720

46

C12H24

168

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68253	97	C12H26	170
Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	nbs75k.1	15347	96	C12H26	170

HNF-4073
Rev. 0

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Dodecene, (E)-	7206-14-6	nbs75k.1	14701	49	C12H24	168
1H-1,2,4-Triazole, 1-ethyl-	16778-70-4	WILEY138.1	665	47	C4H7N3	97
Cyclohexane, 1,1-dimethyl-	590-66-9	nbs75k.1	64011	46	C8H16	112

C01 921

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	96	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69032	93	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	127264	93	C13H28	184

C01 922

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4078
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
cis,trans-1,10-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14138	93	C12H22	166
trans,trans-1,8-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14143	70	C12H22	166
Naphthalene, decahydro-2,3-dimethyl-	1008-90-6	nbs75k.1	14168	60	C12H22	166

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	93	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	93	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	WILEY138.1	127048	93	C13H26	182

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

DECAHYDRO-2-ETHYL-NAPHTHALENE
3,5-OCTADIENE, 4,5-DIETHYL-
cis,cis-1,10-Dimethylspirol[4.5]decane

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	19756	45	C12H22	166
21293-02-7	WILEY138.1	19733	30	C12H22	166
0-00-0	nbs75k.1	14139	25	C12H22	166

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nonadecane, 9-methyl-	13287-24-6	nbs75k.1	39865	90	C20H42	282
Nonadecane, 9-methyl-	13287-24-6	WILEY138.1	67908	90	C20H42	282
Hexatriacontane	630-06-8	nbs75k.1	74636	72	C36H74	507

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane, 3-methyl-	17312-57-1	WILEY138.1	127260	53	C13H28	184
Octane, 2,4,6-trimethyl-	62016-37-9	nbs75k.1	11606	50	C11H24	156
Octane, 2,4,6-trimethyl-	62016-37-9	WILEY138.1	15639	50	C11H24	156

C01 927

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

Unknown C14 Alkane (mw 198)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Octane, 2,3,7-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	nbs75k.1	22538	86	C14H30	198
26730-14-3	WILEY138.1	128289	86	C14H30	198
62016-34-6	nbs75k.1	11603	78	C11H24	156

C01 928

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C13 Alkene/Cycloalkane (mw 182)

Cyclopentane, 1-pentyl-2-propyl-

4-Nonene, 5-butyl-

Cyclopentane, 1-pentyl-2-propyl-

CAS Number	Library	Entry	Quality	Formula	Weight
62199-51-3	nbs75k.1	18495	87	C13H26	182
7367-39-6	nbs75k.1	18496	87	C13H26	182
62199-51-3	WILEY138.1	26864	87	C13H26	182

C01 929

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	69017	97	C13H28	184
Tridecane	629-50-5	nbs75k.1	69019	97	C13H28	184
Tridecane	629-50-5	WILEY138.1	127252	97	C13H28	184

C01 930

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Instrument: hpdos6.1

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 1,2,3-trimethyl-	1678-97-3	nbs75k.1	64939	68	C ₉ H ₁₈	126
Cyclohexane, 1,2,3-trimethyl-	1678-97-3	WILEY138.1	120646	68	C ₉ H ₁₈	126
Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2	nbs75k.1	7580	64	C ₁₀ H ₂₀	140

C01 931

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.i

HNF-4073
REV. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane, 2,5-dimethyl-	56292-65-0	nbs75k.1	22531	68	C14H30	198
Dodecane, 2,5-dimethyl-	56292-65-0	WILEY138.1	34140	68	C14H30	198
Tridecane, 6-methyl-	13287-21-3	nbs75k.1	22532	50	C14H30	198

C01 932

Date : 28-JAN-99 11:52

Client ID: BP @T=2.0 hr

Sample Info: TST 1394 VP006-084 BP @T=2.0 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Heptadecane, 2,6,10,15-tetramethyl-
Dodecane, 2,6,10-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
3891-98-3	nbs75k.1	25995	86	C15H32	212
54833-48-6	nbs75k.1	42196	86	C21H44	296
3891-98-3	WILEY138.1	40638	86	C15H32	212

C01 933

Date : 28-JAN-99 11:52

Client ID: BP QT=2.0 hr

Sample Info: TST 1394 VP006-084 BP QT=2.0 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	96	C14H30	198
Tetradecane	629-59-4	WILEY138.1	128276	96	C14H30	198

C01 934

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 BP @T=4.0 hr
 100 ml. of ISTD; rerun for dup

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : PNNL_std.m
 File : 69012805.d
 Injection Date : 28-JAN-1999 11:52 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-084 REP
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 220 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242				0.0045	0.83	U
Chloromethane	19	50.49	9.128				0.0019	0.83	U
1,2-dichloro1,1,2,2-tetrafluoroeth	19	170.92	9.727				0.0064	0.83	U
Vinyl Chloride	19	62.50	10.150				0.0023	0.83	U
Methanol	19	32.04	10.475	10.603	107414	37.25	0.1693	118.38	
1,3-Butadiene	19	54.00	10.721				0.0032	1.34	U
Chloroethane	19	64.51	12.269				0.0024	0.84	U
Ethanol	19	46.07	12.880	12.917	80013	52.25	0.2375	115.47	
Acetonitrile	19	41.05	13.362	13.370	61983	23.14	0.1052	57.40	
Acetone	19	58.08	13.855	13.853	184792	195.33	0.8879	342.42	
Trichlorofluoromethane	19	137.37	14.269	14.247	16222	5.22	0.0237	3.87	J
Pentane	19	72.00	15.067	15.036	1188085	280.20	1.2737	396.25	
1,1-Dichloroethene	19	96.94	15.586				0.0036	0.83	U
Methylene Chloride	19	84.93	15.885				0.0032	0.84	U
1,1,2-trichloro1,2,2-trifluoroethane	19	187.38	16.418				0.0070	0.83	U
1,1-Dichloroethane	19	98.96	18.009				0.0037	0.83	U
2-Butanone	19	72.11	18.725	18.731	24075	31.30	0.1423	44.19	
cis-1,2-Dichloroethene	19	96.94	19.536				0.0036	0.83	U
Chloroform	19	119.38	20.106				0.0044	0.83	U
1,2-Dichloroethane	19	98.96	21.418				0.0037	0.83	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0050	0.83	U
Benzene	25	78.11	22.846	22.822	122951	8.25	0.0375	10.75	
Carbon Tetrachloride	25	153.82	23.123				0.0057	0.83	U
1,2-Dichloropropane	25	112.99	24.285				0.0042	0.83	U
Trichloroethene	25	131.39	24.719				0.0049	0.84	U
cis-1,3-Dichloropropene	25	110.97	26.324				0.0091	1.83	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0091	1.83	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0034	0.57	U
Toluene	34	92.14	28.476	28.457	340021	39.03	0.1774	43.13	
1,2-Dibromoethane	34	187.86	29.947				0.0070	0.83	U
Tetrachloroethylene	34	165.83	30.999				0.0070	0.95	U
Chlorobenzene	34	112.56	32.566				0.0042	0.83	U
Ethylbenzene	34	106.17	33.394	33.374	23411	1.45	0.0066	1.39	J

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
p/m-Xylene	34	106.17	33.809	33.749	19788	3.43	0.0156	3.29	J
Styrene	41	104.15	34.727				0.0039	0.83	U
1,1,2,2-Tetrachloroethane	41	167.85	34.965				0.0062	0.83	U
o-Xylene	41	106.17	35.024	34.985	4292	0.70	0.0032	0.67	J
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0044	0.83	U
1,2,4-Trimethylbenzene	41	120.19	39.844	39.817	9074	0.71	0.0032	0.60	J
1,3-Dichlorobenzene	41	147.00	40.328				0.0545	8.30	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0054	0.83	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0054	0.83	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0068	0.84	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0095	0.82	U
Bromochloromethane (IS)	19	129.40	19.898	19.874	174982	121.00	0.5500	95.21	
Difluorobenzene (IS)	25	114.00	23.340	23.316	1072879	106.00	0.4818	94.67	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.436	911570	113.00	0.5136	96.23	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.179	545940	162.00	0.7364	94.80	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

C01 936

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Page 2

HN7-4073
Rev. 0

C01 937

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 BP @T=4.0 hr 100 ml of ISTD; rerun for dup

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1394 VP006-084 BP @T=4.0 hr 100 ml of ISTD; rerun for dup

C01 939

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1395 VP006-076 BP @T=5.5 hr
 100 ml of ISTD; Sample rerun

HNF-4073
 Rev. 0

Instrument ID : hpdos6.i
 Method : sas_std.m
 File : 69012806.d
 Injection Date : 28-JAN-1999 13:12 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-076 Rerun
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 212 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	23	42.08	7.680	7.650	1050819	207.95	0.9809	522.14	
Propane	23	44.10	7.848	7.827	322765	201.57	0.9508	482.94	
Dichlorodifluoromethane	23	120.91	8.242				0.0049	0.91	U
Chloromethane	23	50.49	9.129				0.0020	0.88	U
Acetaldehyde	23	44.05	9.818	9.845	172887	261.83	1.2351	628.04	
Butane	23	58.12	11.000	10.968	4090469	749.11	3.5335	1361.86	E
Chloroethane	23	64.51	12.280				0.0024	0.83	U
Ethanol	23	46.07	12.733	12.820	422300	152.87	0.7211	350.60	
Acetonitrile	23	41.05	13.246	13.362	127186	33.34	0.1573	85.82	
Acetone	23	58.08	13.827	13.854	167038	85.80	0.4047	156.09	
Trichlorofluoromethane	23	137.37	14.281	14.249	71820	26.81	0.1264	20.62	
Isopropyl Alcohol	23	60.10	14.399	14.525	24695	5.04	0.0238	8.85	J
Furan	23	68.08	14.666				0.0026	0.85	U
Pentane	23	72.00	15.070	15.037	1285518	273.64	1.2908	401.57	
Methylene Chloride	23	84.93	15.898				0.0032	0.85	U
1,1,2-trichloro-2,2,2-trifluoroethane	23	187.38	16.422				0.0073	0.87	U
Propanenitrile	23	55.08	17.152	17.185	99713	38.97	0.1838	74.75	
Propanol	23	60.10	17.181	17.235	106365	23.06	0.1088	40.54	
2-Methylpentane	23	86.18	18.385	18.358	197819	37.58	0.1773	46.07	
Butanal	23	72.11	18.523	18.546	16314	47.44	0.2238	69.51	
2-Butanone	23	72.11	18.711	18.753	70682	13.11	0.0618	19.21	J
1-Hexene	23	84.16	19.372	19.354	1333067	558.50	2.6344	701.18	
Hexane	23	86.18	19.944	19.926	1070467	315.74	1.4893	387.11	
Chloroform	23	119.38	20.122				0.0052	0.97	U
Tetrahydrofuran	23	72.11	20.852	20.863	8693	5.63	0.0265	8.24	J
Butanenitrile	31	69.11	21.927	21.917	432285	40.79	0.1924	62.36	
1-Butanol	31	74.12	22.381	22.371	133299	27.26	0.1286	38.86	J
Benzene	31	78.11	22.855	22.825	127779	7.38	0.0348	9.99	
Carbon Tetrachloride	31	153.82	23.131				0.0058	0.84	U
2-Pentanone	31	86.13	23.438	23.456	185678	14.45	0.0681	17.72	
3-Methylhexane	31	100.20	23.991	23.960	67526	9.66	0.0456	10.19	
1,4-Dioxane	31	88.11	24.681				0.0085	2.16	U
Heptane	31	100.20	25.215	25.184	2420595	568.77	2.6829	599.76	

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

HMF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
4-Methyl-2-pentanone	31	100.16	26.368	26.319	69365	6.96	0.0328	7.34	J
Pyridine	31	79.10	26.615				0.0943	26.70	U
1,1,2-Trichloroethane	31	133.40	27.858				0.0050	0.83	U
Toluene	43	92.14	28.489	28.470	414149	47.37	0.2235	54.33	
2-Hexanone	43	100.16	28.825	28.806	456290	52.99	0.2500	55.90	
Octane	43	114.23	30.432	30.396	365791	97.81	0.4614	90.47	
Tetrachloroethylene	43	165.83	31.004				0.0059	0.80	U
Chlorobenzene	43	112.56	32.572				0.0039	0.78	U
Ethylbenzene	43	106.17	33.401	33.378	44594	3.12	0.0147	3.10	J
p/m-Xylene	43	106.17	33.826	33.783	50139	10.37	0.0489	10.32	
3-Heptanone	43	114.19	33.835	33.813	16564655	2476.68	11.6825	2291.68	E
2-Heptanone	54	114.19	33.964	33.932	4213473	335.61	1.5831	310.54	
Cyclohexanone	54	98.14	34.281				0.0088	2.01	U
Styrene	54	104.15	34.735	34.702	4738	0.42	0.0020	0.42	J
1,1,2,2-Tetrachloroethane	54	167.85	34.973				0.0067	0.90	U
o-Xylene	54	106.17	35.033	35.009	11864	1.76	0.0083	1.75	J
Nonane	54	128.26	35.379	35.354	618384	68.59	0.3236	56.51	
2-Octanone	54	128.21	38.774	38.744	249179	22.62	0.1067	18.64	
1,2,4-Trimethylbenzene	54	120.19	39.850				0.0049	0.91	U
Decane	54	142.20	40.009	39.980	1792314	255.28	1.2042	189.68	
Bromochloromethane (IS)	23	129.40	19.915	19.886	151958	106.00	0.5000	86.55	
Difluorobenzene (IS)	31	114.00	23.349	23.328	1091776	106.00	0.5000	98.25	
Chlorobenzene-d5 (IS)	43	119.56	32.463	32.440	927554	113.00	0.5330	99.86	
1-Bromo-4-Fluorobenzene (IS)	54	174.00	36.209	36.194	896767	113.00	0.5330	68.62	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	10.652	9262538	189.93	0.8959	358.37	NJ
1-Butene	23	56	106-98-9	11.343	661846	13.57	0.0640	25.61	NJ
Butanenitrile, 2-methylene-	31	81	1647-11-6	23.624	543463	18.61	0.0878	24.27	NJ
1-Heptene	31	98	592-76-7	24.581	3753811	128.51	0.6062	138.55	NJ
(Z)-3-Heptene	31	98	7642-10-6	25.035	22913912	784.45	3.7002	845.76	NJ
2-Heptene	31	98	592-77-8	25.391	27623549	945.68	4.4607	1019.60	NJ
Pentanenitrile	31	83	110-59-8	27.384	1193882	40.87	0.1928	52.03	NJ
3,4-Heptadiene	31	96	2454-31-1	27.572	6540534	223.91	1.0562	246.44	NJ
2-Heptyne	43	96	1119-65-9	28.668	6242135	230.16	1.0857	253.33	NJ
4-Octene, (E)-	43	112	14850-23-8	28.925	2514046	92.70	0.4373	87.45	NJ
Heptane, 3-methyl-	43	114	589-81-1	29.113	12737414	469.66	2.2154	435.30	NJ
Heptane, 3-methylene-	43	112	1632-16-2	29.754	16167912	596.15	2.8120	562.41	NJ
2-Octene, (E)-	43	112	13389-42-9	30.100	911008	33.59	0.1584	31.69	NJ
3-Heptene, 3-methyl-	43	112	7300-03-0	30.238	3693266	136.18	0.6424	128.47	NJ
2-Octene	43	112	111-67-1	30.535	1513280	55.80	0.2632	52.64	NJ
2-HEPTENE, 3-METHYL-	43	112	0-00-0	30.801	3237705	119.38	0.5631	112.63	NJ
2-Octene, (Z)-	43	112	7642-04-8	31.058	2118131	78.10	0.3684	73.68	NJ
3-Hexanone, 5-methyl-	43	114	623-56-3	31.364	722719	26.65	0.1257	24.70	NJ
Hexanenitrile	43	97	628-73-9	32.726	699980	25.81	0.1217	28.11	NJ
4-Heptanone	43	114	123-19-3	33.180	10675409	393.63	1.8567	364.83	NJ
3-Heptanol	54	116	589-82-2	34.436	4669071	82.68	0.3900	75.31	NJ

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128	0-00-0	36.698	5601146	99.19	0.4679	81.88	NJ
Unknown	54	126		36.777	9820631	173.90	0.8203	145.83	J
1,3-Diethyl-1,4-epoxybutane (isomer)	54	128		36.896	8197816	145.17	0.6848	119.83	J
Unknown	54	126		37.153	9633061	170.58	0.8046	143.05	J
Unknown	54	128		37.331	1690815	29.94	0.1412	24.72	J
Heptanenitrile	54	111	629-08-3	37.706	2058166	36.45	0.1719	34.69	NJ
4-Octanone	54	128	589-63-9	38.042	1893627	33.53	0.1582	27.68	NJ
Unknown	54	124		39.426	7823024	138.53	0.6534	118.04	J
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140	0	40.108	3168003	56.10	0.2646		J
1-Hexanol, 2-ethyl-	54	130	104-76-7	40.632	13262567	234.86	1.1078	190.88	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	54	140		41.097	2376249	42.08	0.1985	31.76	J
Cyclohexane, butyl-	54	140	1678-93-9	41.987	1582752	28.03	0.1322	21.15	NJ
Octanenitrile	54	125	124-12-9	42.353	1304654	23.10	0.1090	19.53	NJ
Naphthalene, decahydro-, trans-	54	138	493-02-7	43.559	1079856	19.12	0.0902	14.64	NJ
Unknown	54	154		43.866	3622299	64.14	0.3026	44.01	J
Undecane	54	156	1120-21-4	44.282	18670622	330.62	1.5595	223.93	NJ
Unknown	54	168		44.836	3577849	63.36	0.2989	39.85	J
Unknown C11 Alkane (mw 156)	54	156		45.529	1817081	32.18	0.1518	21.79	J
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	45.964	1853771	32.83	0.1548	22.82	NJ
Cyclohexane, pentyl-	54	154	4292-92-6	46.330	2225678	39.41	0.1859	27.04	NJ
Heptane, 4-propyl-	54	142	3178-29-8	46.538	1361978	24.12	0.1138	17.95	NJ
Naphthalene, decahydro-2-methyl-	54	152	2958-76-1	46.707	3394838	60.12	0.2836	41.79	NJ
Undecane, 2-methyl-	54	170	7045-71-8	46.905	1784331	31.60	0.1490	19.64	NJ
3-Dodecene, (Z)-	54	168	7239-23-8	47.866	1579366	27.97	0.1319	17.59	NJ
Dodecane	54	170	112-40-3	48.282	46407368	821.79	3.8764	510.77	NJ
Undecane, 2,6-dimethyl-	54	184	17301-23-4	48.897	9929926	175.84	0.8294	100.97	NJ
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54	182	54676-39-0	50.315	3845479	68.10	0.3212	39.53	NJ
Unknown C14 Alkane (mw 198)	54	0		51.148	7073899	125.27	0.5909		J
Unknown C13 Alkene/Cycloalkane (mw 182)	54	182		51.625	3688065	65.31	0.3081	37.92	J
Tridecane	54	184	629-50-5	52.012	77452404	1371.54	6.4695	787.59	NJ
Tetradecane	54	198	629-59-4	55.486	21922675	388.21	1.8312	207.16	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	5169314
Difluorobenzene (IS)	31	3096296
Chlorobenzene-d5 (IS)	43	3064600
1-Bromo-4-Fluorobenzene (IS)	54	6381255

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HMIF-4073
Rev. 0

02/08/99 09:52

69012806.d

Page 3

C01 943

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1395 VP006-076 BP @T=5.5 hr 100 ml of ISTD; Sample rerun

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1395 VP006-076 BP @T=5.5 hr 100 ml of ISTD; Sample rerun

Data File: /chem/hpdos6.1/SAS.b/69012806.d

Page 1

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

C01 946

Date: 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

1 Propene

C01 947

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

2 Propane

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

5 Acetaldehyde

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

6 Butane

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HPLC-4073
Rev. 0

Column phase: DB-1

8 Ethanol

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

9 Acetonitrile

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HPLC-4073
Rev. 0

10 Acetone

C01 953

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

11 Trichlorofluoromethane

C01 954

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

14 Pentane

C01 955

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HPL-4073
Rev. 0

Column phase: DB-1

17 Propanenitrile

C01 956

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

18 Propanol

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 WP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

19 2-Methylpentane

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

20 Butanal

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

22 1-Hexene

C01 961

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Hexane

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

26 Tetrahydrofuran

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

27 Butanenitrile

C01 964

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

28 1-Butanol

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Benzene

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

32 2-Pentanone

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

33 3-Methylhexane

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

35 Heptane

C01 96.9

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

36 4-Methyl-2-pentanone

C01 970

Date : 28-JAN-93 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

39 Toluene

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

40 2-Hexanone

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

41 Octane

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

45 Ethylbenzene

C01 974

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 p/n-Xylene

C01 975

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

47 3-Heptanone

C01 976

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

48 2-Heptanone

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

50 Styrene

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

52 o-Xylene

C01 979

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

53 Nonane

C01 980

Date : 28-JAN-93 13:12

Client ID: BP @T=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

55 2-Octanone

C01 981

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

57 Decane

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HMF-4073

Rev. 0

Column phase: DB-1

Library Search Compound Match

1-Propene, 2-methyl-
1-Propene, 2-methyl-
1-Propene, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
115-11-7	nbs75k.1	62306	90	C4H8	56
115-11-7	nbs75k.1	62305	90	C4H8	56
115-11-7	WILEY138.1	116022	90	C4H8	56

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

1-Butene

1-Butene

1-Butene

CAS Number

Library

Entry

Quality

Formula

Weight

106-98-9

nbs75k.l

62309

87

C4H8

56

106-98-9

nbs75k.l

62307

87

C4H8

56

106-98-9

nbs75k.l

62308

86

C4H8

56

C01 984

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 WP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.l	62308	81	C4H8	56
1-Butene	106-98-9	nbs75k.l	62309	81	C4H8	56
1-Butene	106-98-9	nbs75k.l	62307	81	C4H8	56

C01 985

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	90	C5H10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	62467	87	C5H10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	WILEY138.1	116343	87	C5H10	70

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	62467	87	CSH10	70
2-Pentene, (Z)-	627-20-3	nbs75k.1	62456	87	CSH10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	WILEY138.1	116343	87	CSH10	70

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.1	62465	90	C5H10	70
Cyclobutane, methyl-	598-61-8	nbs75k.1	229	90	C5H10	70
1-Pentene	109-67-1	nbs75k.1	62466	87	C5H10	70

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

HIF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexene, (Z)-	7642-09-3	nbs75k.1	607	87	C6H12	84
2-Hexene	592-43-8	nbs75k.1	62758	87	C6H12	84
2-Hexene	592-43-8	WILEY138.1	116885	87	C6H12	84

C01 989

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Ethylacrolein	922-63-4	nbs75k.1	551	94	C ₅ H ₈ O	84
2-Butenal, 2-methyl-, (E)-	497-03-0	nbs75k.1	565	70	C ₆ H ₈ O	84
2-Butenal, 2-methyl-	1115-11-3	nbs75k.1	574	70	C ₆ H ₈ O	84

C01 990

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: JCE

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile, 2-methylene-	1647-11-6	nbs75k.l	445	94	C5H7N	81
trans-1,4-Cyclohexanedicarbonitrile	6550-85-2	nbs75k.l	6135	72	C8H10N2	134
2-Pentenitrile	13284-42-9	nbs75k.l	447	64	C5H7N	81

C01 991

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

W11F-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Cyclohexane, 1-methyl-2-propyl-

3-Heptene

2-Heptene

CAS Number

Library

Entry

Quality

Formula

Weight

4291-79-6

nbs75k.1

66074

90

C10H20

140

592-78-9

nbs75k.1

63247

86

C7H14

98

592-77-8

nbs75k.1

63245

86

C7H14

98

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HDP-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	96	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	93	C7H14	98
1-Heptene	592-76-7	WILEY138.1	897	93	C7H14	98

C01 993

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.1

WFF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ethene, trichloro-	79-01-6	WILEY138.1	121019	98	C2HCl3	130
Trichloroethylene	79-01-6	nbs75k.1	65175	96	C2HCl3	130
Trichloroethylene	79-01-6	nbs75k.1	65176	96	C2HCl3	130

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98

C01 995

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98

HMF-4073
Rev. 0

C01 996

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Pentanenitrile

Pentanenitrile

Pentanenitrile

CAS Number

Library

Entry

Quality

Formula

Weight

110-59-8

WILEY138.1

116798

64

C₅H₉N

83

110-59-8

nbs75k.1

514

53

C₅H₉N

83

110-59-8

nbs75k.1

62698

40

C₅H₉N

83

HMF-4073
Rev. 0

C01 997

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

WVF-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	80	C7H12	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	81	C6H8O	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	WILEY138.1	593	81	C6H8O	96

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

H01F-4078
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Pentadiene, 2,4-dimethyl-	1000-86-8	nbs75k.1	63137	91	C7H12	96
1,3-Pentadiene, 2,4-dimethyl-	1000-86-8	WILEY138.1	627	91	C7H12	96
1,3-PENTADIENE, 2,3-DIMETHYL-	0-00-0	WILEY138.1	626	90	C7H12	96

C01 999

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

2-Heptyne
Cyclopropane, trimethylmethylen-
2-Heptyne

CAS Number	Library	Entry	Quality	Formula	Weight
1119-65-9	nbs75k.1	63138	95	C7H12	96
34462-28-7	nbs75k.1	63123	70	C7H12	96
1119-65-9	nbs75k.1	1141	70	C7H12	96

C02 000

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

H07-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	91	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119060	91	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	90	C8H16	112

C02 001

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119373	86	C8H18	114

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073

Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	94	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	94	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	4850-28-6	nbs75k.1	2684	91	C8H16	112

C02 003

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64022	46	C8H16	112
Cycloheptanone	502-42-1	WILEY138.1	119041	50	C7H12O	112
1,6-Octadiene, (E)-	19036-81-8	nbs75k.1	2361	46	C8H14	110

C02 004

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	86	C8H16	112
ETHYL-2 METHYL-3 PENTENE-1	0-00-0	WILEY138.1	2685	86	C8H16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	86	C8H16	112

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	2659	90	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	90	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	90	C8H16	112

C02 006

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HPLC-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64033	90	C8H16	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	90	C8H16	112

C02 007

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	76	C8H16	112
trans-1-Butyl-2-methylcyclopropane	38851-70-6	nbs75k.1	2690	86	C8H16	112
TRANS-1-BUTYL-2-METHYLCYCLOPROPANE	38851-70-6	WILEY138.1	2732	86	C8H16	112

C02 008

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

HNF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64194	62	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	58	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64172	53	C7H14O	114

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

HNF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanenitrile	628-73-9	nbs75k.1	63154	78	C6H11N	97
Hexanenitrile	628-73-9	WILEY138.1	117638	78	C6H11N	97
Pentanenitrile	110-59-8	WILEY138.1	116798	59	C5H9N	83

C02 010

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64150	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119313	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119317	91	C7H14O	114

C02 011

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

3-Heptanol
3-Heptanol
3-Heptanol

CAS Number	Library	Entry	Quality	Formula	Weight
589-82-2	nbs75k.1	3383	83	C7H16O	116
589-82-2	nbs75k.1	64381	83	C7H16O	116
589-82-2	WILEY138.1	119622	83	C7H16O	116

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

H11F-4073
REV. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane (isomer)	0-00-0	WILEY138.1	6005	53	C8H16O	128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	59	C6H13BO2	128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	WILEY138.1	5771	59	C6H13BO2	128

C02 013

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

WILEY-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
1-Methyl-2-cyclopenten-1-ol	40459-88-9	WILEY138.1	844	56	C6H10O	98
Cyclopentane, 1-ethyl-1-methyl-	16747-50-5	nbs75k.1	2727	50	C8H16	112
Cyclopentane, 1-ethyl-1-methyl-	16747-50-5	WILEY138.1	2705	50	C8H16	112

C02 014

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.1

HPLC-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane (isomer)	57633-63-3	nbs75k.1	4896	72	C6H13BO2	128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	WILEY138.1	5771	72	C6H13BO2	128
3,5-Diamino-1,2,4-triazole	1455-77-2	nbs75k.1	1372	59	C2H5N5	99

C02 015

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

Benzenamine, 2-fluoro-

4-Methyl-2-methyleneoxepane

Cyclohexane, 1,2,4-trimethyl-, (1.alpha.,

CAS Number

Library

Entry

Quality

Formula

Weight

348-54-9

nbs75k.1

63901

47

C6H6FN

111

64507-65-9

WILEY138.1

5378

43

C8H14O

126

7667-60-9

nbs75k.1

4656

42

C9H18

126

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Unknown

2,2-Dimethyl-3-heptene trans

TRANS DIMETHYL-2,2 HEPTENE-3

2-ISOPROPYL-1-HEXENE

CAS Number	Library	Entry	Quality	Formula	Weight
19550-75-5	rhs75k.1	4627	50	C9H18	126
0-00-0	WILEY138.1	5428	50	C9H18	126
0-00-0	WILEY138.1	5433	49	C9H18	126

C02 017

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Heptanenitrile
Heptanenitrile
Heptanenitrile

CAS Number	Library	Entry	Quality	Formula	Weight
629-08-3	nbs75k.1	63907	87	C7H13N	111
629-08-3	nbs75k.1	63908	70	C7H13N	111
629-08-3	WILEY138.1	118930	70	C7H13N	111

HPLC-4073
Rev. 0

C02 018

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

HPLC-4073
REV. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	5058	94	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65060	94	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65061	94	C8H16O	128

C02 019

Date : 28-JUN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HPLC-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2	nbs75k.1	7580	90	C10H20	140
1,1,2,3-TETRAMETHYLCYCLOHEXANE A	6783-92-2	WILEY138.1	9524	90	C10H20	140
2-Octene, 2,6-dimethyl-	4057-42-5	nbs75k.1	66054	76	C10H20	140

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown

2-Azabicyclo[2.2.1]heptane

1-Buten-4-yl methacrylate

Hexanenitrile

CAS Number	Library	Entry	Quality	Formula	Weight
279-24-3	WILEY138.1	699	83	C6H11N	97
0-00-0	WILEY138.1	9179	53	C8H12O2	140
626-73-9	WILEY138.1	117636	42	C6H11N	97

HNF-4073
Rev. 0

C02 021

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
1-Hexadecyne	629-74-3	nbs75k.1	28279	40	C16H30	222
1,13-Tetradecadiene	21964-49-8	nbs75k.1	69420	38	C14H26	194
Cyclopropane, 1-hexyl-2-methyl-	62238-09-9	nbs75k.1	7567	38	C10H20	140

Date : 28-JAN-99 13:12

Client ID: BP 0T=5.5 hr

Sample Info: TST 1395 VP006-076 BP 0T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1-Hexanol, 2-ethyl-
1-Hexanol, 2-ethyl-
1-Hexanol, 2-ethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
104-76-7	WILEY138.1	121202	90	C8H18O	130
104-76-7	WILEY138.1	121197	78	C8H18O	130
104-76-7	WILEY138.1	121198	78	C8H18O	130

WILEY-4073
REV. 0

C02 023

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

H01F-4073
REV. 0

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

Decane, 4-methyl-

Decane, 4-methyl-

Octane, 3,3-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
2847-72-5	nbs75k.1	67324	90	C11H24	156
2847-72-5	WILEY138.1	124557	90	C11H24	156
4110-44-5	nbs75k.1	66216	78	C10H22	142

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	76	C11H24	156
Hexadecane, 2,6,10,14-tetramethyl-	638-36-8	WILEY138.1	132697	59	C20H42	282
Nonane, 3,7-dimethyl-	17302-32-8	nbs75k.1	11601	53	C11H24	156

C02 025

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66055	81	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66056	81	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66057	74	C10H20	140

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane, 6-methyl-	13287-21-3	WILEY138.1	34138	50	C14H30	198
Tridecane, 6-methyl-	13287-21-3	nbs75k.1	22532	43	C14H30	198
Decane, 2,5,6-trimethyl-	62108-23-0	nbs75k.1	19019	40	C13H28	184

C02 027

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	83	C8H15N	125
Octanenitrile	124-12-9	WILEY138.1	5025	74	C8H15N	125
Decanenitrile	1975-78-6	nbs75k.1	10595	45	C10H19N	153

C02 028

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

WILEY-4073
Rev. 0

Library Search Compound Match

Undecane, 2,7-dimethyl-

Undecane

Undecane, 2,7-dimethyl-

CAS Number

Library

Entry

Quality Formula

Weight

17301-24-5

nbs75k.1

19060

59

C13H28

184

1120-21-4

nbs75k.1

67319

53

C11H24

156

17301-24-5

WILEY138.1

27746

53

C13H28

184

C02 029

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67322	94	C11H24	156
Decane, 2-methyl-	6975-98-0	WILEY138.1	124556	87	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.1	67320	74	C11H24	156

C02 030

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HPLC-4073
Rev. 0

Column phase: BB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	87	C11H24	156
Nonane, 3,7-dimethyl-	17302-32-8	nbs75k.1	11601	83	C11H24	156
Nonane, 3,7-dimethyl-	17302-32-8	WILEY138.1	15631	83	C11H24	156

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122343	98	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	7108	94	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65956	94	C10H18	138

C02 032

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HPLC-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
4(1H)-Pyridinone, 2,3-dihydro-1-methyl-	35488-00-7	WILEY138.1	2353	53	C6H9NO	111
3-Buten-2-one, 4-(1-aziridinyl)-	18277-57-1	WILEY138.1	2342	52	C6H9NO	111
3-Buten-2-one, 4-(1-aziridinyl)-	18277-57-1	nbs75k.1	2425	50	C6H9NO	111

C02 033

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane	1120-21-4	nbs75k.1	67317	95	C11H24	156
Undecane	1120-21-4	nbs75k.1	67319	93	C11H24	156
Undecane	1120-21-4	WILEY138.1	124548	93	C11H24	156

C02 034

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
4(3H)-Pyrimidinone	51953-17-4	nbs75k.1	1060	46	C4H4N2O	96
3-AMINO-1,2,4-TRIAZINE	1120-99-6	WILEY138.1	117555	46	C3H4N4	96
7-Oxabicyclo[4.1.0]heptane, 2-methyl-	5410-22-0	nbs75k.1	2607	43	C7H12O	112

C02 035

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126019	93	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126021	91	C12H26	170
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	86	C12H26	170

C02 036

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Dodecane, 2,6,10-trimethyl-

Undecane, 4-methyl-

Undecane, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
3891-98-3	nbs75k.1	70270	72	C15H32	212
2980-69-0	nbs75k.1	68256	68	C12H26	170
2980-69-0	WILEY138.1	126017	68	C12H26	170

C02 037

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

WILEY-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	94	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	94	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	94	C11H20	152

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
REV. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	86	C11H22	154
Cyclohexane, pentyl-	4292-92-6	WILEY138.1	14841	86	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	83	C11H22	154

C02 039

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HPLC-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 4-propyl-	3178-29-8	nbs75k.1	8079	72	C10H22	142
Heptane, 4-propyl-	3178-29-8	nbs75k.1	8079	72	C10H22	142
Heptane, 4-(1-methylethyl)-	52896-87-4	nbs75k.1	8084	56	C10H22	142

C02 040

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

WILEY-4073
REV. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	76	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	76	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	76	C11H20	152

C02 041

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

WILEY-4073
REV. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	90	C12H26	170
Undecane, 2-methyl-	7045-71-8	WILEY138.1	21649	90	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.1	68257	81	C12H26	170

C02 042

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HPL-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	WILEY138.1	126014	78	C12H26	170
Undecane, 3-methyl-	1002-43-3	WILEY138.1	126013	76	C12H26	170
Tridecane, 2,5-dimethyl-	56292-66-1	nbs75k.1	25996	72	C15H32	212

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

ADAMANTANE-1,3-DIOL

5001-18-3

WILEY138.1

20503

53

C10H16O2

168

Cyclohexane, 2-ethyl-1,3-dimethyl-

7045-67-2

nbs75k.1

7532

43

C10H20

140

Cyclohexane, 1,1,3-trimethyl-

3073-66-3

nbs75k.1

64942

43

C9H18

126

C02 044

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

HPLC-4073
Rev. 0

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Dodecene, (Z)-	7239-23-8	nbs75k.1	14732	94	C12H24	168
3-Dodecene, (Z)-	7239-23-8	nbs75k.1	14732	94	C12H24	168
3-Dodecene, (E)-	7206-14-6	nbs75k.1	68109	94	C12H24	168

C02 045

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
6-Dodecene, (E)-	7206-17-9	nbs75k.1	14720	46	C12H24	168
6-Dodecene, (E)-	7206-17-9	WILEY138.1	20670	46	C12H24	168
1-Hexene, 3,3,5-trimethyl-	13427-43-5	nbs75k.1	4683	43	C9H18	126

C02 046

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane	112-40-3	nbs75k.1	68254	96	C12H26	170
Dodecane	112-40-3	nbs75k.1	15347	96	C12H26	170
Dodecane	112-40-3	WILEY138.1	126002	96	C12H26	170

C02 047

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

2-Sec-butyl-3-methyl-1-pentene
5-Undecene, 7-methyl-, (E)-
Cyclopentane, 1,2-dimethyl-3-(1-methylethyl)

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	nbs75k.1	7523	70	C10H20	140
74630-66-3	nbs75k.1	14703	43	C12H24	168
489-20-3	nbs75k.1	7606	43	C10H20	140

C02 048

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	96	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69032	93	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	127264	93	C13H28	184

C02 049

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

NNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-1,6-dimethyl-	1750-51-2	WILEY138.1	125614	72	C12H22	166
trans,trans-1,8-Dimethylspiro[4,5]decane	0-00-0	nbs75k.1	14143	62	C12H22	166
cis,trans-1,10-Dimethylspiro[4,5]decane	0-00-0	nbs75k.1	14138	60	C12H22	166

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

HMF-4073
Rev. 0

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	91	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	91	C13H26	182
3-Dodecene, (E)-	7206-14-6	nbs75k.1	14701	87	C12H24	168

C02 051

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
cis,trans-1,10-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14138	43	C12H22	166
Dodecane, 4-methyl-	6117-97-1	nbs75k.1	19025	30	C13H28	184
Dodecane, 4-methyl-	6117-97-1	WILEY138.1	27734	30	C13H28	184

C02 052

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,10-dimethyl-	17301-27-8	nbs75k.1	18997	72	C13H28	184
Undecane, 2,10-dimethyl-	17301-27-8	WILEY138.1	27749	72	C13H28	184
Decane, 2,3,6-trimethyl-	62238-12-4	nbs75k.1	19047	64	C13H28	184

C02 053

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.1

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 2,2,3,3,5,6,6-heptamethyl-	7225-67-4	nbs75k.1	69655	50	C14H30	198
Heptane, 2,2,3,3,5,6,6-heptamethyl-	7225-67-4	nbs75k.1	22533	50	C14H30	198
Heptane, 2,2,3,3,5,6,6-heptamethyl-	7225-67-4	WILEY138.1	128292	50	C14H30	198

C02 054

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C14 Alkane (mw 198)

Tridecane, 7-methyl-

Tridecane, 7-methyl-

Octane, 2,3,7-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
26730-14-3	nbs75k.1	22538	86	C14H30	198
26730-14-3	WILEY138.1	128289	86	C14H30	198
62016-34-6	nbs75k.1	11603	83	C11H24	156

HMF-4073
Rev. 0

C02 055

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

WILEY-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C13 Alkene/Cycloalkane (mw 182)						
Cyclopentane, 1,2-dibutyl-	62199-52-4	nbs75k.1	18498	87	C13H26	182
Cyclopentane, 1-pentyl-2-propyl-	62199-51-3	nbs75k.1	18495	87	C13H26	182
Cyclopentane, 1-pentyl-2-propyl-	62199-51-3	WILEY138.1	26864	87	C13H26	182

C02 056

Date : 28-JAN-99 13:12

Client ID: BP @T=5.5 hr

Sample Info: TST 1395 VP006-076 BP @T=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column phase: DB-1

Column diameter: 0.32

HMF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane	629-50-5	nbs75k.1	69017	97	C13H28	184
Tridecane	629-50-5	WILEY138.1	127252	97	C13H28	184
Tridecane	629-50-5	nbs75k.1	18989	96	C13H28	184

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Instrument: hpdos6.i

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Operator: JCE

HNF-4073

Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Cyclohexane, 1,2,3-trimethyl-, (1.alpha.
TRANS DIMETHYL-2,2 HEPTENE-3
Cyclopentane, propyl-

CAS Number	Library	Entry	Quality	Formula	Weight
7667-55-2	WILEY138.1	5466	62	C9H18	126
0-00-0	WILEY138.1	5428	49	C9H18	126
2040-96-2	nbs75k.1	64026	46	C8H16	112

C02 058

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

HMF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Tetracontane, 3,5,24-trimethyl-
Tetracontane, 3,5,24-trimethyl-
Tridecane, 6-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
55162-61-3	nbs75k.1	60914	78	C43H88	605
55162-61-3	WILEY138.1	112523	78	C43H88	605
13287-21-3	nbs75k.1	22532	50	C14H30	198

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

WILEY-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.l	25995	83	C15H32	212
Dodecane, 2,6,10-trimethyl-	3891-98-3	WILEY138.l	40638	83	C15H32	212
Tetradecane, 4-methyl-	25117-24-2	nbs75k.l	25997	80	C15H32	212

C02 060

Date : 28-JAN-99 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.i

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclotetradecane	295-17-0	nbs75k.1	69525	55	C14H28	196
Cyclotetradecane	295-17-0	WILEY138.1	128073	55	C14H28	196
1-Pentadecene	13360-61-7	nbs75k.1	70192	45	C15H30	210

C02 061

Date : 28-JAN-93 13:12

Client ID: BP QT=5.5 hr

Sample Info: TST 1395 VP006-076 BP QT=5.5 hr

Instrument: hpdos6.1

Operator: JCE

Column diameter: 0.32

Column phase: DB-1

WILEY-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tetradecane	629-59-4	nbs75k.1	69659	98	C14H30	198
Tetradecane	629-59-4	nbs75k.1	69661	98	C14H30	198
Tetradecane	629-59-4	WILEY138.1	128276	96	C14H30	198

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1395 VP006-076 BP @T=5.5 hr
 100 ml of ISTD; Sample rerun

HMF-4073
Rev. 0

Instrument ID : hpdos6.1
 Method : PNNL std.m
 File : 69012806.d
 Injection Date : 28-JAN-1999 13:12 Operator : JCE
 Matrix : AIR Lab. Sample ID: VP006-076 Rerun
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 210 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	19	120.91	8.242				0.0047	0.87	U
Chloromethane	19	50.49	9.128				0.0019	0.87	U
12dichloro1122-tetrafluoroeth	19	170.92	9.727				0.0067	0.87	U
Vinyl Chloride	19	62.50	10.150				0.0024	0.87	U
Methanol	19	32.04	10.475	10.298	2314211	924.14	4.4007	3076.63	E
1,3-Butadiene	19	54.00	10.721				0.0034	1.40	U
Chloroethane	19	64.51	12.269				0.0025	0.88	U
Ethanol	19	46.07	12.880	12.820	512402	385.28	1.8347	892.05	E
Acetonitrile	19	41.05	13.362	13.362	106571	45.82	0.2182	119.06	
Acetone	19	58.08	13.855	13.854	156141	190.05	0.9050	349.04	
Trichlorofluoromethane	19	137.37	14.269	14.249	71820	26.61	0.1267	20.66	
Pentane	19	72.00	15.067	15.037	1285518	349.12	1.6625	517.22	
1,1-Dichloroethene	19	96.94	15.586				0.0038	0.87	U
Methylene Chloride	19	84.93	15.885	15.875	5799	3.64	0.0173	4.57	J
112trichloro122trifluoroethane	19	187.38	16.418				0.0073	0.87	U
1,1-Dichloroethane	19	98.96	18.009				0.0039	0.87	U
2-Butanone	19	72.11	18.725	18.753	18474	27.66	0.1317	40.91	
cis-1,2-Dichloroethene	19	96.94	19.536				0.0038	0.87	U
Chloroform	19	119.38	20.106				0.0047	0.88	U
1,2-Dichloroethane	19	98.96	21.418				0.0039	0.87	U
1,1,1-Trichloroethane	25	133.40	21.920				0.0052	0.87	U
Benzene	25	78.11	22.846	22.825	127779	8.42	0.0401	11.50	
Carbon Tetrachloride	25	153.82	23.123				0.0059	0.87	U
1,2-Dichloropropane	25	112.99	24.285				0.0044	0.87	U
Trichloroethene	25	131.39	24.719	24.759	35861	8.57	0.0408	6.96	J
cis-1,3-Dichloropropene	25	110.97	26.324				0.0095	1.92	U
trans-1,3-Dichloropropene	25	110.97	27.348				0.0095	1.92	U
1,1,2-Trichloroethane	25	133.40	27.845				0.0036	0.60	U
Toluene	34	92.14	28.476	28.470	414149	46.72	0.2225	54.08	
1,2-Dibromoethane	34	187.86	29.947				0.0073	0.87	U
Tetrachloroethylene	34	165.83	30.999				0.0073	0.99	U
Chlorobenzene	34	112.56	32.566				0.0044	0.87	U
Ethylbenzene	34	106.17	33.394	33.378	44594	2.71	0.0129	2.72	J

HMF-4073
Rev 0

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
p/m-Xylene	34	106.17	33.809	33.783	50136	8.54	0.0407	8.58	J
Styrene	41	104.15	34.727	34.702	4738	0.53	0.0025	0.54	J
1,1,2,2-Tetrachloroethane	41	167.85	34.965	34.821	46820	7.07	0.0337	4.50	J
o-Xylene	41	106.17	35.024	35.009	11864	1.89	0.0090	1.90	J
1,3,5-Trimethylbenzene	41	120.19	38.516				0.0047	0.87	U
1,2,4-Trimethylbenzene	41	120.19	39.844	39.812	10760	0.82	0.0039	0.72	J
1,3-Dichlorobenzene	41	147.00	40.328				0.0571	8.70	U
1,4-Dichlorobenzene	41	147.00	40.525				0.0057	0.87	U
1,2-Dichlorobenzene	41	147.00	41.658				0.0057	0.87	U
1,2,4-Trichlorobenzene	41	181.45	47.866				0.0071	0.88	U
Hexachloro-1,3-butadiene	41	260.76	49.660				0.0100	0.86	U
Bromochloromethane (IS)	19	129.40	19.898	19.886	151958	121.00	0.5762	99.74	
Difluorobenzene (IS)	25	114.00	23.340	23.328	1091776	106.00	0.5048	99.18	
Chlorobenzene-d5 (IS)	34	119.56	32.457	32.440	927554	113.00	0.5381	100.81	
1-Bromo-4-Fluorobenzene (IS)	41	174.00	36.198	36.184	560780	162.00	0.7714	99.31	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/08/99 09:53

69012806.d

Page 2

HMF-4073
Rev. 0

C02 065

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1395 VP006-076 BP @T=5.5 hr 100 ml of ISTD; Sample rerun

Hanford Tank Vapor Characterization TST GC/MS Analysis Report

Sample Info : TST 1395 VP006-076 BP @T=5.5 hr 100 ml of ISTD; Sample rerun

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 7 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS D00-001 THRU PAGE E00- 300 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

HNF-4073
Rev. 0

APPENDIX D

PERMANENT GAS ANALYSIS

D00 001

HNF-4073

Rev. 0

PERMANENT GAS ANALYSIS Data Package Review

The permanent gas analysis performed on 1/7/99 and
1/15/99 were reviewed on 2/22/99 and found acceptable.

TL Almeida 2/23/99
TL Almeida, Quality Engineer

D00 002

HNF-4073
Rev. 0

PERMANENT GAS SAMPLE ANALYSIS

D00 003

HNF-4073
Rev. 0

Project No. _____

Internal Distribution

File/LB

Date January 7, 1999

To Kurt Silvers

From Milt Goheen *mf*

Subject Gas Sample Analysis

Gas species analyses of Summa samples from C-106 received 01-04-99 are complete. The report is attached. The instrument used is a Finnigan MAT-271 (WC38625) high sensitivity quantitative mass spectrometer. The sensitivity of the instrument is checked daily with high purity N2 gas. Two air standards are run weekly. The samples were assigned ALO sequence numbers 99-00807 through 99-00821. The work package used for the analyses is K90670.

If you have any questions please contact me at 376-3358.

Concurrence: *RE Brun*

01/07/1999

D00 004

HNF-4073

Rev. 0

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry

Phone: (509) 376-3358 / mail slot P7-22

Date: January 7, 1999

Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1

Laboratory Record Book P 56998 Page 17

Measurement and test equipment WC38625

Sample Id. VP702-002.C428

Analysis Date January 6, 1999

Log-in No. 99-00807

Mole Percent	Estimate of Precision
-----------------	--------------------------

Argon	0.48	±	0.02
Carbon dioxide	0.014	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0026	±	0.0005
Methane	<0.001	±	0
Nitrogen	89	±	0.2
Oxygen	10.5	±	0.2
Nitrous oxide	<0.001	±	0
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

Sample Id. VP702-004.C429

Analysis Date January 6, 1999

Log-in No. 99-00808

Mole Percent	Estimate of Precision
-----------------	--------------------------

Argon	0.48	±	0.02
Carbon dioxide	0.037	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	<0.0005	±	0
Methane	<0.001	±	0
Nitrogen	89	±	0.2
Oxygen	10.5	±	0.2
Nitrous oxide	<0.001	±	0
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

D00 005

HNF-4073

Rev. 0

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry

Phone: (509) 376-3358 / mail slot P7-22

Date: January 7, 1999

Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1

Laboratory Record Book P 56998 Page 17

Measurement and test equipment WC38625

Sample Id. VP702-007.C301

Analysis Date January 6, 1999

Log-in No. 99-00809

Mole Percent	Estimate of Precision
-----------------	--------------------------

Argon	0.48	±	0.02
Carbon dioxide	0.018	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0022	±	0.0005
Methane	<0.001	±	0
Nitrogen	88.8	±	0.2
Oxygen	10.7	±	0.2
Nitrous oxide	<0.001	±	0
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

Sample Id. VP702-010.C160

Analysis Date January 6, 1999

Log-in No. 99-00810

Mole Percent	Estimate of Precision
-----------------	--------------------------

Argon	0.47	±	0.02
Carbon dioxide	0.021	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0019	±	0.0005
Methane	<0.001	±	0
Nitrogen	89	±	0.2
Oxygen	10.5	±	0.2
Nitrous oxide	<0.001	±	0
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

DOO 006

HNF-4073 Rev. 0

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry
 Phone: (509) 376-3358 / mail slot P7-22
 Date: January 7, 1999
 Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1
 Laboratory Record Book P 56998 Page 17
 Measurement and test equipment WC38625

Sample Id. VP702-013.C020

Analysis Date January 6, 1999

Log-in No. 99-00811

	Mole Percent	Estimate of Precision
Argon	0.47 ±	0.02
Carbon dioxide	0.02 ±	0.005
Carbon monoxide	<0.01 ±	0
Helium	<0.005 ±	0
Hydrogen	0.0014 ±	0.0005
Methane	<0.001 ±	0
Nitrogen	89 ±	0.2
Oxygen	10.5 ±	0.2
Nitrous oxide	<0.001 ±	0
Other nitrogen oxides	±	
C2Hx	<0.001 ±	0
Other hydrocarbons	<0.001 ±	0
Ammonia (estimated)	±	
Comments		

Sample Id. VP006-001.C248

Analysis Date January 6, 1999

Log-in No. 99-00812

	Mole Percent	Estimate of Precision
Argon	0.48 ±	0.02
Carbon dioxide	0.022 ±	0.005
Carbon monoxide	<0.01 ±	0
Helium	<0.005 ±	0
Hydrogen	<0.0005 ±	0
Methane	<0.001 ±	0
Nitrogen	88.8 ±	0.2
Oxygen	10.7 ±	0.2
Nitrous oxide	<0.001 ±	0
Other nitrogen oxides	±	
C2Hx	<0.001 ±	0
Other hydrocarbons	<0.001 ±	0
Ammonia (estimated)	±	
Comments		

DOO 007

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry
Phone: (509) 376-3358 / mail slot P7-22
Date: January 7, 1999
Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1
Laboratory Record Book P 56998 Page 17
Measurement and test equipment WC38625

Sample Id. VP006-009.C143
Analysis Date January 6, 1999
Log-in No. 99-00813

	Mole Percent	Estimate of Precision
Argon	0.48 ±	0.02
Carbon dioxide	0.018 ±	0.005
Carbon monoxide	<0.01 ±	0
Helium	<0.005 ±	0
Hydrogen	0.0006 ±	0.0003
Methane	<0.001 ±	0
Nitrogen	88.8 ±	0.2
Oxygen	10.7 ±	0.2
Nitrous oxide	<0.001 ±	0
Other nitrogen oxides	±	
C2Hx	<0.001 ±	0
Other hydrocarbons	<0.001 ±	0
Ammonia (estimated)	±	
Comments		

Sample Id. VP006-017.C235
Analysis Date January 6, 1999
Log-in No. 99-00814

	Mole Percent	Estimate of Precision
Argon	0.48 ±	0.02
Carbon dioxide	0.015 ±	0.005
Carbon monoxide	<0.01 ±	0
Helium	<0.005 ±	0
Hydrogen	0.0011 ±	0.0005
Methane	<0.001 ±	0
Nitrogen	88.8 ±	0.2
Oxygen	10.7 ±	0.2
Nitrous oxide	0.004 ±	0.001
Other nitrogen oxides	±	
C2Hx	<0.001 ±	0
Other hydrocarbons	<0.001 ±	0
Ammonia (estimated)	±	
Comments		

DOO 008

HNF-4073
REV 0

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry
Phone: (509) 376-3358 / mail slot P7-22
Date: January 7, 1999
Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1
Laboratory Record Book P 56998 Page 17
Measurement and test equipment WC38625

Sample Id. VP006-023.C277 *024 TJA 2/25/99*
Analysis Date January 6, 1999 Mole Estimate of
Log-in No. 99-00815 Percent Precision

Argon	0.48	±	0.02
Carbon dioxide	0.021	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	<0.0005	±	0
Methane	<0.001	±	0
Nitrogen	88.7	±	0.2
Oxygen	10.7	±	0.2
Nitrous oxide	<0.001	±	0
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

Sample Id. VP006-032.C227
Analysis Date January 6, 1999 Mole Estimate of
Log-in No. 99-00816 Percent Precision

Argon	0.48	±	0.02
Carbon dioxide	0.014	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0016	±	0.0005
Methane	<0.001	±	0
Nitrogen	88.8	±	0.2
Oxygen	10.7	±	0.2
Nitrous oxide	0.006	±	0.001
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

DOO 009

HNF-4073
REV. 0

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry
Phone: (509) 376-3358 / mail slot P7-22
Date: January 7, 1999
Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1
Laboratory Record Book P 56998 Page 17
Measurement and test equipment WC38625

Sample Id. VP006-040.C135

Analysis Date January 6, 1999

Log-in No. 99-00817

Mole
Percent

Estimate of
Precision

Argon	0.48	±	0.02
Carbon dioxide	0.015	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	<0.0005	±	0
Methane	<0.001	±	0
Nitrogen	88.8	±	0.2
Oxygen	10.7	±	0.2
Nitrous oxide	0.004	±	0.001
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

Sample Id. VP006-049.C233

Analysis Date January 6, 1999

Log-in No. 99-00818

Mole
Percent

Estimate of
Precision

223 73a 2/25/99

Argon	0.48	±	0.02
Carbon dioxide	0.012	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0015	±	0.0005
Methane	<0.001	±	0
Nitrogen	88.7	±	0.2
Oxygen	10.6	±	0.2
Nitrous oxide	0.005	±	0.001
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

D00 010

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry
Phone: (509) 376-3358 / mail slot P7-22
Date: January 7, 1999
Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1
Laboratory Record Book P 56998 Page 17
Measurement and test equipment WC38625

Sample Id.	VP006-057.C303		
Analysis Date	January 6, 1999	Mole	Estimate of
Log-in No.	99-00819	Percent	Precision
Argon	0.48	±	0.02
Carbon dioxide	0.012	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0014	±	0.0005
Methane	<0.001	±	0
Nitrogen	88.9	±	0.2
Oxygen	10.6	±	0.2
Nitrous oxide	0.005	±	0.001
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

Sample Id.	VP006-066.C226		
Analysis Date	January 6, 1999	Mole	Estimate of
Log-in No.	99-00820	Percent	Precision
Argon	0.48	±	0.02
Carbon dioxide	0.012	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0014	±	0.0005
Methane	<0.001	±	0
Nitrogen	88.9	±	0.2
Oxygen	10.6	±	0.2
Nitrous oxide	0.005	±	0.001
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry
Phone: (509) 376-3358 / mail slot P7-22
Date: January 7, 1999
Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1
Laboratory Record Book P 56998 Page 17
Measurement and test equipment WC38625

Sample Id. VP006-127.C295

Analysis Date January 6, 1999

Log-in No. 99-00821

	Mole Percent		Estimate of Precision
Argon	0.47	±	0.02
Carbon dioxide	0.011	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0016	±	0.0005
Methane	<0.001	±	0
Nitrogen	89.1	±	0.2
Oxygen	10.4	±	0.2
Nitrous oxide	0.004	±	0.001
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	0.002	±	0.001
Ammonia (estimated)		±	
Comments			

D00 012

HNF-4073

Rev 0

MATRIX - EVALUATION LIST of VP006-040.C135

6 Jan 1999 13:35

SAMPLE ID: VP006-040.C135
 ANALYST: RE BRINSON *RLB*
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (13:23)
 CALIB. LIBRARY: RDC

ALO NO.: 99-00817
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00040	.00003	0.000000
METHANE (15ONLY)	.00061	.00034	.000001
NITROGEN	88.76278	87.23611	.088692
OXYGEN	10.73572	12.05836	.010727
ARGON	.48299	.67811	.000483
CARBON DIOXIDE <i>CO2 2.015</i> <i>HC2 2.004</i>	.01751	.02704	.000017

TOTAL	100.00000	100.00000	.099920

TOTAL C1-C4

0.00000

CLOSURE [%] : -3.776

MEASURED PRESSURE: .1038

Reviewed By:

Date:

D00 013

*S P E C T R U M L I S T :SAMPLE SPECTRUM 6 Jan 1999 13:35

SAMPLE ID: VP006-040.C135
ANALYST: RE BRINSON
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (13:23)ALO NO.: 99-00817
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625EXPERIMENT : 47 (NORMAL RUN)
CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 103.84 mTorr
ANALYSIS TIME : 12:10.792
BASE PEAK NO. : 11 (m/e= 28.006148)END PRESSURE : 95.19 mTorr
INTEGR. INTENSITY: 1.0201E+1 V
BASE PEAK INT. : 8.5975E+0 VAttributes: ABORTED ACQUISITION
ACQUIRED
SAVED IN FILE "-SAMPLE SPECTRUM
"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.8605E-4	.0022	.0018	7	28.5
2	11.981910 N	12.0	9.1242E-5	.0011	.0009	6	98.2
3	13.315746	13.5	9.6486E-5	.0011	.0009	7	110.2
4	14.003074 @	14.0	5.3157E-1	6.1828	5.2111	3	122.5
5	15.004679 N	15.0	8.3835E-4	.0098	.0082	7	134.7
6	16.000792 N	16.0	5.9669E-2	.6940	.5850	3	147.1
7	16.998661 N	17.0	3.0424E-4	.0035	.0030	7	159.8
8	18.005509 N	18.0	9.5417E-4	.0111	.0094	6	171.7
9	19.981192 @	20.0	9.6228E-3	.1119	.0943	3	196.5
10	22.012231 N	22.0	7.8735E-5	.0009	.0008	6	220.8
11	28.006148 @	28.0	8.5975E+0	100.0000	84.2844	3	258.1
12	29.006366 N	29.0	6.2127E-2	.7226	.6091	3	271.0
13	29.996755 N	30.0	6.5872E-4	.0077	.0065	7	283.8
14	31.989830 @	32.0	8.6560E-1	10.0680	8.4858	3	309.7
15	33.995632 N	34.0	3.5851E-3	.0417	.0351	3	322.5
16	35.967548 @	36.0	2.4656E-4	.0029	.0024	7	348.1
17	39.962384 @	40.0	6.5050E-2	.7566	.6377	3	386.4
18	43.989830 @	44.0	2.1814E-3	.0254	.0214	3	437.5
19	55.975020 N	56.0	2.2142E-4	.0026	.0022	6	539.6

Reviewed By:

Date:

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Batch Pressure: .164

SEMI (3000) Mass: 43.96197 (1 Unit=7mu)
10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

Calc. Res.: 1E
7 Jan 1999 08

$$N_2O \sim \left(\frac{5.4}{5.4 + 27.5} \right) \left(0.0175 \right) \left(\frac{107}{74} \right)$$

$$\approx 0.0029 \left(\frac{107}{74} \right)$$

$$\approx 0.0042$$

$$CO_2 \sim 0.0175 - 0.0029$$

$$= 0.015$$

HNF-4073

Rev. 0

*MATRIX - EVALUATION LIST of VP006-049.C223

6 Jan 1999 13:56

SAMPLE ID: VP006-049.C223
ANALYST: RE BRINSON *REB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (13:42)
CALIB. LIBRARY: RDC

ALO NO.: 99-00818
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES. [Torr]
HYDROGEN	.00149	.00010	.000002
METHANE (15ONLY)	.00076	.00043	.000001
NITROGEN	88.73035	87.20150	.100205
ETHANE [26,27]	.00186	.00196	.000002
OXYGEN	10.76454	12.09036	.012157
ARGON	.48483	.68068	.000548
CARBON DIOXIDE) <i>CO2 2.012</i> <i>2.012</i>	.01617	.02498	.000018

TOTAL	100.00000	100.00000	.112932
TOTAL C1-C4		0.00000	
CLOSURE [%]	: -4.044	MEASURED PRESSURE:	.1177

Reviewed By: *M 6*Date: *1-6-99*

D00 016

◀S P E C T R U M L I S T :SAMPLE SPECTRUM 6 Jan 1999 13:52

SAMPLE ID: VP006-049.C223
 ANALYST: RE BRINSON
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (13:42)

ALO NO.: 99-00818
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&T NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 117.69 mTorr
 ANALYSIS TIME : 09:25.477
 BASE PEAK NO. : 12 (m/e= 28.006148)

END PRESSURE : 110.16 mTorr
 INTEGR.INTENSITY: 1.1529E+1 V
 BASE PEAK INT. : 9.7130E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.4750E-4	.0025	.0021	7	28.1
2	11.992070 N	12.0	1.2077E-4	.0012	.0010	7	98.5
3	13.328154	13.5	1.0849E-4	.0011	.0009	7	110.7
4	14.003074 @	14.0	6.0125E-1	6.1902	5.2153	3	122.8
5	15.003182 N	15.0	9.5846E-4	.0099	.0083	7	135.0
6	16.001293 N	16.0	6.7683E-2	.6968	.5871	3	147.2
7	16.998123 N	17.0	3.3700E-4	.0035	.0029	7	159.4
8	18.005366 N	18.0	1.0375E-3	.0107	.0090	3	171.4
9	19.005222 N	19.0	8.3313E-5	.0009	.0007	6	183.8
10	19.981192 @	20.0	1.0938E-2	.1126	.0949	3	195.9
11	26.920879 N	27.0	8.2461E-5	.0008	.0007	6	246.6
12	28.006148 @	28.0	9.7130E+0	100.0000	84.2511	3	258.6
13	29.003184 N	29.0	7.0220E-2	.7229	.6091	3	271.4
14	29.995510 N	30.0	7.9511E-4	.0082	.0069	7	284.3
15	31.989830 @	32.0	9.8091E-1	10.0990	8.5085	3	309.9
16	33.990872 N	34.0	4.0693E-3	.0419	.0353	3	322.7
17	35.967548 @	36.0	2.9536E-4	.0030	.0026	7	348.3
18	37.970686 N	38.0	8.7842E-5	.0009	.0008	6	361.1
19	39.962384 @	40.0	7.3765E-2	.7594	.6398	3	386.6
20	43.989830 @	44.0	2.2971E-3	.0237	.0199	3	437.7
21	49.968835 N	50.0	8.8305E-5	.0009	.0008	6	488.9
22	55.969416 N	56.0	2.5384E-4	.0026	.0022	7	539.9

Reviewed By:

Date:

I

$$N_2O = \left(\frac{5}{5+17.8} \right) (0.016) \frac{107}{74}$$

$$\approx 0.0035 \left(\frac{107}{74} \right)$$

$$\approx 0.005$$

$$CC_2 \approx 0.016 - 0.0035$$

$$\approx 0.012$$

Batch Pressure: .108

SEMI (3000) Mass: 43.993465 (1 Unit=7mu)
10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

Calc. Res.: 18
6 Jan 1999 13

HNF-4073

Rev. 0

(*MATRIX - EVALUATION LIST of VP-006-057.C303

6 Jan 1999 14:14

SAMPLE ID: VP-006-057.C303
ANALYST: RE BRINSON *RLB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (14:00)
CALIB. LIBRARY: RDC

ALO NO.: 99-00819
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES. [Torr]
HYDROGEN	.00136	.00010	.000001
METHANE (15ONLY)	.00095	.00054	.000001
NITROGEN	88.85777	87.34376	.082937
OXYGEN	10.64496	11.95839	.009936
ARGON	.47922	.67293	.000447
CARBON DIOXIDE) <i>CO2 2.012</i> <i>N2 2.005</i>	.01573	.02430	.000015

TOTAL	100.00000	100.00000	.093337
TOTAL C1-C4		0.00000	
CLOSURE [%]	: -4.467	MEASURED PRESSURE:	.0977

Reviewed By: *MLG*Date: *1-6-99*

D00 019

*S P E C T R U M L I S T : SAMPLE SPECTRUM 6 Jan 1999 14:10

SAMPLE ID: VP-006-057.C303
 ANALYST: RE BRINSON
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (14:00)

ALO NO.: 99-00819
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARI (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 97.7 mTorr
 ANALYSIS TIME : 09:36.842
 BASE PEAK NO. : 11 (m/e= 28.006148)

END PRESSURE : 91.29 mTorr
 INTEGR.INTENSITY: 9.5330E+0 V
 BASE PEAK INT. : 8.0404E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.2776E-4	.0028	.0024	7	28.1
2	11.985887 N	12.0	7.0020E-5	.0009	.0007	6	98.2
3	13.309692	13.5	8.3191E-5	.0010	.0009	6	110.4
4	14.003074 @	14.0	4.9906E-1	6.2069	5.2350	3	122.3
5	15.005107 N	15.0	8.0527E-4	.0100	.0084	7	134.5
6	16.001455 N	16.0	5.5466E-2	.6899	.5818	3	146.5
7	16.998567 N	17.0	3.0663E-4	.0038	.0032	7	158.7
8	18.005531 N	18.0	1.0157E-3	.0126	.0107	3	170.9
9	19.001369 N	19.0	9.4094E-5	.0012	.0010	6	183.1
10	19.981192 @	20.0	8.9648E-3	.1115	.0940	3	195.0
11	28.006148 @	28.0	8.0404E+0	100.0000	84.3420	3	257.3
12	29.006871 N	29.0	5.8083E-2	.7224	.6093	3	270.2
13	29.996969 N	30.0	6.9760E-4	.0087	.0073	7	283.0
14	31.989830 @	32.0	8.0184E-1	9.9728	8.4112	3	308.6
15	33.990353 N	34.0	3.3439E-3	.0416	.0351	3	321.5
16	35.967548 @	36.0	2.4000E-4	.0030	.0025	7	347.1
17	39.962384 @	40.0	6.0308E-2	.7501	.6326	3	385.4
18	43.989830 @	44.0	1.8510E-3	.0230	.0194	3	436.5
19	55.980406 N	56.0	2.2041E-4	.0027	.0023	7	538.5

Reviewed By:

Date:

I

$$N_{20} \approx \left(\frac{4.05}{4.05 + 14.02} \right) (0.0157) \left(\frac{107}{74} \right)$$

$$\approx 0.0035 \left(\frac{107}{74} \right)$$

$$\approx 0.005$$

$$CO_2 \approx 0.0157 - 0.0035$$

$$\approx 0.012$$

Batch Pressure: .090

SEMI (3000) Mass: 43.994066 (1 Unit=7mu)

10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

Calc. Res.: 18

6 Jan 1999 14

HNF-4073

Rev. 0

◀:MATRIX - EVALUATION LIST of VP006-066.C226

6 Jan 1999 14:33

SAMPLE ID: VP006-066.C226
ANALYST: RE BRINSON *REB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (14:22)
CALIB. LIBRARY: RDC

ALO NO.: 99-00820
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00144	.00010	.000002
METHANE(15ONLY)	.00083	.00047	.000001
NITROGEN	88.86605	87.35336	.102321
OXYGEN	10.63806	11.95083	.012249
ARGON	.47885	.67242	.000551
CARBON DIOXIDE) <i>CO2=0.012</i> <i>2070.005</i>	.01478	.02283	.000017

TOTAL	100.00000	100.00000	.115141
TOTAL C1-C4		0.00000	
CLOSURE [%]	: -4.863	MEASURED PRESSURE:	.1210

Reviewed By:

mg

Date: 1-7-99

D00 022

*S P E C T R U M L I S T :SAMPLE SPECTRUM 6 Jan 1999 14:32

SAMPLE ID: VP006-066.C226
 ANALYST: RE BRINSON
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (14:22)

ALO NO.: 99-00820
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 121.03 mTorr
 ANALYSIS TIME : 10:02.769
 BASE PEAK NO. : 11 (m/e= 28.006148)

END PRESSURE : 112.62 mTorr
 INTEGR.INTENSITY: 1.1760E+1 V
 BASE PEAK INT. : 9.9190E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.4605E-4	.0025	.0021	7	28.1
2	13.327001	13.5	9.8321E-5	.0010	.0008	6	109.7
3	14.003074 @	14.0	6.1696E-1	6.2200	5.2461	3	121.9
4	15.004996 N	15.0	9.8398E-4	.0099	.0084	3	134.1
5	16.001357 N	16.0	6.8493E-2	.6905	.5824	3	146.3
6	16.998237 N	17.0	3.4221E-4	.0035	.0029	7	158.2
7	18.005506 N	18.0	1.0603E-3	.0107	.0090	3	170.4
8	18.998293 N	19.0	6.9531E-5	.0007	.0006	6	182.6
9	19.981192 @	20.0	1.1086E-2	.1118	.0943	3	195.0
10	21.996577 N	22.0	8.4031E-5	.0008	.0007	6	219.7
11	28.006148 @	28.0	9.9190E+0	100.0000	84.3422	3	257.7
12	29.006873 N	29.0	7.1676E-2	.7226	.6095	3	270.5
13	30.000395 N	30.0	8.1537E-4	.0082	.0069	7	283.4
14	31.989830 @	32.0	9.8845E-1	9.9652	8.4049	3	309.0
15	33.985499 N	34.0	4.1079E-3	.0414	.0349	3	321.8
16	35.967548 @	36.0	2.6910E-4	.0027	.0023	7	347.4
17	39.962384 @	40.0	7.4273E-2	.7488	.6316	3	385.8
18	43.989830 @	44.0	2.1603E-3	.0218	.0184	3	436.9
19	55.979577 N	56.0	2.4257E-4	.0024	.0021	7	539.0

Reviewed By:

Date:

I

* 17.59 mV
10978 cps
* 4.56 mV
2845 cps

Batch Pressure: .11

SEMI (3000) Mass: 43.994345 (1 Unit=7mu)
10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

Calc. Res.: 18
6 Jan 1999 14

$$N_2O \approx \left(\frac{4.6}{4.6 + 17.6} \right) (0.015) \left(\frac{107}{74} \right)$$

$$\approx .0031 \left(\frac{107}{74} \right)$$

$$\approx 0.0045$$

$$CO_2 \approx 0.015 - 0.003$$

$$\approx 0.012$$

HNF-4073

Rev. 0

*MATRIX - EVALUATION LIST of VP006-127.C295

6 Jan 1999 14:53

SAMPLE ID: VP006-127.C295
ANALYST: RE BRINSON *REB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (14:43)
CALIB. LIBRARY: RDC

ALO NO.: 99-00821
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00158	.00011	.000002
METHANE(15ONLY)	.00096	.00054	.000001
NITROGEN	89.12779	87.64588	.085819
ETHANE[26,27]	.00206	.00217	.000002
OXYGEN	10.38486	11.67108	.009999
ARGON	.46827	.65784	.000451
CARBON DIOXIDE) <i>cc ≈ 0.011</i> <i>11.020.004</i>	.01449	.02239	.000014

TOTAL	100.00000	100.00000	.096287

TOTAL C1-C4 0.00000

CLOSURE [%] : -4.741 MEASURED PRESSURE: .1011

Reviewed By: *mc*

Date: *1-7-99*

D00 025

**S P E C T R U M L I S T : SAMPLE SPECTRUM 6 Jan 1999 14:53

SAMPLE ID: VP006-127.C295

ANALYST: RE BRINSON

CUSTOMER: JIM HUCKABY

CALCULATE DATE: 6 Jan 1999 (14:43)

ALO NO.: 99-00821

LAB SAMPLE NO.: 0

LRB NO.: 56998

PAGE: 17

M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)

CHANNEL (RES.): FARI (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 101.08 mTorr

ANALYSIS TIME : 09:50.028

BASE PEAK NO. : 12 (m/e= 28.006148)

END PRESSURE : 94.22 mTorr

INTEGR.INTENSITY: 9.8379E+0 V

BASE PEAK INT. : 8.3195E+0 V

Attributes: ABORTED ACQUISITION

ACQUIRED

SAVED IN FILE "

-SAMPLE SPECTRUM

"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.3939E-4	.0029	.0024	7	28.1
2	11.991810 N	12.0	7.6897E-5	.0009	.0008	7	97.8
3	13.327231	13.5	9.5360E-5	.0011	.0010	6	109.7
4	14.003074 @	14.0	5.1650E-1	6.2083	5.2501	3	121.7
5	15.004865 N	15.0	8.3328E-4	.0100	.0085	7	133.9
6	16.001347 N	16.0	5.5858E-2	.6714	.5678	3	146.0
7	16.998093 N	17.0	3.1198E-4	.0037	.0032	7	158.0
8	18.005507 N	18.0	1.0309E-3	.0124	.0105	3	170.2
9	18.994743 N	19.0	9.3528E-5	.0011	.0010	7	182.2
10	19.981192 @	20.0	9.0791E-3	.1091	.0923	3	195.0
11	26.920648 N	27.0	7.7864E-5	.0009	.0008	5	245.2
12	28.006148 @	28.0	8.3195E+0	100.0000	84.5656	3	257.5
13	29.006872 N	29.0	6.0134E-2	.7228	.6112	3	270.3
14	29.999765 N	30.0	6.9465E-4	.0083	.0071	7	283.2
15	31.989830 @	32.0	8.0694E-1	9.6994	8.2023	3	309.0
16	33.988556 N	34.0	3.3774E-3	.0406	.0343	3	321.8
17	35.967548 @	36.0	2.5126E-4	.0030	.0026	7	347.4
18	37.939056 N	38.0	7.2005E-5	.0009	.0007	6	360.2
19	39.962384 @	40.0	6.0782E-2	.7306	.6178	3	385.8
20	43.989830 @	44.0	1.7702E-3	.0213	.0180	3	436.9
21	55.994678 N	56.0	2.0757E-4	.0025	.0021	7	539.0

Reviewed By:

Date:

Batch Pressure: .092

SEMI (3000) Mass: 43.994098 (1 Unit = /mu)
10*PEAKW. 17 SAMPLES/PEAK Range: 30mU

Calc. Res.: 1E
6 Jan 1999 14

$$N_2O \approx \left(\frac{3}{3+13} \right) \left(0.0145 \right) \left(\frac{107}{74} \right)$$

$$\approx 0.0027 \left(\frac{107}{74} \right)$$

$$\approx 0.004$$

$$CO_2 \approx 0.0145 - 0.004$$

$$\approx 0.011$$

D00 027

HNF-4073

Rev. 0

*MATRIX - EVALUATION LIST of VP702-002.C428

6 Jan 1999 08:41

SAMPLE ID: VP702-002.C428
ANALYST: RE BRINSON *REB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (08:27)
CALIB. LIBRARY: RDC

ALO NO.: 99-00807
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART. PRES. [Torr]
HYDROGEN	.00262	.00018	.000002
METHANE (15ONLY)	.00023	.00013	0.000000
NITROGEN	88.96580	87.46480	.082801
OXYGEN	10.53877	11.84110	.009809
ARGON	.47865	.67226	.000445
CARBON DIOXIDE	.01394	.02153	.000013

TOTAL	100.00000	100.00000	.093071

TOTAL C1-C4 0.00000

CLOSURE [%] : -1.245 MEASURED PRESSURE: .0942

Reviewed By: *mtb*Date: *1-6-99*

*S P E C T R U M L I S T :SAMPLE SPECTRUM 6 Jan 1999 08:37

SAMPLE ID: VP702-002.C428
ANALYST: RE BRINSON
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (08:27)

ALO NO.: 99-00807
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 94.24 mTorr
ANALYSIS TIME : 09:27.675
BASE PEAK NO. : 8 (m/e= 28.006148)

END PRESSURE : 88.04 mTorr
INTEGR.INTENSITY: 9.4973E+0 V
BASE PEAK INT. : 8.0240E+0 V

Attributes: ABORTED ACQUISITION
ACQUIRED
SAVED IN FILE "

-SAMPLE SPECTRUM
"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.8305E-4	.0035	.0030	7	28.1
2	14.003074 @	14.0	4.9264E-1	6.1396	5.1872	3	122.6
3	15.004875 N	15.0	7.5878E-4	.0095	.0080	7	135.3
4	16.000806 N	16.0	5.3977E-2	.6727	.5683	3	147.7
5	16.998984 N	17.0	3.9665E-4	.0049	.0042	7	159.9
6	18.005695 N	18.0	1.2789E-3	.0159	.0135	3	172.7
7	19.981192 @	20.0	8.8485E-3	.1103	.0932	3	197.9
8	28.006148 @	28.0	8.0240E+0	100.0000	84.4866	3	261.0
9	29.003308 N	29.0	5.8004E-2	.7229	.6107	3	273.8
10	30.000025 N	30.0	4.3488E-4	.0054	.0046	7	286.7
11	31.989830 @	32.0	7.9125E-1	9.8611	8.3313	3	312.2
12	33.990494 N	34.0	3.2577E-3	.0406	.0343	3	325.1
13	35.967548 @	36.0	2.3147E-4	.0029	.0024	6	350.7
14	39.962384 @	40.0	6.0056E-2	.7485	.6323	3	389.0
15	43.989830 @	44.0	1.6568E-3	.0206	.0174	3	440.0
16	55.966000 N	56.0	2.7792E-4	.0035	.0029	6	542.1

Reviewed By:

Date:

HNF-4073

Rev. 0

99-00807

I

* 15.97 mV
9967 cps

Flatness(0 % Peak Width): 0 Batch Pressure: .087

SEMI (3000) Mass: 43.99425 (1 Unit=7mu) Calc. Res.: 29
10*PEAKW. 17 SAMPLES/PEAK Range: 100mV 6 Jan 1999 08

D00 030

HNF-4073

Rev. 0

◀:MATRIX - EVALUATION LIST of VP702-004.429

6 Jan 1999 09:00

SAMPLE ID: VP702-004.429
ANALYST: RE BRINSON *REB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (08:49)
CALIB. LIBRARY: RDC

ALO NO.: 99-00808
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES. [Torr]
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NITROGEN	88.95176	87.43857	.082272
OXYGEN	10.53395	11.83400	.009743
ARGON	.47681	.66958	.000441
CARBON DIOXIDE	.03744	.05784	.000035

TOTAL	100.00000	100.00000	.092490
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TOTAL C1-C4	0.00000
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CLOSURE [%]	: -2.397	MEASURED PRESSURE:	.0948
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Reviewed By: *MB*Date: *1-6-99*

D00 031

*S P E C T R U M L I S T : SAMPLE SPECTRUM 6 Jan 1999 08:59

SAMPLE ID: VP702-004.429

ANALYST: RE BRINSON

CUSTOMER: JIM HUCKABY

CALCULATE DATE: 6 Jan 1999 (08:49)

ALO NO.: 99-00808

LAB SAMPLE NO.: 0

LRB NO.: 56998

PAGE: 17

M&T NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)

CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 94.76 mTorr

ANALYSIS TIME : 09:26.467

BASE PEAK NO. : 11 (m/e= 28.006148)

END PRESSURE : 88.44 mTorr

INTEGR. INTENSITY: 9.4399E+0 V

BASE PEAK INT. : 7.9737E+0 V

Attributes: ABORTED ACQUISITION
ACQUIRED
SAVED IN FILE "

-SAMPLE SPECTRUM

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.5001E-4	.0019	.0016	7	28.1
2	11.990643 N	12.0	1.5867E-4	.0020	.0017	7	98.0
3	13.312343	13.5	7.4994E-5	.0009	.0008	6	110.2
4	14.003074 @	14.0	4.8934E-1	6.1369	5.1837	3	122.1
5	15.003017 N	15.0	7.4206E-4	.0093	.0079	7	134.6
6	15.999339 N	16.0	5.3730E-2	.6738	.5692	3	146.8
7	16.997251 N	17.0	3.9190E-4	.0049	.0042	6	159.2
8	18.005516 N	18.0	1.2416E-3	.0156	.0132	3	171.6
9	19.981192 @	20.0	8.7779E-3	.1101	.0930	3	196.4
10	21.997905 N	22.0	1.0433E-4	.0013	.0011	7	221.7
11	28.006148 @	28.0	7.9737E+0	100.0000	84.4680	3	259.9
12	29.003182 N	29.0	5.7651E-2	.7230	.6107	3	272.7
13	29.999862 N	30.0	4.7245E-4	.0059	.0050	7	285.6
14	31.989830 @	32.0	7.8607E-1	9.8583	8.3271	3	311.0
15	33.989554 N	34.0	3.2545E-3	.0408	.0345	3	323.8
16	35.967548 @	36.0	2.2257E-4	.0028	.0024	7	349.4
17	39.962384 @	40.0	5.9460E-2	.7457	.6299	3	387.7
18	43.989830 @	44.0	4.0783E-3	.0511	.0432	3	438.8
19	44.985952 N	45.0	6.9271E-5	.0009	.0007	7	451.6
20	55.972371 N	56.0	2.2357E-4	.0028	.0024	7	540.9

Reviewed By:

Date:

HNF-4073

Rev. 0

99-0508

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*35.02 mV
21859 cps

Flatness(0 % Peak Width): 0

Batch Pressure: .087

SEMI 1 (3000) Mass: 43.99453 (1 Unit=7mu)

Calc. Res.: 28

10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

6 Jan 1999 09

D00 033

Batch Pressure: .085

SEMI (3000) Mass: 27.998189 (1 Unit=5mu)
10*PEAKW. 17 SAMPLES/PEAK Range: 300mV

Calc. Res.: 31
6 Jan 1999 09

HNF-4073

Rev. 0

**MATRIX - EVALUATION LIST of VP702-007.C301

6 Jan 1999 09:30

SAMPLE ID: VP702-007.C301
ANALYST: RE BRINSON *REB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (09:19)
CALIB. LIBRARY: RDC

ALO NO.: 99-00809
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&E NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00223	.00016	.000002
METHANE (15ONLY)	.00038	.00021	0.000000
NITROGEN	88.84286	87.32649	.095687
OXYGEN	10.65541	11.96977	.011476
ARGON	.48120	.67569	.000518
CARBON DIOXIDE	.01792	.02769	.000019

TOTAL	100.00000	100.00000	.107704
TOTAL C1-C4		0.00000	
CLOSURE [%]	: -3.072	MEASURED PRESSURE:	.1111

Reviewed By: *MG*Date: *1-6-99*

D00 035

*S P E C T R U M L I S T : SAMPLE SPECTRUM 6 Jan 1999 09:28

SAMPLE ID: VP702-007.C301

ANALYST: RE BRINSON

CUSTOMER: JIM HUCKABY

CALCULATE DATE: 6 Jan 1999 (09:19)

ALO NO.: 99-00809

LAB SAMPLE NO.: 0

LRB NO.: 56998

PAGE: 17

M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)

CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 111.12 mTorr

END PRESSURE : 104.12 mTorr

ANALYSIS TIME : 09:00.32

INTEGR.INTENSITY: 1.0993E+1 V

BASE PEAK NO. : 10 (m/e= 28.006148)

BASE PEAK INT. : 9.2746E+0 V

Attributes: ABORTED ACQUISITION

ACQUIRED

SAVED IN FILE "

-SAMPLE SPECTRUM

"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.8152E-4	.0030	.0026	7	28.5
2	11.985415 N	12.0	9.8749E-5	.0011	.0009	7	98.6
3	13.323476	13.5	1.0327E-4	.0011	.0009	6	110.8
4	14.003074 @	14.0	5.7156E-1	6.1627	5.1993	3	123.0
5	15.005017 N	15.0	8.8776E-4	.0096	.0081	7	135.2
6	16.001383 N	16.0	6.3486E-2	.6845	.5775	3	147.4
7	16.998548 N	17.0	3.7135E-4	.0040	.0034	7	159.6
8	18.008074 N	18.0	1.1755E-3	.0127	.0107	3	172.0
9	19.981192 @	20.0	1.0338E-2	.1115	.0940	3	197.0
10	28.006148 @	28.0	9.2746E+0	100.0000	84.3681	3	259.1
11	29.003104 N	29.0	6.7002E-2	.7224	.6095	3	272.0
12	29.996083 N	30.0	5.5447E-4	.0060	.0050	7	284.8
13	31.989830 @	32.0	9.2596E-1	9.9839	8.4232	3	310.4
14	33.989224 N	34.0	3.8234E-3	.0412	.0348	3	323.3
15	35.967548 @	36.0	2.6399E-4	.0028	.0024	7	348.9
16	39.962384 @	40.0	6.9834E-2	.7530	.6353	3	387.2
17	43.989830 @	44.0	2.4001E-3	.0259	.0218	3	438.3
18	55.962654 N	56.0	2.6544E-4	.0029	.0024	7	540.3

- Reviewed By:

Date:

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* 27.71 mV
17295 cps

Flatness(0 % Peak Width): 0 Batch Pressure: .132

SEMI (3000) Mass: 43.994642 (1 Unit = 7mu)
10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

Calc. Res.: 36
7 Jan 1999 07

HNF-4073

Rev. 0

MATRIX - EVALUATION LIST of VP702-010.C160

6 Jan 1999 09:47

SAMPLE ID: VP702-010.C160
ANALYST: RE BRINSON *RCB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (09:37)
ALIB. LIBRARY: RDC

ALO NO.: 99-00810
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART. PRES. [Torr]
HYDROGEN	.00191	.00013	.000002
ETHANE (15ONLY)	.00045	.00025	0.000000
ITROGEN	89.02133	87.52460	.075770
XYGEN	10.48265	11.77875	.008922
RGON	.47305	.66442	.000403
ARBON DIOXIDE	.02061	.03184	.000018

TOTAL	100.00000	100.00000	.085114

TOTAL C1-C4 0.00000

LOSURE [%] : -2.881 MEASURED PRESSURE: .0876

Reviewed By:

mg

Date:

1-6-99

D00 038

*S P E C T R U M L I S T : SAMPLE SPECTRUM 6 Jan 1999 09:46

SAMPLE ID: VP702-010.C160
 ANALYST: RE BRINSON
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (09:37)

ALO NO.: 99-00810
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 87.64 mTorr
 ANALYSIS TIME : 09:24.819
 BASE PEAK NO. : 11 (m/e= 28.006148)

END PRESSURE : 81.88 mTorr
 INTEGR.INTENSITY: 8.6911E+0 V
 BASE PEAK INT. : 7.3448E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.4475E-4	.0033	.0028	7	28.1
2	11.984916 N	12.0	1.0060E-4	.0014	.0012	6	97.8
3	13.316075	13.5	8.5665E-5	.0012	.0010	6	110.0
4	14.003074 @	14.0	4.5264E-1	6.1627	5.2081	3	122.4
5	15.003148 N	15.0	7.0697E-4	.0096	.0081	7	134.6
6	15.999458 N	16.0	4.9451E-2	.6733	.5690	3	146.8
7	16.998126 N	17.0	3.5668E-4	.0049	.0041	7	158.9
8	18.005256 N	18.0	1.1633E-3	.0158	.0134	3	170.9
9	19.981192 @	20.0	8.0567E-3	.1097	.0927	3	195.9
10	21.992854 N	22.0	6.9991E-5	.0010	.0008	7	220.8
11	28.006148 @	28.0	7.3448E+0	100.0000	84.5100	3	258.2
12	29.003261 N	29.0	5.3112E-2	.7231	.6111	3	271.1
13	29.992029 N	30.0	4.5607E-4	.0062	.0052	7	284.0
14	31.989830 @	32.0	7.1998E-1	9.8026	8.2841	3	309.5
15	34.000153 N	34.0	2.9773E-3	.0405	.0343	3	322.4
16	35.967548 @	36.0	1.9631E-4	.0027	.0023	7	348.0
17	39.962384 @	40.0	5.4308E-2	.7394	.6249	3	386.3
18	43.989830 @	44.0	2.1483E-3	.0292	.0247	3	437.4
19	55.964882 N	56.0	1.9797E-4	.0027	.0023	7	539.2

Reviewed By:

Date:

HNF-4073

Rev. 0

←MATRIX - EVALUATION LIST of VP702-013.C020

6 Jan 1999 10:04

SAMPLE ID: VP702-013.C020
ANALYST: RE BRINSON *REB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (09:53)
CALIB. LIBRARY: RDC

ALO NO.: 99-00811
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES. [Torr]
HYDROGEN	.00143	.00010	.000001
METHANE (15ONLY)	.00064	.00036	.000001
NITROGEN	89.00916	87.51081	.075350
OXYGEN	10.49497	11.79235	.008884
ARGON	.47361	.66519	.000401
CARBON DIOXIDE	.02019	.03119	.000017

TOTAL 100.00000 100.00000 .084654

TOTAL C1-C4 0.00000

CLOSURE [%] : -2.877 MEASURED PRESSURE: .0872

Reviewed By: *MG*Date: *1-6-99*

D00 041

HNF-4073

Rev 0

*S P E C T R U M L I S T : SAMPLE SPECTRUM 6 Jan 1999 14:03

SAMPLE ID: VP702-013.C020
 ANALYST: RE BRINSON
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (09:53)

ALO NO.: 99-00811
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 87.16 mTorr
 ANALYSIS TIME : 09:26.141
 BASE PEAK NO. : 11 (m/e= 28.006148)

END PRESSURE : 81.52 mTorr
 INTEGR.INTENSITY: 8.6434E+0 V
 BASE PEAK INT. : 7.3032E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.2503E-4	.0031	.0026	7	28.1
2	11.994077 N	12.0	9.1698E-5	.0013	.0011	6	97.9
3	14.003074 @	14.0	4.5047E-1	6.1681	5.2117	3	121.9
4	15.003189 N	15.0	7.1386E-4	.0098	.0083	7	134.1
5	16.001305 N	16.0	4.9283E-2	.6748	.5702	3	146.1
6	16.998696 N	17.0	3.6523E-4	.0050	.0042	6	158.5
7	18.005516 N	18.0	1.2252E-3	.0168	.0142	3	171.1
8	19.018766 N	19.0	8.5437E-5	.0012	.0010	6	183.3
9	19.981192 @	20.0	8.0002E-3	.1095	.0926	3	196.4
10	21.983332 N	22.0	8.5578E-5	.0012	.0010	7	221.6
11	28.006148 @	28.0	7.3032E+0	100.0000	84.4942	3	259.4
12	29.003182 N	29.0	5.2793E-2	.7229	.6108	3	272.2
13	29.991259 N	30.0	4.8501E-4	.0066	.0056	7	285.0
14	31.989830 @	32.0	7.1685E-1	9.8155	8.2936	3	310.6
15	33.991545 N	34.0	2.9682E-3	.0406	.0343	3	323.5
16	35.967548 @	36.0	2.1360E-4	.0029	.0025	7	349.1
17	39.962384 @	40.0	5.4076E-2	.7404	.6256	3	387.4
18	43.989830 @	44.0	2.0968E-3	.0287	.0243	3	438.5
19	55.970123 N	56.0	2.0295E-4	.0028	.0023	7	540.5

Reviewed By:

Date:

D00 042

HNF-4073

Rev. 0

99-00811

I

* 28.05 mU
17507 cps

Flatness(0 % Peak Width): 0 Batch Pressure: .125

SEMI (3000) Mass: 43.994424 (1 Unit=/mu)

10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

Calc. Res.: 20

7 Jan 1999 07

D00 043

HNF-4073

Rev. 0

1: MATRIX - EVALUATION LIST of VP006-001.C248

6 Jan 1999 11:03

SAMPLE ID: VP006-001.C248
ANALYST: RE BRINSON *RLB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (10:52)
CALIB. LIBRARY: RDC

ALO NO.: 99-00812
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&E NO.: WC38625

COMPONENT	MOL%	WGT%	PART. PRES. [Torr]
METHANE (15ONLY)	.00040	.00022	0.000000
NITROGEN	88.77235	87.24483	.095732
ETHANE [26,27]	.00206	.00217	.000002
OXYGEN	10.72048	12.04116	.011561
ARGON	.48318	.67839	.000521
CARBON DIOXIDE	.02152	.03323	.000023

TOTAL 100.00000 100.00000 .107840

TOTAL C1-C4 0.00000

CLOSURE [%] : -3.333 MEASURED PRESSURE: .1116

Reviewed By:

MLB

Date:

1-6-99

D00 044

*S P E C T R U M L I S T : SAMPLE SPECTRUM 6 Jan 1999 11:01

SAMPLE ID: VP006-001(248)
 ANALYST: RE BRINSON
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (10:52)

ALO NO.: 99-00812
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 111.56 mTorr
 ANALYSIS TIME : 09:27.345
 BASE PEAK NO. : 12 (m/e= 28.006148)

END PRESSURE : 104.31 mTorr
 INTEGR.INTENSITY: 1.1006E+1 V
 BASE PEAK INT. : 9.2772E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.5471E-4	.0017	.0014	7	28.5
2	11.997864 N	12.0	1.2620E-4	.0014	.0011	6	98.6
3	13.311944	13.5	9.7401E-5	.0010	.0009	7	110.8
4	14.003074 @	14.0	5.7360E-1	6.1829	5.2117	3	123.0
5	15.003329 N	15.0	8.8964E-4	.0096	.0081	7	135.2
6	15.999552 N	16.0	6.4137E-2	.6913	.5827	3	147.4
7	16.998597 N	17.0	3.3712E-4	.0036	.0031	7	159.8
8	18.005390 N	18.0	1.1190E-3	.0121	.0102	3	172.2
9	19.981192 @	20.0	1.0440E-2	.1125	.0949	3	197.2
10	22.004054 N	22.0	8.3636E-5	.0009	.0008	7	223.0
11	26.931882 N	27.0	8.7390E-5	.0009	.0008	7	248.6
12	28.006148 @	28.0	9.2772E+0	100.0000	84.2929	3	260.5
13	29.003182 N	29.0	6.7027E-2	.7225	.6090	3	273.4
14	29.999185 N	30.0	5.6920E-4	.0061	.0052	7	286.3
15	31.989830 @	32.0	9.3264E-1	10.0530	8.4740	3	311.9
16	33.986447 N	34.0	3.8658E-3	.0417	.0351	3	324.7
17	35.967548 @	36.0	2.7944E-4	.0030	.0025	6	350.3
18	39.962384 @	40.0	7.0193E-2	.7566	.6378	3	388.6
19	43.989830 @	44.0	2.8369E-3	.0306	.0258	3	439.7
20	55.972666 N	56.0	2.3407E-4	.0025	.0021	7	541.8

Reviewed By:

Date:

Flatness(0 % Peak Width): 0 Batch Pressure: .112

SEMI (3000) Mass: 43.994969 (1 Unit=7mu) Calc. Res.: 29
10*PEAKW. 17 SAMPLES/PEAK Range: 100mV 7 Jan 1999 08

HNF-4073

Rev. 0

MATRIX - EVALUATION LIST of VP006-009-C143

6 Jan 1999 11:21

SAMPLE ID: VP006-009-C143
ANALYST: RE BRINSON *RCD*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (11:07)
CALIB. LIBRARY: RDC

ALO NO.: 99-00813
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART. PRES. [Torr]
HYDROGEN	.00059	.00004	.000001
METHANE (15ONLY)	.00042	.00024	0.000000
NITROGEN	88.80789	87.28608	.082960
OXYGEN	10.69116	12.00910	.009987
ARGON	.48150	.67607	.000450
CARBON DIOXIDE	.01843	.02847	.000017

TOTAL	100.00000	100.00000	.093415
TOTAL C1-C4		0.00000	
CLOSURE [%]	: -3.255	MEASURED PRESSURE:	.0966

Reviewed By: *MG*Date: *1-6-99*

D00 047

HNF-4073

Rev. 0

◀S P E C T R U M L I S T :SAMPLE SPECTRUM 6 Jan 1999 11:19

SAMPLE ID: VP006-009-C143
 ANALYST: RE BRINSON
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (11:07)

ALO NO.: 99-00813
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 96.56 mTorr
 ANALYSIS TIME : 11:08.73
 BASE PEAK NO. : 9 (m/e= 28.006148)

END PRESSURE : 89.08 mTorr
 INTEGR.INTENSITY: 9.5350E+0 V
 BASE PEAK INT. : 8.0400E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.9334E-4	.0024	.0020	7	28.5
2	11.990772 N	12.0	9.1329E-5	.0011	.0010	6	98.5
3	14.003074 @	14.0	4.9698E-1	6.1814	5.2122	3	123.1
4	15.005083 N	15.0	7.7246E-4	.0096	.0081	7	135.3
5	16.001413 N	16.0	5.5459E-2	.6898	.5816	3	147.5
6	16.998262 N	17.0	3.7428E-4	.0047	.0039	7	159.9
7	18.005669 N	18.0	1.1578E-3	.0144	.0121	3	171.9
8	19.981192 @	20.0	8.9944E-3	.1119	.0943	3	196.7
9	28.006148 @	28.0	8.0400E+0	100.0000	84.3208	3	260.0
10	29.003428 N	29.0	5.8130E-2	.7230	.6096	3	272.9
11	30.000579 N	30.0	5.6196E-4	.0070	.0059	7	285.8
12	31.989830 @	32.0	8.0574E-1	10.0216	8.4503	3	311.4
13	33.986265 N	34.0	3.3419E-3	.0416	.0350	3	324.2
14	35.967548 @	36.0	2.4477E-4	.0030	.0026	7	349.8
15	39.962384 @	40.0	6.0630E-2	.7541	.6359	3	388.1
16	43.989830 @	44.0	2.1352E-3	.0266	.0224	3	439.2
17	55.963261 N	56.0	2.0098E-4	.0025	.0021	7	541.2

Reviewed By:

Date:

DOO 048

HNF-4073

Rev. 0

99-cod13

SEMI (3800) Mass: 43.96259/ (1 Unit=/mu)
10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

Calc. Res: 28
7 Jan 1999 08

D00 049

HNF-4073 Rev. 0

<:MATRIX - EVALUATION LIST of VP006-017.C235

6 Jan 1999 11:39

SAMPLE ID: VP006-017.C235
ANALYST: RE BRINSON *RLJ*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (11:27)
CALIB. LIBRARY: RDC

ALO NO.: 99-00814
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00114	.00008	.000001
METHANE (15ONLY)	.00053	.00030	.000001
NITROGEN	88.75276	87.22497	.103309
ETHANE [26,27]	.00152	.00160	.000002
OXYGEN	10.74112	12.06426	.012503
ARGON	.48371	.67912	.000563
CARBON DIOXIDE) <i>CO₂ 2.013</i>	.01922	.02968	.000022
<i>4.428.994</i>			
TOTAL	100.00000	100.00000	.116401

TOTAL C1-C4 0.00000

CLOSURE [%] : -3.611 MEASURED PRESSURE: .1208

Reviewed By:

MG

Date: 1-6-99

S P E C T R U M L I S T : SAMPLE SPECTRUM 6 Jan 1999 11:38

SAMPLE ID: VP006-017.C235

ANALYST: RE BRINSON

CUSTOMER: JIM HUCKABY

CALCULATE DATE: 6 Jan 1999 (11:27)

ALO NO.: 99-00814

LAB SAMPLE NO.: 0

LRB NO.: 56998

PAGE: 17

M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)

CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: .2.02 - 135.91

START PRESSURE: 120.76 mTorr

ANALYSIS TIME : 10:04.359

BASE PEAK NO. : 12 (m/e= 28.006148)

END PRESSURE : 112.31 mTorr

INTEGR. INTENSITY: 1.1882E+1 V

BASE PEAK INT. : 1.0013E+1 V

Attributes: ABORTED ACQUISITION

ACQUIRED

SAVED IN FILE "

-SAMPLE SPECTRUM

"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.3024E-4	.0023	.0019	7	28.5
2	11.996620 N	12.0	1.1037E-4	.0011	.0009	7	98.5
3	13.309814	13.5	1.0595E-4	.0011	.0009	7	110.7
4	14.003074 @	14.0	6.2005E-1	6.1926	5.2184	3	122.8
5	15.004975 N	15.0	9.7000E-4	.0097	.0082	3	135.0
6	16.001444 N	16.0	6.9532E-2	.6944	.5852	3	147.2
7	17.001048 N	17.0	3.5753E-4	.0036	.0030	7	159.2
8	18.005806 N	18.0	1.1795E-3	.0118	.0099	3	171.6
9	19.981192 @	20.0	1.1272E-2	.1126	.0949	3	196.4
10	21.992103 N	22.0	7.9438E-5	.0008	.0007	6	222.2
11	26.916686 N	27.0	6.9475E-5	.0007	.0006	5	247.5
12	28.006148 @	28.0	1.0013E+1	100.0000	84.2693	3	259.4
13	29.003887 N	29.0	7.2347E-2	.7225	.6089	3	272.3
14	29.998410 N	30.0	7.4270E-4	.0074	.0063	7	285.1
15	31.989830 @	32.0	1.0087E+0	10.0745	8.4897	3	310.7
16	33.992659 N	34.0	4.1941E-3	.0419	.0353	3	323.5
17	35.967548 @	36.0	2.6877E-4	.0027	.0023	7	349.1
18	39.962384 @	40.0	7.5839E-2	.7574	.6383	3	387.4
19	43.989830 @	44.0	2.7645E-3	.0276	.0233	3	438.5
20	55.970831 N	56.0	2.5905E-4	.0026	.0022	7	540.5

Reviewed By:

Date:

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Batch Pressure: .125

SEMI 11 (3000) Mass: 43.961753 (1 Unit = /mu)

Calc. Res.: 10

10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

7 Jan 1999 08

$$N_2O \sim \left(\frac{3.9}{3.9 + 24} \right) (0.019) \left(\frac{107}{74} \right)$$

$$\sim .0027 \left(\frac{107}{74} \right)$$

$$\sim 0.0038$$

$$CO_2 \sim 0.015$$

MATRIX - EVALUATION LIST of VP006-023.C277

6 Jan 1999 11:54

SAMPLE ID: VP006-023.C277
ANALYST: RE BRINSON *REB*
CUSTOMER: JIM HUCKABY
CALCULATE DATE: 6 Jan 1999 (11:43)
CALIB. LIBRARY: RDC

ALO NO.: 99-00815
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 17
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
METHANE(15ONLY)	.00099	.00056	.000001
NITROGEN	88.74873	87.21899	.069811
OXYGEN	10.74582	12.06925	.008453
ARGON	.48333	.67857	.000380
CARBON DIOXIDE	.02112	.03262	.000017

TOTAL	100.00000	100.00000	.078661
TOTAL C1-C4		0.00000	
CLOSURE [%]	: -3.190	MEASURED PRESSURE:	.0813

Reviewed By: *MG*Date: *1-6-99*

HNF-4073

Rev. 0

←S P E C T R U M L I S T :SAMPLE SPECTRUM 6 Jan 1999 11:53

SAMPLE ID: VP006-023.C277
 ANALYST: RE BRINSON
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (11:43)

ALO NO.: 99-00815
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 81.25 mTorr
 ANALYSIS TIME : 10:03.535
 BASE PEAK NO. : 9 (m/e= 28.006148)

END PRESSURE : 75.62 mTorr
 INTEGR.INTENSITY: 8.0302E+0 V
 BASE PEAK INT. : 6.7669E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1.	2.015650 @	2.0	1.5799E-4	.0023	.0020	7	28.1
2	11.989078 N	12.0	1.0773E-4	.0016	.0013	6	98.2
3	14.003074 @	14.0	4.1835E-1	6.1823	5.2097	3	122.3
4	15.004975 N	15.0	6.8003E-4	.0100	.0085	7	134.5
5	16.001444 N	16.0	4.7079E-2	.6957	.5863	3	146.6
6	17.000263 N	17.0	3.0689E-4	.0045	.0038	7	159.1
7	18.007539 N	18.0	1.0464E-3	.0155	.0130	3	171.2
8	19.981192 @	20.0	7.5713E-3	.1119	.0943	3	195.8
9	28.006148 @	28.0	6.7669E+0	100.0000	84.2679	3	258.5
10	29.006115 N	29.0	4.8935E-2	.7231	.6094	3	271.4
11	29.996822 N	30.0	4.9028E-4	.0072	.0061	7	284.2
12	31.989830 @	32.0	6.8209E-1	10.0797	8.4940	3	309.8
13	33.988989 N	34.0	2.8075E-3	.0415	.0350	3	322.7
14	35.967548 @	36.0	1.9444E-4	.0029	.0024	7	348.3
15	39.962384 @	40.0	5.1299E-2	.7581	.6388	3	386.6
16	43.989830 @	44.0	2.0353E-3	.0301	.0253	3	437.7
17	55.979925 N	56.0	1.7793E-4	.0026	.0022	7	539.7

Reviewed By:

Date:

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* 26.11 mV
16299 cps

Flatness(0 % Peak Width): 0 Batch Pressure: .10

SEMI (3000) Mass: 43.962025 (1 Unit = 7mu)

Calc. Res.: 2

10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

7 Jan 1999 0

HNF-4073 Rev. 0

*MATRIX - EVALUATION LIST of VP006-032.C227 6 Jan 1999 13:17

AMPLE ID: VP006-032.C227 ALO NO.: 99-00816
 ANALYST: RE BRINSON LAB SAMPLE NO.: 0
 CUSTOMER: JIM HUCKABY LRB NO.: 56998
 CALCULATE DATE: 6 Jan 1999 (13:03) PAGE: 17
 ANALIB. LIBRARY: RDC M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00160	.00011	.000002
METHANE (15ONLY)	.00054	.00030	.000001
NITROGEN	88.79546	87.27334	.096449
METHANE [26,27]	.00216	.00228	.000002
OXYGEN	10.69968	12.01859	.011622
ARGON	.48238	.67730	.000524
CARBON DIOXIDE	.01818	.02808	.000020
<hr/>			
TOTAL	100.00000	100.00000	.108619
<hr/>			
TOTAL C1-C4		0.00000	
CLOSURE [%]	: -4.688	MEASURED PRESSURE:	.1140

Reviewed By: *M G*

Date: *1-6-99* *9 mL*
1-6-99

<S P E C T R U M L I S T :SAMPLE SPECTRUM 6 Jan 1999 13:13

SAMPLE ID: VP006-032.C227
 ANALYST: RE BRINSON
 CUSTOMER: JIM HUCKABY
 CALCULATE DATE: 6 Jan 1999 (13:03)

ALO NO.: 99-00816
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 113.96 mTorr
 ANALYSIS TIME : 09:27.29
 BASE PEAK NO. : 10 (m/e= 28.006148)

END PRESSURE : 106.39 mTorr
 INTEGR.INTENSITY: 1.1088E+1 V
 BASE PEAK INT. : 9.3467E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.4977E-4	.0027	.0023	7	28.1
2	11.986147 N	12.0	9.9116E-5	.0011	.0009	6	98.4
3	14.003074 @	14.0	5.8003E-1	6.2057	5.2312	3	122.8
4	15.003571 N	15.0	9.0659E-4	.0097	.0082	7	134.9
5	15.999982 N	16.0	6.4682E-2	.6920	.5834	3	147.1
6	17.000510 N	17.0	2.8013E-4	.0030	.0025	7	159.3
7	18.007693 N	18.0	9.6613E-4	.0103	.0087	6	171.5
8	19.981192 @	20.0	1.0511E-2	.1125	.0948	3	197.0
9	26.997049 N	27.0	9.2260E-5	.0010	.0008	7	248.5
10	28.006148 @	28.0	9.3467E+0	100.0000	84.2962	3	260.5
11	29.003887 N	29.0	6.7544E-2	.7227	.6092	3	273.4
12	29.999120 N	30.0	7.6031E-4	.0081	.0069	7	286.2
13	31.989830 @	32.0	9.3756E-1	10.0310	8.4557	3	311.8
14	33.986161 N	34.0	3.8667E-3	.0414	.0349	3	324.6
15	35.967548 @	36.0	3.0195E-4	.0032	.0027	7	350.2
16	37.934595 N	38.0	8.0765E-5	.0009	.0007	6	363.0
17	39.962384 @	40.0	7.0579E-2	.7551	.6365	3	388.6
18	43.989830 @	44.0	2.4527E-3	.0262	.0221	3	439.6
19	55.972153 N	56.0	2.5824E-4	.0028	.0023	7	541.7

Reviewed By:

Date:

HNF-4073

Rev. 0

99-0081C

I

$$CC_2 = .018 - .0043$$

$$= .014$$

$$N_2O \sim \left(\frac{5.6}{5.6 + 18.1} \right) (.018) \left(\frac{107}{74} \right)$$

$$\approx 0.0043 \left(\frac{107}{74} \right) = .006$$

Batch Pressure: .10

SEMI (3000) Mass: 43.993843 (1 Unit = 7mu)
 10*PEAKW. 17 SAMPLES/PEAK Range: 100mV

Calc. Res.: 12
 6 Jan 1999 13

D00 058

HNF-4073
Rev. 0

Project No. _____

Internal Distribution

File/LB

Date January 15, 1999

To Kurt Silvers

From Milt Goheen *MG*

Subject Gas Sample Analysis

Gas species analyses of Summa samples received 01-15-99 are complete. The report is attached. The instrument used is a Finnigan MAT-271 (WC38625) high sensitivity quantitative mass spectrometer. The sensitivity of the instrument is checked daily with high purity N2 gas. Two air standards are run weekly. The samples were assigned ALO sequence numbers 99-00914 through 99-00917. The work package used for the analyses is K90670.

If you have any questions please contact me at 376-3358.

Concurrence: *R E Brunin* 01/15/1999

D00 059

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry

Phone: (509) 376-3358 / mail slot P7-22

Date: January 15, 1999

Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1

Laboratory Record Book PNNL 56998 Page 18

Measurement and test equipment WC38625

Sample Id. VP102-002.C050

Analysis Date January 15, 1999

Log-in No. 99-00914

Mole Percent	Estimate of Precision
-----------------	--------------------------

Argon	0.48	±	0.02
Carbon dioxide	0.01	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0028	±	0.0005
Methane	<0.001	±	0
Nitrogen	89.1	±	0.2
Oxygen	10.4	±	0.2
Nitrous oxide	<0.001	±	0
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

Sample Id. VP102-006.C042

Analysis Date January 15, 1999

Log-in No. 99-00915

Mole Percent	Estimate of Precision
-----------------	--------------------------

Argon	0.48	±	0.02
Carbon dioxide	0.008	±	0.005
Carbon monoxide	<0.01	±	0
Helium	<0.005	±	0
Hydrogen	0.0039	±	0.0005
Methane	<0.001	±	0
Nitrogen	88.6	±	0.2
Oxygen	10.7	±	0.2
Nitrous oxide	<0.001	±	0
Other nitrogen oxides		±	
C2Hx	<0.001	±	0
Other hydrocarbons	<0.001	±	0
Ammonia (estimated)		±	
Comments			

D00 060

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry
Phone: (509) 376-3358 / mail slot P7-22
Date: January 15, 1999
Subject: Gas Species Analysis

To: Jim Huckaby

Analytical procedure: PNL-MA-599 ALO-284 Rev 1
Laboratory Record Book PNNL 56998 Page 18
Measurement and test equipment WC38625

Sample Id.	VP102-010.C134	Mole	Estimate of
Analysis Date	January 15, 1999	Percent	Precision
Log-in No.	99-00916		
Argon	0.48	± 0.02	
Carbon dioxide	0.008	± 0.005	
Carbon monoxide	<0.01	± 0	
Helium	<0.005	± 0	
Hydrogen	0.0036	± 0.0005	
Methane	<0.001	± 0	
Nitrogen	88.9	± 0.2	
Oxygen	10.6	± 0.2	
Nitrous oxide	<0.001	± 0	
Other nitrogen oxides		±	
C2Hx	<0.001	± 0	
Other hydrocarbons	<0.001	± 0	
Ammonia (estimated)		±	
Comments			

Sample Id.	VP102-014.C298	Mole	Estimate of
Analysis Date	January 15, 1999	Percent	Precision
Log-in No.	99-00517		
Argon	0.48	± 0.02	
Carbon dioxide	0.01	± 0.005	
Carbon monoxide	<0.01	± 0	
Helium	<0.005	± 0	
Hydrogen	0.0034	± 0.0005	
Methane	<0.001	± 0	
Nitrogen	88.9	± 0.2	
Oxygen	10.6	± 0.2	
Nitrous oxide	<0.001	± 0	
Other nitrogen oxides		±	
C2Hx	<0.001	± 0	
Other hydrocarbons	<0.001	± 0	
Ammonia (estimated)		±	
Comments			

*MATRIX - EVALUATION LIST of VP102-002.C050

15 Jan 1999 09:50

SAMPLE ID: VP102-002.C050
ANALYST: RE BRINSON *RCB*
CUSTOMER: JAMES HUCKABY
CALCULATE DATE: 15 Jan 1999 (09:34)
CALIB. LIBRARY: RDC

ALO NO.: 99-00914
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 18
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00280	.00020	.000003
METHANE (15ONLY)	.00055	.00031	.000001
NITROGEN	89.06957	87.58204	.094175
OXYGEN	10.44108	11.73337	.011040
ARGON	.47624	.66899	.000504
CARBON DIOXIDE	.00977	.01509	.000010

TOTAL	100.00000	100.00000	.105732

TOTAL C1-C4 0.00000

CLOSURE [%] : -.061 MEASURED PRESSURE: .1058

Reviewed By: *MLB*

Date: *1-15-99*

<S P E C T R U M L I S T :SAMPLE SPECTRUM (BKG subtr.) 15 Jan 1999 09:5
0

SAMPLE ID: VP102-002.C050
ANALYST: RE BRINSON
CUSTOMER: JAMES HUCKABY
CALCULATE DATE: 15 Jan 1999 (09:34)

ALO NO.: 99-00914
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 18
M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 105.8 mTorr
ANALYSIS TIME : 09:35.417
BASE PEAK NO. : 8 (m/e= 28.006148)

END PRESSURE : 98.7 mTorr
INTEGR.INTENSITY: 1.0200E+1 V
BASE PEAK INT. : 8.6227E+0 V

Attributes: ABORTED ACQUISITION
Background "BKG #1 01-15-99" subtracted
ACQUIRED

-SAMPLE SPECTRUM

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.3276E-4	.0015	.0013	7	28.5
2	14.003074 @	14.0	5.3553E-1	6.2107	5.2501	3	121.9
3	15.005128 N	15.0	8.3705E-4	.0097	.0082	7	133.8
4	16.001494 N	16.0	5.7982E-2	.6724	.5684	3	146.0
5	16.995822 N	17.0	1.6183E-4	.0019	.0016	7	158.5
6	18.005225 N	18.0	4.6753E-4	.0054	.0046	6	170.9
7	19.981192 @	20.0	9.4401E-3	.1095	.0925	3	195.6
8	28.006148 @	28.0	8.6227E+0	100.0000	84.5327	3	258.0
9	29.006088 N	29.0	6.2282E-2	.7223	.6106	3	270.9
10	29.995725 N	30.0	4.7664E-4	.0055	.0047	7	283.7
11	31.989830 @	32.0	8.4135E-1	9.7573	8.2482	3	309.3
12	33.988756 N	34.0	3.4584E-3	.0401	.0339	3	322.1
13	35.967548 @	36.0	2.3735E-4	.0028	.0023	7	347.5
14	39.962384 @	40.0	6.3882E-2	.7409	.6263	3	385.8
15	43.989830 @	44.0	1.3100E-3	.0152	.0128	3	436.6
16	55.951464 N	56.0	1.8397E-4	.0021	.0018	7	537.6

Reviewed By:

Date:

Flatness(0 % Peak Width): 0

Batch Pressure: .09

SEMIII (3000) Mass:43.994398 (1 Unit=7mu)

Calc. Res.: 29

10*PEAKW. 17 SAMPLES/PEAK Range:10mV

15 Jan 1999 09

MATRIX - EVALUATION LIST of VP102-006.C042

15 Jan 1999 10:16

SAMPLE ID: VP102-006.C042
ANALYST: RE BRINSON
CUSTOMER: JAMES HUCKABY
CALCULATE DATE: 15 Jan 1999 (10:04)
CALIB. LIBRARY: RDC

ALO NO.: 99-00915
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 18
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00385	.00027	.000004
METHANE(15ONLY)	.00012	.00007	0.000000
NITROGEN	88.84381	87.33273	.092182
OXYGEN	10.66359	11.97968	.011064
ARGON	.48089	.67530	.000499
CARBON DIOXIDE	.00773	.01194	.000008

TOTAL	100.00000	100.00000	.103757
TOTAL C1-C4		0.00000	
CLOSURE [%]	: .907	MEASURED PRESSURE:	.1028

Reviewed By: *MB*Date: *1-15-99*

*S P E C T R U M L I S T :SAMPLE SPECTRUM 15 Jan 1999 10:16

SAMPLE ID: VP102-006.C042
 ANALYST: RE BRINSON
 CUSTOMER: JAMES HUCKABY
 CALCULATE DATE: 15 Jan 1999 (10:04)

ALO NO.: 99-00915
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 18
 M&T NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 102.82 mTorr
 ANALYSIS TIME : 11:13.782
 BASE PEAK NO. : 9 (m/e= 28.006148)

END PRESSURE : 94.85 mTorr
 INTEGR.INTENSITY: 9.9320E+0 V
 BASE PEAK INT. : 8.3766E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.8229E-4	.0034	.0028	7	29.8
2	13.320375	13.5	6.8037E-5	.0008	.0007	6	133.4
3	14.003074 @	14.0	5.2142E-1	6.2247	5.2499	3	148.7
4	15.004694 N	15.0	7.8841E-4	.0094	.0079	7	164.2
5	16.000812 N	16.0	5.7948E-2	.6918	.5834	3	179.5
6	16.996211 N	17.0	2.5511E-4	.0030	.0026	7	195.1
7	18.005665 N	18.0	8.2713E-4	.0099	.0083	7	210.4
8	19.981192 @	20.0	9.3019E-3	.1110	.0937	3	242.0
9	28.006148 @	28.0	8.3766E+0	100.0000	84.3400	3	320.4
10	29.003261 N	29.0	6.0490E-2	.7221	.6090	3	336.6
11	29.994573 N	30.0	5.0532E-4	.0060	.0051	7	352.7
12	31.989830 @	32.0	8.3587E-1	9.9787	8.4160	3	384.7
13	33.988757 N	34.0	3.4620E-3	.0413	.0349	3	400.9
14	35.967548 @	36.0	2.0414E-4	.0024	.0021	7	433.1
15	39.962384 @	40.0	6.2694E-2	.7484	.6312	3	481.4
16	43.989830 @	44.0	1.0552E-3	.0126	.0106	3	545.4
17	55.941480 N	56.0	1.7159E-4	.0020	.0017	7	673.8

Reviewed By:

Date:

**MATRIX - EVALUATION LIST of VP102-010.C134 15 Jan 1999 10:37

SAMPLE ID: VP102-010.C134 ALO NO.: 99-00916
ANALYST: RE BRINSON *REB* LAB SAMPLE NO.: 0
CUSTOMER: JAMES HUCKABY LRB NO.: 56998
CALCULATE DATE: 15 Jan 1999 (10:23) PAGE: 18
CALIB. LIBRARY: RDC M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00364	.00026	.000004
METHANE (15ONLY)	.00052	.00029	.000001
NITROGEN	88.88804	87.38195	.088981
OXYGEN	10.62066	11.93223	.010632
ARGON	.47899	.67267	.000479
CARBON DIOXIDE	.00815	.01260	.000008

TOTAL	100.00000	100.00000	.100104
TOTAL C1-C4		0.00000	
CLOSURE [%]	: 1.159	MEASURED PRESSURE:	.0990

Reviewed By: *MG*Date: *1-15-99*

*S P E C T R U M L I S T :SAMPLE SPECTRUM 15 Jan 1999 10:35

SAMPLE ID: VP102-010.C134
 ANALYST: RE BRINSON
 CUSTOMER: JAMES HUCKABY
 CALCULATE DATE: 15 Jan 1999 (10:23)

ALO NO.: 99-00916
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 18
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 98.96 mTorr
 ANALYSIS TIME : 12:01.944
 BASE PEAK NO. : 9 (m/e= 28.006148)

END PRESSURE : 90.8 mTorr
 INTEGR.INTENSITY: 9.5842E+0 V
 BASE PEAK INT. : 8.0866E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.6646E-4	.0033	.0028	7	29.8
2	13.323060	13.5	7.9648E-5	.0010	.0008	6	133.9
3	14.003074 @	14.0	5.0337E-1	6.2247	5.2521	3	149.4
4	15.004076 N	15.0	7.8561E-4	.0097	.0082	6	164.7
5	16.001298 N	16.0	5.5666E-2	.6884	.5808	3	180.3
6	17.000717 N	17.0	2.7369E-4	.0034	.0029	7	195.5
7	18.005516 N	18.0	9.4159E-4	.0116	.0098	7	210.8
8	19.981192 @	20.0	8.9725E-3	.1110	.0936	3	242.0
9	28.006148 @	28.0	8.0866E+0	100.0000	84.3742	3	319.5
10	29.003182 N	29.0	5.8428E-2	.7225	.6096	3	335.7
11	29.993885 N	30.0	5.1587E-4	.0064	.0054	7	351.8
12	31.989830 @	32.0	8.0328E-1	9.9334	8.3813	3	383.9
13	33.992945 N	34.0	3.3198E-3	.0411	.0346	3	400.1
14	35.967548 @	36.0	2.2619E-4	.0028	.0024	7	432.3
15	39.962384 @	40.0	6.0247E-2	.7450	.6286	3	480.6
16	43.989830 @	44.0	1.0617E-3	.0131	.0111	3	545.0
17	55.953891 N	56.0	1.7841E-4	.0022	.0019	6	673.8

Reviewed By:

Date:

*MATRIX - EVALUATION LIST of VP102-014.C298

15 Jan 1999 10:54

SAMPLE ID: VP102-014.C298
ANALYST: RE BRINSON *REB*
CUSTOMER: JAMES HUCKABY
CALCULATE DATE: 15 Jan 1999 (10:40)
CALIB. LIBRARY: RDC

ALO NO.: 99-00917
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 18
M&TE NO.: WC38625

COMPONENT	MOL%	WGT%	PART.PRES.[Torr]
HYDROGEN	.00339	.00024	.000003
METHANE (15ONLY)	.00074	.00041	.000001
NITROGEN	88.89341	87.38719	.088789
OXYGEN	10.61401	11.92476	.010602
ARGON	.47822	.67160	.000478
CARBON DIOXIDE	.01023	.01580	.000010

TOTAL	100.00000	100.00000	.099882
TOTAL C1-C4		0.00000	
CLOSURE [%]	: 1.290	MEASURED PRESSURE:	.0986

Reviewed By:

MG

Date:

1-15-99

◀: S P E C T R U M L I S T : SAMPLE SPECTRUM 15 Jan 1999 10:54

SAMPLE ID: VP102-014.C298
 ANALYST: RE BRINSON
 CUSTOMER: JAMES HUCKABY
 CALCULATE DATE: 15 Jan 1999 (10:40)

ALO NO.: 99-00917
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 18
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARI (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 98.61 mTorr
 ANALYSIS TIME: 12:50.608
 BASE PEAK NO.: 9 (m/e = 28.006148)

END PRESSURE : 90.06 mTorr
 INTEGR.INTENSITY: 9.5630E+0 V
 BASE PEAK INT. : 8.0690E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.5474E-4	.0032	.0027	7	29.8
2	13.323945	13.5	7.5217E-5	.0009	.0008	6	134.6
3	14.003074 @	14.0	5.0230E-1	6.2251	5.2525	3	150.1
4	15.004871 N	15.0	7.9750E-4	.0099	.0083	7	165.4
5	16.001356 N	16.0	5.5566E-2	.6886	.5811	3	181.0
6	16.998093 N	17.0	3.0511E-4	.0038	.0032	7	196.2
7	18.005507 N	18.0	9.7105E-4	.0120	.0102	7	211.5
8	19.981192 @	20.0	8.9228E-3	.1106	.0933	3	242.5
9	28.006148 @	28.0	8.0690E+0	100.0000	84.3769	3	319.7
10	29.003229 N	29.0	5.8273E-2	.7222	.6094	3	335.9
11	30.000257 N	30.0	5.6455E-4	.0070	.0059	7	352.1
12	31.989830 @	32.0	8.0100E-1	9.9269	8.3760	3	383.9
13	33.989696 N	34.0	3.3157E-3	.0411	.0347	3	400.1
14	35.967548 @	36.0	2.2180E-4	.0027	.0023	7	432.3
15	39.962384 @	40.0	6.0019E-2	.7438	.6276	3	480.7
16	43.989830 @	44.0	1.2762E-3	.0158	.0133	3	545.2
17	55.933904 N	56.0	1.7821E-4	.0022	.0019	7	673.9

Reviewed By:

Date:

PERMANENT GAS CALIBRATION AND QC DATA

*S P E C T R U M L I S T : BACKGROUND SPECTRUM 7 Jan 1999 07:31

SAMPLE ID: BKG #1 01-07-99
 ANALYST: RE BRINSON *RCB*
 CUSTOMER: LAB
 CALCULATE DATE: 7 Jan 1999 (07:26)

ALO NO.:
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 17
 M&TE NO.: WC38625

EXPERIMENT : 46 (NORMAL BACKGROUND)

CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 44

START PRESSURE: .04 mTorr

ANALYSIS TIME : 03:22.229

BASE PEAK NO. : 4 (m/e= 18.005363)

END PRESSURE : .05 mTorr

INTEGR.INTENSITY: 7.2242E-4 V

BASE PEAK INT. : 3.0546E-4 V

Attributes: NORMAL TERMINATION

ACQUIRED

SAVED IN FILE "

-BACKGROUND SPECTRUM

"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.016301 *	2.0	1.0353E-4	33.8941	14.3314	6	19.0
2	16.013664 N	16.0	1.5145E-4	49.5812	20.9643	6	109.0
3	17.006206 N	17.0	9.0228E-5	29.5384	12.4897	6	121.8
4	18.005363 N	18.0	3.0546E-4	100.0000	42.2828	7	134.5
5	39.968494 *	40.0	7.1749E-5	23.4890	9.9318	6	188.7

Reviewed By:

Date:

←: S E N S I T I V I T Y - M E A S U R E M E N T 7 Jan 1999 07:35

Channel : FARI I
Mass : 27.9805 (N2)
Background : 0.0000 V
Intensity : 8.9216 V
Net intensity : 8.9216 V
Baratron : .0930 Torr
Theor. Sensit. : 95.9045 V/Torr
=> 9.59045E-09 A/Torr

100 % Purity - Sensit. : 9.5905E+01 V/Torr

←: S E N S I T I V I T Y - M E A S U R E M E N T 7 Jan 1999 07:36

Channel : FARI I
Mass : 27.9850 (N2)
Background : 0.0000 V
Intensity : 8.8862 V
Net intensity : 8.8862 V
Baratron : .0927 Torr
Theor. Sensit. : 95.8782 V/Torr
=> 9.58782E-09 A/Torr

100 % Purity - Sensit. : 9.5878E+01 V/Torr

←: S E N S I T I V I T Y - M E A S U R E M E N T 7 Jan 1999 07:36

Channel : FARI I
Mass : 27.9845 (N2)
Background : 0.0000 V
Intensity : 8.8728 V
Net intensity : 8.8728 V
Baratron : .0926 Torr
Theor. Sensit. : 95.8683 V/Torr
=> 9.58683E-09 A/Torr

100 % Purity - Sensit. : 9.5868E+01 V/Torr

N2 Sens. 95.88 v/torr

1243

1-7-99

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry

Phone (509) 376-3358 / mail slot P7-22

Date: January 4, 1999

Subject: Air standards from Finnigan MAT - 271 Mass Spectrometer

Analytical procedure: PNL-MA-599 ALO-284 Rev 1

Laboratory Record Book 56998 Page 16

Measurement and test equipment WC38625

Accepted values for the composition of air:

	Mole percent
Argon	0.934
Nitrogen	78.08
Oxygen	20.95

Analyzed values:

Analysis Date: January 4, 1999

	Mole percent
Argon	0.941
Nitrogen	77.97
Oxygen	21.05

Analysis Date: January 4, 1999

	Mole percent
Argon	0.940
Nitrogen	78.02
Oxygen	21.00

Instrument Background:

Background analyses are run daily prior to sample analyses. Trace amounts of hydrogen and/or water in the 0.1 to 0.2 millivolt range were the only species detected. The background spectra is subtracted from each sample spectra.

DOO 074

*S P E C T R U M L I S T : BACKGROUND SPECTRUM 15 Jan 1999 07:57

SAMPLE ID: BKG #1 01-15-99
 ANALYST: RE BRINSON *REB*
 CUSTOMER: LAB
 CALCULATE DATE: 15 Jan 1999 (07:47)

ALO NO.:
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 18
 M&TE NO.: WC38625

EXPERIMENT : 46 (NORMAL BACKGROUND)
 CHANNEL (RES.): FARI (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 44

START PRESSURE: 0 mTorr
 ANALYSIS TIME : 03:20.028
 BASE PEAK NO. : 1 (m/e= 2.015873)

END PRESSURE : 0 mTorr
 INTEGR.INTENSITY: 2.4652E-4 V
 BASE PEAK INT. : 1.0288E-4 V

Attributes: NORMAL TERMINATION
 ACQUIRED
 SAVED IN FILE "

-BACKGROUND SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015873 *	2.0	1.0288E-4	100.0000	41.7348	7	18.6
2	16.011086 N	16.0	7.4166E-5	72.0869	30.0854	6	108.5
3	18.005210 N	18.0	6.9468E-5	67.5211	28.1798	7	133.8

Reviewed By: *MB*

Date: 1-15-99

SENSITIVITY - MEASUREMENT 15 Jan 1999 07:55

Channel : FARI
Mass : 27.9743 (N2)
Background : 0.0000 V
Intensity : 8.2791 V
Net intensity : 8.2791 V
Baratron : .0876 Torr
Theor. Sensit. : 94.5401 V/Torr
=> 9.45401E-09 A/Torr

100 % Purity - Sensit. : 9.4540E+01 V/Torr

SENSITIVITY - MEASUREMENT 15 Jan 1999 07:56

Channel : FARI
Mass : 27.9782 (N2)
Background : 0.0000 V
Intensity : 8.2446 V
Net intensity : 8.2446 V
Baratron : .0872 Torr
Theor. Sensit. : 94.5301 V/Torr
=> 9.45301E-09 A/Torr

100 % Purity - Sensit. : 9.4530E+01 V/Torr

SENSITIVITY - MEASUREMENT 15 Jan 1999 07:56

Channel : FARI
Mass : 27.9775 (N2)
Background : 0.0000 V
Intensity : 8.2361 V
Net intensity : 8.2360 V
Baratron : .0871 Torr
Theor. Sensit. : 94.5314 V/Torr
=> 9.45314E-09 A/Torr

100 % Purity - Sensit. : 9.4531E+01 V/Torr

N₂ Sens = 94.53 V/Torr

1298

1-15-99

Pacific Northwest National Laboratory

From: 325 Gas & Isotopic Mass Spectrometry

Phon (509) 376-3358 / mail slot P7-22

Date: January 11, 1999

Subje Air standards from Finnigan MAT - 271 Mass Spectrometer

Analytical procedure: PNL-MA-599 ALO-284 Rev 1

Laboratory Record Book 56998 Page 18

Measurement and test equipment WC38625

Accepted values for the composition of air:

	Mole percent
Argon	0.934
Nitrogen	78.08
Oxygen	20.95

Analyzed values:

Analysis Date: January 11, 1999

	Mole percent
Argon	0.940
Nitrogen	78.02
Oxygen	21.00

Analysis Date: January 11, 1999

	Mole percent
Argon	0.939
Nitrogen	77.99
Oxygen	21.03

Instrument Background:

Background analyses are run daily prior to sample analyses. Trace amounts of hydrogen and/or water in the 0.1 to 0.2 millivolt range were the only species detected. The background spectra is subtracted from each sample spectra.

HNF-4073

Rev. 0

S P E C T R U M L I S T : SAMPLE SPECTRUM 8 Oct 1998 08:34

SAMPLE ID: H2 STANDARD
 ANALYST: RE BRINSON *REB*
 CUSTOMER: LAB
 CALCULATE DATE: 8 Oct 1998 (08:21)

ALO NO.:
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 4
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1 MASS RANGE: 2.02 - 135.91

START PRESSURE: 78.28 mTorr END PRESSURE : 56.51 mTorr
 ANALYSIS TIME : 12:17.269 INTEGR.INTENSITY: 3.4519E+0 V
 BASE PEAK NO. : 1 (m/e= 2.015650) BASE PEAK INT. : 3.4444E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	3.4444E+0	100.0000	99.7833	3	25.4
2	3.016030 @	3.0	1.6365E-3	.0475	.0474	3	34.6
3	4.002604 @	4.0	1.7167E-4	.0050	.0050	7	47.3
4	16.017935 N	16.0	1.9483E-4	.0057	.0056	7	146.3
5	17.022439 N	17.0	9.3981E-4	.0273	.0272	7	159.1
6	18.036315 N	18.0	3.6859E-3	.1070	.1068	3	171.9
7	28.006148 @	28.0	8.5208E-4	.0247	.0247	7	273.2

Reviewed By: *MG*Date: *10-12-98*

S = 44.50 V 1 Torr

D00 078

◀S P E C T R U M L I S T :SAMPLE SPECTRUM 8 Oct 1998 08:55

SAMPLE ID: 4He STANDARD

ANALYST: RE BRINSON

CUSTOMER: LAB

CALCULATE DATE: 8 Oct 1998 (08:46)

ALO NO.:

LAB SAMPLE NO.: 0

LRB NO.: 56998

PAGE: 4

M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)

CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 141.03 mTorr

ANALYSIS TIME : 08:19.516

BASE PEAK NO. : 2 (m/e= 4.002604)

END PRESSURE : 119.96 mTorr

INTEGR.INTENSITY: 2.4533E+0 V

BASE PEAK INT. : 2.4511E+0 V

Attributes: ABORTED ACQUISITION

ACQUIRED

SAVED IN FILE "

-SAMPLE SPECTRUM

"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.6407E-4	.0108	.0108	7	26.4
2	4.002604 @	4.0	2.4511E+0	100.0000	99.9093	3	48.1
3	16.024746 N	16.0	1.5157E-4	.0062	.0062	6	148.1
4	17.025518 N	17.0	1.0870E-4	.0044	.0044	7	160.7
5	18.037162 N	18.0	4.3829E-4	.0179	.0179	7	172.8
6	28.006148 @	28.0	1.1583E-3	.0473	.0472	3	273.6
7	43.989830 @	44.0	1.0390E-4	.0042	.0042	7	449.2

Reviewed By:

MG

Date:

10-5-98

S = 17.64 v / Ton

*S P E C T R U M L I S T :SAMPLE SPECTRUM 8 Oct 1998 09:08

SAMPLE ID: 3He STANDARD
ANALYST: RE BRINSON *REB*
CUSTOMER: LAB
CALCULATE DATE: 8 Oct 1998 (09:00)

ALO NO.:
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 4
M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 133.44 mTorr
ANALYSIS TIME : 07:41.124
BASE PEAK NO. : 2 (m/e= 3.016030)

END PRESSURE : 112.42 mTorr
INTEGR.INTENSITY: 2.3721E+0 V
BASE PEAK INT. : 2.3625E+0 V

Attributes: ABORTED ACQUISITION
ACQUIRED
SAVED IN FILE "

-SAMPLE SPECTRUM
"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	8.6867E-3	.3677	.3662	3	26.4
2	3.016030 @	3.0	2.3625E+0	100.0000	99.5934	3	35.6
3	16.026040 N	16.0	1.5284E-4	.0065	.0064	6	146.9
4	18.038234 N	18.0	3.0896E-4	.0131	.0130	6	172.2
5	28.006148 @	28.0	3.3629E-4	.0142	.0142	7	272.7
6	43.989830 @	44.0	1.5918E-4	.0067	.0067	7	448.3

Reviewed By: *YUG*

Date: *10-12-98*

$$S = 17.94 \text{ V / Torr}$$

HNF-4073

Rev. 0

*S P E C T R U M L I S T : SAMPLE SPECTRUM 8 Oct 1998 09:30

SAMPLE ID: Ar STANDARD
 ANALYST: RE BRINSON *REB*
 CUSTOMER: LAB
 CALCULATE DATE: 8 Oct 1998 (09:21)

ALO NO.:
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 4
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 64.11 mTorr
 ANALYSIS TIME : 08:06.997
 BASE PEAK NO. : 10 (m/e= 39.962384)

END PRESSURE : 61.11 mTorr
 INTEGR. INTENSITY: 1.0348E+1 V
 BASE PEAK INT. : 7.9473E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	2.3390E-4	.0029	.0023	7	26.4
2	13.315174	13.5	7.0261E-3	.0884	.0679	3	109.2
3	16.025390 N	16.0	1.2964E-4	.0016	.0013	7	146.7
4	18.015507 N	18.0	4.1676E-3	.0524	.0403	3	172.0
5	19.017525 N	19.0	7.6964E-4	.0097	.0074	7	185.0
6	20.021635 N	20.0	1.1787E+0	14.8311	11.3904	3	197.8
7	20.023601 N	20.0	1.1781E+0	14.8235	11.3846	3	210.8
8	35.967548 @	36.0	2.6533E-2	.3339	.2564	3	361.7
9	37.965203 N	38.0	5.0366E-3	.0634	.0487	3	374.5
10	39.962384 @	40.0	7.9473E+0	100.0000	76.8008	3	399.0

Reviewed By: *MG*Date: *10-9-98*

$$S = 129.120 / Torr$$

D00 081

*S P E C T R U M L I S T :SAMPLE SPECTRUM 8 Oct 1998 10:36

SAMPLE ID: N2 STANDARD
ANALYST: RE BRINSON
CUSTOMER: LAB
CALCULATE DATE: 8 Oct 1998 (10:28)

ALO NO.:
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 4
M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 84.94 mTorr
ANALYSIS TIME : 07:41.95
BASE PEAK NO. : 6 (m/e= 28.006148)

END PRESSURE : 80.38 mTorr
INTEGR.INTENSITY: 8.1288E+0 V
BASE PEAK INT. : 7.5966E+0 V

Attributes: ABORTED ACQUISITION
ACQUIRED
SAVED IN FILE "

-SAMPLE SPECTRUM
"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.9387E-4	.0026	.0024	6	26.0
2	14.003074 @	14.0	4.7567E-1	6.2616	5.8517	3	121.2
3	15.006843 N	15.0	7.0616E-4	.0093	.0087	7	134.1
4	16.025240 N	16.0	1.3055E-4	.0017	.0016	6	146.9
5	18.039397 N	18.0	1.1477E-4	.0015	.0014	6	172.2
6	28.006148 @	28.0	7.5966E+0	100.0000	93.4531	3	272.4
7	29.004221 N	29.0	5.4835E-2	.7218	.6746	3	285.3
8	29.998344 N	30.0	4.0613E-4	.0053	.0050	7	298.1
9	39.962384 @	40.0	1.2631E-4	.0017	.0016	7	398.8

Reviewed By: *MB*

Date: *10-9-98*

30/28 = 0.000053

N₂ S = 92.486 V / T₀ - v

*S P E C T R U M L I S T : SAMPLE SPECTRUM 8 Oct 1998 10:54

SAMPLE ID: CH4 STD
 ANALYST: RE BRINSON *REB*
 CUSTOMER: LAB
 CALCULATE DATE: 8 Oct 1998 (10:46)

ALO NO.:
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 4
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 97.68 mTorr
 ANALYSIS TIME : 07:50.464
 BASE PEAK NO. : 6 (m/e= 16.029026)

END PRESSURE : 90.81 mTorr
 INTEGR.INTENSITY: 1.4033E+1 V
 BASE PEAK INT. : 7.0829E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.2215E-2	.1725	.0870	3	26.0
2	3.016030 @	3.0	1.9907E-4	.0028	.0014	7	35.2
3	11.973422 N	12.0	1.3866E-1	1.9576	.9881	3	96.6
4	14.003074 @	14.0	8.5083E-1	12.0124	6.0629	3	122.0
5	15.018022 N	15.0	5.8625E+0	82.7700	41.7760	3	134.1
6	16.029026 N	16.0	7.0829E+0	100.0000	50.4723	3	147.0
7	17.039816 N	17.0	8.2643E-2	1.1668	.5889	3	154.9
8	18.034097 N	18.0	2.2091E-4	.0031	.0016	6	167.6
9	27.015538 N	27.0	3.9839E-4	.0056	.0028	7	255.9
10	28.006148 @	28.0	9.0913E-4	.0128	.0065	7	268.7
11	29.037197 N	29.0	1.5072E-3	.0213	.0107	3	281.6
12	39.962384 @	40.0	1.3946E-4	.0020	.0010	7	394.8
13	43.989830 @	44.0	9.3884E-5	.0013	.0007	7	445.1

Reviewed By:

MLG

Date:

*10-12-98**S = 74.27 U / Torr*

*S P E C T R U M L I S T :SAMPLE SPECTRUM 8 Oct 1998 11:39

SAMPLE ID: CO2 STANDARD
ANALYST: RE BRINSON
CUSTOMER: LAB
CALCULATE DATE: 8 Oct 1998 (11:30)

ALO NO.:
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 4
M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 76.95 mTorr
ANALYSIS TIME : 08:31.438
BASE PEAK NO. : 12 (m/e= 43.989830)

END PRESSURE : 73.32 mTorr
INTEGR.INTENSITY: 9.4787E+0 V
BASE PEAK INT. : 7.8979E+0 V

Attributes: ABORTED ACQUISITION
ACQUIRED
SAVED IN FILE "

-SAMPLE SPECTRUM
"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.3095E-4	.0017	.0014	7	26.4
2	11.988509 N	12.0	2.5421E-1	3.2187	2.6820	3	95.5
3	14.003074 @	14.0	3.3944E-4	.0043	.0036	7	120.4
4	16.016497 N	16.0	5.6587E-1	7.1647	5.9699	3	145.8
5	17.028133 N	17.0	2.7227E-4	.0034	.0029	7	158.6
6	18.037461 N	18.0	1.3617E-3	.0172	.0144	3	170.9
7	21.998136 N	22.0	1.6105E-1	2.0391	1.6991	3	233.9
8	28.006148 @	28.0	4.6845E-1	5.9312	4.9421	3	271.8
9	29.007997 N	29.0	4.9314E-3	.0624	.0520	3	284.7
10	30.004022 N	30.0	9.6454E-4	.0122	.0102	7	297.5
11	31.989830 @	32.0	1.0928E-3	.0138	.0115	3	322.9
12	43.989830 @	44.0	7.8979E+0	100.0000	83.3235	3	447.8
13	44.998478 N	45.0	8.9982E-2	1.1393	.9493	3	460.7
14	46.000722 N	46.0	3.2060E-2	.4059	.3382	3	473.5

Reviewed By:

MB

Date:

10-6-98

$S = 107.22 \text{ V } / \text{ Torr}$

HNF-4073

Rev. 0

◀ S P E C T R U M L I S T : SAMPLE SPECTRUM 8 Oct 1998 13:15

SAMPLE ID: O2 STANDARD
 ANALYST: RE BRINSON *REB*
 CUSTOMER: LAB
 CALCULATE DATE: 8 Oct 1998 (13:05)

ALO NO.:
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 4
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1 MASS RANGE: 2.02 - 135.91

START PRESSURE: 60.09 mTorr END PRESSURE : 56.25 mTorr
 ANALYSIS TIME : 09:31.68 INTEGR.INTENSITY: 4.5914E+0 V
 BASE PEAK NO. : 6 (m/e= 31.989830) BASE PEAK INT. : 4.2740E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.6055E-4	.0038	.0035	6	26.4
2	16.016393 N	16.0	2.9740E-1	6.9584	6.4773	3	144.2
3	17.028108 N	17.0	3.6067E-4	.0084	.0079	7	156.8
4	18.039203 N	18.0	1.0176E-3	.0238	.0222	3	169.7
5	28.006148 @	28.0	3.8474E-4	.0090	.0084	7	270.4
6	31.989830 @	32.0	4.2740E+0	100.0000	93.0868	3	320.1
7	33.989565 N	34.0	1.6981E-2	.3973	.3698	3	332.9
8	43.989830 @	44.0	1.1080E-3	.0259	.0241	3	445.9

Reviewed By:

MG

Date:

*10-6-98**S = 73.86 V / Torr*

D00 085

S P E C T R U M L I S T : SAMPLE SPECTRUM 8 Oct 1998 14:27

SAMPLE ID: N2O STANDARD
 ANALYST: RE BRINSON *REB*
 CUSTOMER: LAB
 CALCULATE DATE: 8 Oct 1998 (14:17)

ALO NO.:
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 4
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time [s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 95.33 mTorr
 ANALYSIS TIME : 09:24.161
 BASE PEAK NO. : 11 (m/e= 43.989830)

END PRESSURE : 90.39 mTorr
 INTEGR. INTENSITY: 9.5533E+0 V
 BASE PEAK INT. : 6.8151E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.0504E-4	.0015	.0011	6	26.4
2	14.003074 @	14.0	3.5827E-1	5.2570	3.7502	3	121.8
3	15.007199 N	15.0	1.7507E-3	.0257	.0183	3	134.6
4	16.010311 N	16.0	1.5350E-1	2.2523	1.6067	3	147.7
5	18.031904 N	18.0	4.8580E-4	.0071	.0051	6	173.2
6	28.006148 @	28.0	5.0067E-1	7.3465	5.2408	3	273.8
7	29.005125 N	29.0	3.6728E-3	.0539	.0384	3	286.6
8	29.988855 N	30.0	1.6427E+0	24.1040	17.1953	3	299.4
9	30.983597 N	31.0	6.5239E-3	.0957	.0683	3	312.3
10	31.989830 @	32.0	3.8740E-3	.0568	.0406	3	325.1
11	43.989830 @	44.0	6.8151E+0	100.0000	71.3378	3	450.2
12	44.992784 N	45.0	5.2204E-2	.7660	.5464	3	463.1
13	46.001597 N	46.0	1.4252E-2	.2091	.1492	3	475.9
14	55.999006 N	56.0	1.6186E-4	.0024	.0017	6	551.4

Reviewed By:

MLG

Date:

10-12-98

$$S = 74.69 \text{ V / Torr}$$

$$\frac{30}{44} = \frac{241}{100}$$

$$= .241$$

D00 086

HNF-4073

Rev. 0

*S P E C T R U M L I S T :SAMPLE SPECTRUM 9 Oct 1998 07:59

SAMPLE ID: CO STANDARD
 ANALYST: RE BRINSON *REB*
 CUSTOMER: LAB
 CALCULATE DATE: 9 Oct 1998 (07:49)

ALO NO.:
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 5
 M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 86.29 mTorr
 ANALYSIS TIME : 09:24.705
 BASE PEAK NO. : 7 (m/e= 28.006148)

END PRESSURE : 80.66 mTorr
 INTEGR.INTENSITY: 8.1973E+0 V
 BASE PEAK INT. : 7.8406E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	7.8749E-4	.0100	.0096	7	26.4
2	11.989715 N	12.0	1.4779E-1	1.8849	1.8029	3	96.3
3	14.003074 @	14.0	6.2138E-2	.7925	.7580	3	120.8
4	15.015404 N	15.0	1.4126E-4	.0018	.0017	7	133.6
5	16.018970 N	16.0	4.2288E-2	.5393	.5159	3	146.5
6	18.040578 N	18.0	1.8316E-4	.0023	.0022	6	171.7
7	28.006148 @	28.0	7.8406E+0	100.0000	95.6480	3	272.1
8	29.006809 N	29.0	8.5275E-2	1.0876	1.0403	3	285.0
9	29.995141 N	30.0	1.5795E-2	.2015	.1927	3	297.8
10	31.002962 N	31.0	1.8954E-4	.0024	.0023	7	310.7
11	43.989830 @	44.0	2.0129E-3	.0257	.0246	3	450.7
12	56.021991 N	56.0	1.4702E-4	.0019	.0018	7	551.9

Reviewed By:

MLG

Date:

*10-13-98**S = 93.96 V 1 Torr*

D00 087

*S P E C T R U M L I S T : SAMPLE SPECTRUM 9 Oct 1998 08:22

SAMPLE ID: C2H6 STANDARD
ANALYST: RE BRINSON *REB*
CUSTOMER: LAB
CALCULATE DATE: 9 Oct 1998 (08:13)ALO NO.:
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 5
M&TE NO.: WC38625EXPERIMENT : 47 (NORMAL RUN)
CHANNEL (RES.): FARII (220) Int.Time[s]: .1 MASS RANGE: 2.02 - 135.91START PRESSURE: 87.52 mTorr
ANALYSIS TIME : 09:28.608
BASE PEAK NO. : 12 (m/e= 28.006148)
END PRESSURE : 82.07 mTorr
INTEGR. INTENSITY: 2.0076E+1 V
BASE PEAK INT. : 9.6342E+0 VAttributes: ABORTED ACQUISITION
ACQUIRED
SAVED IN FILE "-SAMPLE SPECTRUM
"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	1.9913E-2	.2067	.0992	3	26.4
2	3.016030 @	3.0	3.3136E-3	.0344	.0165	3	35.6
3	4.002604 @	4.0	4.0623E-4	.0042	.0020	7	48.3
4	11.973678 N	12.0	3.1713E-2	.3292	.1580	3	96.8
5	14.003074 @	14.0	2.2534E-1	2.3390	1.1224	3	122.2
6	15.016911 N	15.0	2.9817E-1	3.0949	1.4852	3	135.1
7	16.022635 N	16.0	6.3750E-3	.0662	.0318	3	147.5
8	17.025269 N	17.0	9.5482E-5	.0010	.0005	7	160.1
9	18.021866 N	18.0	2.1594E-4	.0022	.0011	7	172.8
10	25.998049 N	26.0	2.1012E+0	21.8096	10.4662	3	249.8
11	27.005182 N	27.0	3.0911E+0	32.0842	15.3970	3	262.6
12	28.006148 @	28.0	9.6342E+0	100.0000	47.9893	3	275.5
13	29.006554 N	29.0	2.0610E+0	21.3926	10.2662	3	288.3
14	29.996227 N	30.0	2.5460E+0	26.4270	12.6821	3	301.2
15	30.991072 N	31.0	5.5481E-2	.5759	.2764	3	314.0
16	31.989830 @	32.0	3.2083E-4	.0033	.0016	7	326.8
17	38.974751 N	39.0	1.9066E-4	.0020	.0009	6	390.4
18	41.018349 N	41.0	2.9868E-4	.0031	.0015	7	415.9
19	43.989830 @	44.0	1.5289E-4	.0016	.0008	7	454.2
20	56.004539 N	56.0	2.8487E-4	.0030	.0014	7	555.8

Reviewed By: *REB*Date: *10-13-98*

$$S = \frac{113.73}{57.16 \text{ V/Torr}}$$

wk
10-13-98

◀S P E C T R U M L I S T :SAMPLE SPECTRUM 9 Oct 1998 10:31

SAMPLE ID: NH3 STANDARD
ANALYST: RE BRINSON *RLB*
CUSTOMER: LAB
CALCULATE DATE: 9 Oct 1998 (10:20)

ALO NO.:
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 5
M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 83.27 mTorr
ANALYSIS TIME : 10:05.735
BASE PEAK NO. : 6 (m/e= 17.048714)

END PRESSURE : 75.43 mTorr
INTEGR. INTENSITY: 9.6056E+0 V
BASE PEAK INT. : 4.9473E+0 V

Attributes: ABORTED ACQUISITION
ACQUIRED
SAVED IN FILE "

-SAMPLE SPECTRUM
"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	5.7174E-3	.1156	.0595	3	26.4
2	3.016030 @	3.0	2.1939E-4	.0044	.0023	6	35.6
3	14.003074 @	14.0	8.9758E-2	1.8143	.9344	3	122.3
4	15.017383 N	15.0	2.6028E-1	5.2611	2.7097	3	134.7
5	16.033956 N	16.0	4.2336E+0	85.5736	44.0741	3	147.4
6	17.048714 N	17.0	4.9473E+0	100.0000	51.5043	3	159.5
7	18.049458 N	18.0	5.1146E-2	1.0338	.5325	3	172.2
8	20.048370 N	20.0	1.0124E-4	.0020	.0011	7	198.0
9	20.066027 N	20.0	9.6044E-5	.0019	.0010	7	210.9
10	27.025995 N	27.0	1.3345E-4	.0027	.0014	6	261.8
11	28.006148 @	28.0	1.4627E-2	.2957	.1523	3	274.6
12	29.004478 N	29.0	2.9324E-4	.0059	.0031	7	287.5
13	29.979569 N	30.0	1.5796E-3	.0319	.0164	3	300.3
14	31.005991 N	31.0	2.4805E-4	.0050	.0026	7	313.1
15	43.989830 @	44.0	3.1454E-4	.0064	.0033	7	452.9
16	56.012632 N	56.0	2.1338E-4	.0043	.0022	7	554.7

Reviewed By:

RLB

Date:

10-13-98

S = 60.93 V 1 Torr

◀ S P E C T R U M L I S T : SAMPLE SPECTRUM 12 Oct 1998 10:14

SAMPLE ID: D2 NOVA PURE GAS
ANALYST: MW GOHEEN
CUSTOMER: LAB
CALCULATE DATE: 12 Oct 1998 (10:06)

ALO NO.:
LAB SAMPLE NO.: 0
LRB NO.: 56998
PAGE: 5
M&TE NO.: WC38625

EXPERIMENT : 47 (NORMAL RUN)
CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 135.91

START PRESSURE: 106 mTorr
ANALYSIS TIME : 07:43.599
BASE PEAK NO. : 3 (m/e = 4.025915)

END PRESSURE : 91.35 mTorr
INTEGR.INTENSITY: 4.7031E+0 V
BASE PEAK INT. : 4.5838E+0 V

Attributes: ABORTED ACQUISITION
ACQUIRED
SAVED IN FILE "

-SAMPLE SPECTRUM
"

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	3.2928E-2	.7184	.7001	3	26.4
2	3.016030 @	3.0	7.6960E-2	1.6790	1.6364	3	35.6
3	4.025915 >	4.0	4.5838E+0	100.0000	97.4638	3	48.3
4	6.032100 @	6.0	1.1792E-3	.0257	.0251	3	72.2
5	16.019692 N	16.0	2.3970E-4	.0052	.0051	6	147.7
6	17.025447 N	17.0	3.0342E-4	.0066	.0065	7	160.5
7	18.039345 N	18.0	1.4130E-3	.0308	.0300	3	173.3
8	19.043116 N	19.0	1.8033E-3	.0393	.0383	3	186.1
9	20.054672 N	20.0	1.8305E-3	.0399	.0389	3	198.9
10	20.064695 N	20.0	1.8585E-3	.0405	.0395	3	211.8
11	28.006148 @	28.0	1.7852E-4	.0039	.0038	7	275.0
12	43.989830 @	44.0	5.8267E-4	.0127	.0124	7	450.8

Reviewed By: R E Bunn

Date: 10-12-98

$$D/D_2 = 2/4$$

$$\approx \frac{2.3 \times 10^{-2}}{4.58}$$

$$\approx 0.0050$$

$$\begin{aligned} \% D \text{ in 2 peak} \\ mD \text{ in 2 peak} &= (3.2928 \times 10^{-2}) (1.7) \\ &= 2.3E-2 \end{aligned}$$

$$\text{Total } D = 4 + \frac{1}{2} 3$$

$$= 4.5838 + (7.692 \times 10^{-2}) (1.5)$$

$$= 4.6213 \text{ Volts} \quad \text{DUO 090}$$

$$\text{Sen} = 44.3 \text{ V / Torr}$$

SEMI (3000) Mass: 2.015605 (1 Unit = .3mU) Calc. Res.: 1
10*PEAKW. 17 SAMPLES/PEAK Range: 10mU 12 Oct 1998 1

$$D = 2.0141$$

$$\% D = \frac{19.8}{19.8 + 8.7} \times 100$$

$$H_2 = 2.0157$$

$$= 69.5\% \quad f = .695$$

*S P E C T R U M L I S T :SAMPLE SPECTRUM 12 Oct 1998 15:21

SAMPLE ID: BUTANE(CXHY) STANDARD 10-12-98
 ANALYST: RE BRINSON *REB*
 CUSTOMER: LAB
 CALCULATE DATE: 12 Oct 1998 (15:04)

ALO NO.:
 LAB SAMPLE NO.: 0
 LRB NO.: 56998
 PAGE: 5
 M&TE NO.: WC38625

EXPERIMENT : 48 (UNUSUAL SAMPLES)
 CHANNEL (RES.): FARII (220) Int.Time[s]: .1

MASS RANGE: 2.02 - 152.06

START PRESSURE: 73.74 mTorr
 ANALYSIS TIME : 16:35.952
 BASE PEAK NO. : 34 (m/e= 42.984435)

END PRESSURE : 68.11 mTorr
 INTEGR.INTENSITY: 2.7664E+1 V
 BASE PEAK INT. : 9.2389E+0 V

Attributes: ABORTED ACQUISITION
 ACQUIRED
 SAVED IN FILE "

-SAMPLE SPECTRUM
 "

No.	Precise m/e	Nominal m/e	Norm A [V]	Norm B [%]	Norm II [%]	Samples	Time [s]
1	2.015650 @	2.0	7.6198E-3	.0825	.0275	3	26.4
2	3.023191 >	3.0	6.3254E-4	.0068	.0023	7	35.6
3	11.975531 N	12.0	7.5077E-3	.0813	.0271	3	95.8
4	14.003074 @	14.0	3.9424E-2	.4267	.1425	3	120.3
5	15.015413 N	15.0	2.0630E-1	2.2329	.7457	3	133.1
6	16.027458 N	16.0	4.5463E-3	.0492	.0164	3	146.1
7	17.023682 N	17.0	4.8163E-4	.0052	.0017	7	158.2
8	18.020271 N	18.0	1.0635E-3	.0115	.0038	3	170.9
9	19.019781 N	19.0	3.0396E-3	.0329	.0110	3	183.7
10	20.029693 N	20.0	1.6746E-3	.0181	.0061	3	196.5
11	23.917584 N	24.0	4.5919E-3	.0497	.0166	3	234.6
12	24.057814 N	24.0	9.3558E-4	.0101	.0034	7	234.6
13	24.932064 N	25.0	4.3520E-2	.4711	.1573	3	247.0
14	25.074997 N	25.0	5.4832E-3	.0593	.0198	3	247.0
15	25.950905 N	26.0	4.6954E-1	5.0822	1.6973	3	259.8
16	26.977959 N	27.0	2.8447E+0	30.7906	10.2832	3	272.6
17	28.006148 @	28.0	2.6405E+0	28.5799	9.5449	3	285.4
18	29.033920 N	29.0	3.5688E+0	38.6276	12.9005	3	298.2
19	30.054797 N	30.0	8.1405E-2	.8811	.2943	3	311.0
20	30.884509 N	31.0	7.2343E-4	.0078	.0026	6	323.8
21	31.090964 N	31.0	1.0349E-3	.0112	.0037	3	323.8
22	31.989830 @	32.0	1.9932E-2	.2157	.0720	3	336.7
23	32.909547 N	33.0	1.1486E-3	.0124	.0042	3	349.5
24	33.870233 N	34.0	3.2825E-4	.0036	.0012	5	362.3
25	35.087442 N	35.0	1.1274E-3	.0122	.0041	3	375.1
26	35.967548 @	36.0	1.1673E-2	.1263	.0422	3	387.9
27	36.961043 N	37.0	1.0972E-1	1.1876	.3966	3	400.7
28	37.964508 N	38.0	1.8445E-1	1.9964	.6668	3	413.5
29	38.961904 N	39.0	1.1578E+0	12.5321	4.1854	3	426.4
30	39.962384 @	40.0	1.5995E-1	1.7313	.5782	3	439.2
31	40.968736 N	41.0	2.8506E+0	30.8538	10.3043	3	452.1
32	41.976941 N	42.0	1.2963E+0	14.0313	4.6860	3	464.9
33	42.177484 N	42.0	1.8082E-3	.0196	.0065	3	464.9
34	42.984435 N	43.0	9.2389E+0	100.0000	33.3972	3	475.3
35	43.989830 @	44.0	3.1088E-1	3.3648	1.1238	3	488.2
36	44.992285 N	45.0	3.7555E-3	.0406	.0136	3	501.1
37	46.043310 N	46.0	1.2937E-4	.0014	.0005	6	513.9
38	47.941957 N	48.0	1.0814E-2	.1170	.0391	3	539.5
39	49.962705 N	50.0	1.5888E-1	1.7196	.5743	3	552.4

HNF-4073
Rev. 0

40	50.975573 N	51.0	1.1442E-1	1.2384	.4136	3	565.2
41	51.991379 N	52.0	2.5895E-2	.2803	.0936	3	578.1
42	53.006409 N	53.0	7.8319E-2	.8477	.2831	3	590.9
43	54.072060 N	54.0	1.9054E-2	.2062	.0689	3	603.8
44	55.055551 N	55.0	9.6900E-2	1.0488	.3503	3	616.6
45	56.071237 N	56.0	7.6524E-2	.8283	.2766	3	629.5
46	57.080400 N	57.0	2.5172E-1	2.7246	.9099	3	642.2
47	58.089091 N	58.0	1.5480E+0	16.7557	5.5959	3	655.1
48	60.096856 N	60.0	1.1845E-3	.0128	.0043	3	667.9

Reviewed By: *MG*

Date: *10-13-98*

$$S = 161.98 \text{ U/Tau}$$

<: S E N S I T I V I T Y - M E A S U R E M E N T 8 Oct 1998 08:38

Channel : FARII
Mass : 27.9774 (N2)
Background : 0.0000 V
Intensity : 7.8337 V
Net intensity : 7.8337 V
Baratron : .0848 Torr
Theor. Sensit. : 92.3872 V/Torr
<=> 9.23872E-09 A/Torr

100 % Purity - Sensit. : 9.2387E+01 V/Torr

<: S E N S I T I V I T Y - M E A S U R E M E N T 8 Oct 1998 08:39

Channel : FARII
Mass : 27.9815 (N2)
Background : 0.0000 V
Intensity : 7.8236 V
Net intensity : 7.8236 V
Baratron : .0847 Torr
Theor. Sensit. : 92.3926 V/Torr
<=> 9.23926E-09 A/Torr

100 % Purity - Sensit. : 9.2393E+01 V/Torr

<: S E N S I T I V I T Y - M E A S U R E M E N T 8 Oct 1998 08:39

Channel : FARII
Mass : 27.9813 (N2)
Background : 0.0000 V
Intensity : 7.8156 V
Net intensity : 7.8155 V
Baratron : .0846 Torr
Theor. Sensit. : 92.3715 V/Torr
<=> 9.23715E-09 A/Torr

100 % Purity - Sensit. : 9.2372E+01 V/Torr

Net Sens = 92.384 Torr

Rev 10-8-98

SENSITIVITY - MEASUREMENT 8 Oct 1998 11:03

Channel : FARI
Mass : 27.9743 (N2)
Background : 0.0000 V
Intensity : 7.7361 V
Net intensity : 7.7361 V
Baratron : .0842 Torr
Theor. Sensit. : 91.8428 V/Torr
<=> 9.18428E-09 A/Torr

100 % Purity - Sensit. : 9.1843E+01 V/Torr

SENSITIVITY - MEASUREMENT 8 Oct 1998 11:03

Channel : FARI
Mass : 27.9792 (N2)
Background : 0.0000 V
Intensity : 7.7260 V
Net intensity : 7.7260 V
Baratron : .0841 Torr
Theor. Sensit. : 91.8371 V/Torr
<=> 9.18371E-09 A/Torr

100 % Purity - Sensit. : 9.1837E+01 V/Torr

SENSITIVITY - MEASUREMENT 8 Oct 1998 11:03

Channel : FARI
Mass : 27.9792 (N2)
Background : 0.0000 V
Intensity : 7.7189 V
Net intensity : 7.7189 V
Baratron : .0841 Torr
Theor. Sensit. : 91.8302 V/Torr
<=> 9.18302E-09 A/Torr

100 % Purity - Sensit. : 9.1830E+01 V/Torr

N2 Sens = 91.837 V/Torr

*REB
10-8-98*

<SENSITIVITY - MEASUREMENT 8 Oct 1998 12:38

Channel : FARII
Mass : 27.9866 (N2)
Background : 0.0000 V
Intensity : 6.8662 V
Net intensity : 6.8661 V
Baratron : .0747 Torr
Theor. Sensit. : 91.9261 V/Torr
=> 9.19261E-09 A/Torr

100 % Purity - Sensit. : 9.1926E+01 V/Torr

<SENSITIVITY - MEASUREMENT 8 Oct 1998 12:38

Channel : FARII
Mass : 27.9917 (N2)
Background : 0.0000 V
Intensity : 6.8588 V
Net intensity : 6.8588 V
Baratron : .0746 Torr
Theor. Sensit. : 91.9145 V/Torr
=> 9.19145E-09 A/Torr

100 % Purity - Sensit. : 9.1915E+01 V/Torr

<SENSITIVITY - MEASUREMENT 8 Oct 1998 12:39

Channel : FARII
Mass : 27.9913 (N2)
Background : 0.0000 V
Intensity : 6.8537 V
Net intensity : 6.8537 V
Baratron : .0746 Torr
Theor. Sensit. : 91.9096 V/Torr
=> 9.19096E-09 A/Torr

100 % Purity - Sensit. : 9.1910E+01 V/Torr

*Sens = 9.192 4 Torr
2.613 12-8-98*

SENSITIVITY - MEASUREMENT 8 Oct 1998 13:30

Channel : FARII
Mass : 27.9879 (N2)
Background : 0.0000 V
Intensity : 7.1290 V
Net intensity : 7.1290 V
Baratron : .0772 Torr
Theor. Sensit. : 92.2931 V/Torr
=> 9.22931E-09 A/Torr

100 % Purity - Sensit. : 9.2293E+01 V/Torr

SENSITIVITY - MEASUREMENT 8 Oct 1998 13:30

Channel : FARII
Mass : 27.9880 (N2)
Background : 0.0000 V
Intensity : 7.1201 V
Net intensity : 7.1201 V
Baratron : .0772 Torr
Theor. Sensit. : 92.2588 V/Torr
=> 9.22588E-09 A/Torr

100 % Purity - Sensit. : 9.2259E+01 V/Torr

SENSITIVITY - MEASUREMENT 8 Oct 1998 13:31

Channel : FARII
Mass : 27.9826 (N2)
Background : 0.0000 V
Intensity : 7.0918 V
Net intensity : 7.0918 V
Baratron : .0769 Torr
Theor. Sensit. : 92.2786 V/Torr
=> 9.22786E-09 A/Torr

100 % Purity - Sensit. : 9.2279E+01 V/Torr

Not Sens

Rec'd

10-8-98

<S E N S I T I V I T Y - M E A S U R E M E N T 9 Oct 1998 07:35

Channel : FARII
Mass : 27.9805 (N2)
Background : 0.0000 V
Intensity : 7.3995 V
Net intensity : 7.3995 V
Baratron : .0818 Torr
Theor. Sensit. : 90.4608 V/Torr
=> 9.04608E-09 A/Torr

100 % Purity - Sensit. : 9.0461E+01 V/Torr

<S E N S I T I V I T Y - M E A S U R E M E N T 9 Oct 1998 07:35

Channel : FARII
Mass : 27.9849 (N2)
Background : 0.0000 V
Intensity : 7.3846 V
Net intensity : 7.3846 V
Baratron : .0816 Torr
Theor. Sensit. : 90.4600 V/Torr
=> 9.04600E-09 A/Torr

100 % Purity - Sensit. : 9.0460E+01 V/Torr

<S E N S I T I V I T Y - M E A S U R E M E N T 9 Oct 1998 07:35

Channel : FARII
Mass : 27.9850 (N2)
Background : 0.0000 V
Intensity : 7.3763 V
Net intensity : 7.3763 V
Baratron : .0815 Torr
Theor. Sensit. : 90.4602 V/Torr
=> 9.04602E-09 A/Torr

100 % Purity - Sensit. : 9.0460E+01 V/Torr

Net Sens = 90.46 V/Torr

PL203

10-9-98

←SENSITIVITY - MEASUREMENT 9 Oct 1998 08:03

Channel : FARII
Mass : 27.9897 (N2)
Background : 0.0000 V
Intensity : 7.3130 V
Net intensity : 7.3130 V
Baratron : .0812 Torr
Theor. Sensit. : 90.0686 V/Torr
=> 9.00686E-09 A/Torr

100 % Purity - Sensit. : 9.0069E+01 V/Torr

←SENSITIVITY - MEASUREMENT 9 Oct 1998 08:03

Channel : FARII
Mass : 27.9936 (N2)
Background : 0.0000 V
Intensity : 7.3056 V
Net intensity : 7.3056 V
Baratron : .0811 Torr
Theor. Sensit. : 90.0619 V/Torr
=> 9.00619E-09 A/Torr

100 % Purity - Sensit. : 9.0062E+01 V/Torr

←SENSITIVITY - MEASUREMENT 9 Oct 1998 08:03

Channel : FARII
Mass : 27.9942 (N2)
Background : 0.0000 V
Intensity : 7.2989 V
Net intensity : 7.2989 V
Baratron : .0810 Torr
Theor. Sensit. : 90.0628 V/Torr
=> 9.00628E-09 A/Torr

100 % Purity - Sensit. : 9.0063E+01 V/Torr

No Sens 90.06 V/Torr

SENSITIVITY - MEASUREMENT 9 Oct 1998 09:01

Channel : FARII
Mass : 27.9526 (N2)
Background : 0.0000 V
Intensity : 7.2128 V
Net intensity : 7.2128 V
Baratron : .0804 Torr
Theor. Sensit. : 89.6638 V/Torr
=> 8.96638E-09 A/Torr

100 % Purity - Sensit. : 8.9664E+01 V/Torr

SENSITIVITY - MEASUREMENT 9 Oct 1998 09:01

Channel : FARII
Mass : 27.9567 (N2)
Background : 0.0000 V
Intensity : 7.2032 V
Net intensity : 7.2031 V
Baratron : .0803 Torr
Theor. Sensit. : 89.6615 V/Torr
=> 8.96615E-09 A/Torr

100 % Purity - Sensit. : 8.9661E+01 V/Torr

SENSITIVITY - MEASUREMENT 9 Oct 1998 09:02

Channel : FARII
Mass : 27.9567 (N2)
Background : 0.0000 V
Intensity : 7.1967 V
Net intensity : 7.1966 V
Baratron : .0803 Torr
Theor. Sensit. : 89.6593 V/Torr
=> 8.96593E-09 A/Torr

100 % Purity - Sensit. : 8.9659E+01 V/Torr

N2 Sens ~ 89.66 V/Torr

RUB 10-9-98

<S E N S I T I V I T Y - M E A S U R E M E N T 9 Oct 1998 10:12

Channel : FARII
Mass : 27.9774 (N2)
Background : 0.0000 V
Intensity : 6.9408 V
Net intensity : 6.9408 V
Baratron : .0757 Torr
Theor. Sensit. : 91.6907 V/Torr
=> 9.16907E-09 A/Torr

100 % Purity - Sensit. : 9.1691E+01 V/Torr

<S E N S I T I V I T Y - M E A S U R E M E N T 9 Oct 1998 10:13

Channel : FARII
Mass : 27.9818 (N2)
Background : 0.0000 V
Intensity : 6.9144 V
Net intensity : 6.9144 V
Baratron : .0754 Torr
Theor. Sensit. : 91.6765 V/Torr
=> 9.16765E-09 A/Torr

100 % Purity - Sensit. : 9.1676E+01 V/Torr

<S E N S I T I V I T Y - M E A S U R E M E N T 9 Oct 1998 10:13

Channel : FARII
Mass : 27.9820 (N2)
Background : 0.0000 V
Intensity : 6.9086 V
Net intensity : 6.9086 V
Baratron : .0754 Torr
Theor. Sensit. : 91.6596 V/Torr
=> 9.16596E-09 A/Torr

100 % Purity - Sensit. : 9.1660E+01 V/Torr

N₂ Sens = 91.676 V/Torr

REC 10-9-98

<S E N S I T I V I T Y - M E A S U R E M E N T 12 Oct 1998 11:31

Channel : FARII
Mass : 27.9774 (N2)
Background : 0.0000 V
Intensity : 7.1705 V
Net intensity : 7.1705 V
Baratron : .0766 Torr
Theor. Sensit. : 93.6546 V/Torr
<=> 9.36546E-09 A/Torr

100 % Purity - Sensit. : 9.3655E+01 V/Torr

<S E N S I T I V I T Y - M E A S U R E M E N T 12 Oct 1998 11:31

Channel : FARII
Mass : 27.9818 (N2)
Background : 0.0000 V
Intensity : 7.1600 V
Net intensity : 7.1600 V
Baratron : .0764 Torr
Theor. Sensit. : 93.6643 V/Torr
<=> 9.36643E-09 A/Torr

100 % Purity - Sensit. : 9.3664E+01 V/Torr

<S E N S I T I V I T Y - M E A S U R E M E N T 12 Oct 1998 11:31

Channel : FARII
Mass : 27.9821 (N2)
Background : 0.0000 V
Intensity : 7.1487 V
Net intensity : 7.1487 V
Baratron : .0763 Torr
Theor. Sensit. : 93.6560 V/Torr
<=> 9.36560E-09 A/Torr

100 % Purity - Sensit. : 9.3656E+01 V/Torr

No Sense 93.66 V/Torr

223 10-12-98

<+S E N S I T I V I T Y - M E A S U R E M E N T 12 Oct 1998 14:18

Channel : FARII
Mass : 27.9743 (N2)
Background : 0.0000 V
Intensity : 7.3729 V
Net intensity : 7.3729 V
Baratron : .0775 Torr
Theor. Sensit. : 95.1774 V/Torr
<=> 9.51774E-09 A/Torr

100 % Purity - Sensit. : 9.5177E+01 V/Torr

<+S E N S I T I V I T Y - M E A S U R E M E N T 12 Oct 1998 14:18

Channel : FARII
Mass : 27.9785 (N2)
Background : 0.0000 V
Intensity : 7.3642 V
Net intensity : 7.3641 V
Baratron : .0773 Torr
Theor. Sensit. : 95.2683 V/Torr
<=> 9.52683E-09 A/Torr

100 % Purity - Sensit. : 9.5268E+01 V/Torr

<+S E N S I T I V I T Y - M E A S U R E M E N T 12 Oct 1998 14:18

Channel : FARII
Mass : 27.9786 (N2)
Background : 0.0000 V
Intensity : 7.3540 V
Net intensity : 7.3539 V
Baratron : .0773 Torr
Theor. Sensit. : 95.1715 V/Torr
<=> 9.51715E-09 A/Torr

100 % Purity - Sensit. : 9.5171E+01 V/Torr

REC 10-12-98

No sense 9.5.21 V/Torr

HNF-4073
Rev. 0

APPENDIX E

SUMMA ANALYSIS

SUMMA ANALYSIS

Data Package Review

The following batch files were reviewed and found acceptable:

18122301.b reviewed 2/11/99

18122402.b reviewed 2/18/99

18122602.b reviewed 2/11/99

19010802.b reviewed 2/18/99

18122702.b reviewed 2/19/99

19010502.b reviewed 2/17/99

19010602.b reviewed 2/18/99

TL Almeida 2/19/99
TL Almeida, Quality Engineer

HNF-4073

Rev. 0

SUMMA BATCH FILE

18122301.b

HNF-4073

Rev. 0

C-106 Case Narrative (batch file 18122301.b)

This analytical sequence was run using 200 ml volumes to quantify target compounds in each tank sample at a 2X dilution.

Tetradecane surpassed 0.05 RF criteria for the initial calibration.

Tetradecane was found in all tank samples at concentrations between estimated quantitation limit (EQL) and the upper quantitation limit (UQL), except samples VP006-0.57.C303 and VP006-0.49.C223, where tetradecane was found at concentrations above UQL. Due to the initial calibration performance the uncertainty associated with the results is higher than normal.

Ten target compounds (chloromethane - 70.3 %, 1,2-dichloro-1,1,2,2-tetrafluoroethane-38.1%, methanol - 55.3 %, vinyl chloride - 75.4 - 75.4 %, butane - 72.1 %, bromomethane - 36.5 %, chloroethane - 36.2%, pyridine-55.7%, 1,2,4 - trichlorobenzene - 26.6 % and tetradecane - 42.3%) were outside the 25% Difference acceptance criteria for the continuing calibration verification (CCV) sample. However, the CCV passed the procedural criterion requiring $\pm 25\%$ D passage for 85% of all target compounds.

Results of chloroethane and tetradecane determination were mentioned above. Methanol was found in all tank samples at concentrations between EQL and UQL. 1,2-dichloro-1,1,2,2-tetrafluoroethane, vinyl chloride, bromomethane and chloroethane were not found in the tank samples at concentrations higher than their IDL, except sample VP006-0.40.C135 where 1,2-dichloro-1,1,2,2-tetrafluoroethane and vinyl chloride were found at concentrations between UDL and EQL. 1,2,4 - trichlorobenzene and chloromethane were found in all samples at concentrations between their IDL and EQL, except samples VP006-0.40.C135 and VP006-0.32.C227 where 1,2,4 - trichlorobenzene was found at concentration between EQL and UQL. Butane was found in all tank samples at concentration higher than its UQL. Due to the CCV performance for this compounds a higher than normal uncertainty is associated with the results

Target compound hexachloro-1,3-butadiene was detected in the CCB above its EQLs.

After completing a valid BFB tune , the 12-hour clock criterion for an analytical sequence was not exceeded within the batch.

The tank sample's internal standard quant area % recoveries were within the acceptance criterion ($50\% < \text{quant} < 200\%$) allowed by TVP-03, Rev. 1.

Instrument detection limits, precision, and accuracy have not been experimentally evaluated for methanol, ethanol. Sample results are flagged with a "J" when the absolute number of nanograms calculated in the sample is less than the lowest concentration standard used in the initial calibration. Methanol and ethanol results falling within their calibration range are quantitative results as evidenced by a valid calibration for these compounds.

02/11/99

EOO 004

SAMPLE INFORMATION SUMMARY

HNF-4073
Rev. 0

BATCH: /chem/hpdos1.i/18122301.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
18122302.d	05-NOV-1998 23:02	Continuing Cal	1.00	hpdos1	InCal2_53097.m	18122301.b
18122303.d	06-NOV-98 00:23	Unknown	1.00	hpdos1	InCal2_53097.m	18122301.b
18122304.D	06-NOV-98 01:41	Unknown	2.00	hpdos1	InCal2_53097.m	18122301.b
18122305.D	06-NOV-98 03:23	Unknown	2.00	hpdos1	InCal2_53097.m	18122301.b
18122306.D	06-NOV-98 04:43	Unknown	2.00	hpdos1	InCal2_53097.m	18122301.b
18122307.D	06-NOV-1998 06:25	Unknown	2.00	hpdos1	InCal2_53097.m	18122301.b
18122308.D	06-NOV-98 07:49	Unknown	2.00	hpdos1	InCal2_53097.m	18122301.b
18122309.D	06-NOV-98 09:18	Unknown	2.00	hpdos1	InCal2_53097.m	18122301.b

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
18122302.d	GAS	VAPOR	CCV	18122301	200mL	18122301
18122303.d	GAS	VAPOR	CCB	18122301	200mL Nitrogen	18122301
18122304.D	GAS	VAPOR	C-106 VP006-066.C226		100 ml	SDGa27199
18122305.D	GAS	VAPOR	C-106 VP006-057.C303		200 ml	SDGa27199
18122306.D	GAS	VAPOR	C-106 VP006-049.C223		200 ml	SDGa27199
18122307.D	GAS	VAPOR	C-106 VP006-040.C135		200 ml	SDGa27199
18122308.D	GAS	VAPOR	C-106 VP006-032.C227		200 ml	SDGa27199
18122309.D	GAS	VAPOR	C-106 VP006-032.C227		200 ml	SDGa27199

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
18122302.d	all1.sub		1038461	1038459	1035843	1038457
18122303.d	all1.sub		1038462	1038459	1035843	1038457
18122304.D	all1.sub		1038486	1038459	1035843	1038457
18122305.D	all1.sub		1038487	1038459	1035843	1038457
18122306.D	all1.sub		1038488	1038459	1035843	1038457
18122307.D	all1.sub		1038489	1038459	1035843	1038457
18122308.D	all1.sub		1038490	1038459	1035843	1038457
18122309.D	all1.sub		1038491	1038459	1035843	1038457

HNF-4073
Rev. 0

04 Laurel St.
77568 U.S.A.
(281) 938-3710
(281) 939-3627

AIR LIQUIDE

CERTIFICATE OF ANALYSIS

DOC#: 1604577
DATE: JAN. 28, 1997
CYLINDER: CC53004

CUSTOMER: BATTELLE PNNL
PURCHASE ORDER: 708657
EXP. DATE: JAN. 28, 1998

ot to

Compound	ppm	Compound	ppm
Freon-12	1.0	Trans-1,3-Dichloropropene ✓	0.9
Chloromethane ✓	1.0	1,1,2-Trichloroethane	1.0
Freon-114	1.0	Toluene	1.0
Vinyl Chloride	1.0	1,2-Dibromoethane	1.0
Bromoethane ✓	1.0	Tetrachloroethylene	1.0
Chloroethane ✓	1.0	Chlorobenzene	1.0
Freon-11	1.0	Ethyl Benzene	1.0
1,1-Dichloroethylene ✓	1.0	M-Xylene	1.0
Methylene Chloride ✓	1.0	P-Xylene	1.0
3-Chloropropene	1.0	*Styrene	1.0
Freon-113	1.0	O-Xylene	1.0
1,1-Dichloroethane ✓	1.0	1,1,2,2-Tetrachloroethane	1.0
Cis-1,2-Dichloroethylene	1.0	4-Ethyl Toluene	1.0
Chloroform ✓	1.0	1,3,5-Trimethylbenzene	1.0
1,2-Dichloroethane ✓	1.0	1,2,4-Trimethylbenzene	1.0
1,1,1-Trichloroethane ✓	1.0	*Benzyl Chloride	<25ppb
Benzene ✓	1.0	1,3-Dichlorobenzene	1.0
Carbon Tetrachloride ✓	1.0	1,4-Dichlorobenzene	1.0
1,2-Dichloropropane ✓	1.0	1,2-Dichlorobenzene	1.0
Trichloroethylene ✓	1.0	1,2,4-Trichlorobenzene	1.0
Cis-1,3-Dichloropropene ✓	0.9	Hexachloro-1,3-Butadiene	1.0
Nitrogen	Balance		

Cylinder: 30AL

CGA: 350

Chemist: _____

* Components certification expires in six months.

AIR LIQUIDE AMERICA CORPORATION
11426 Fairmont Parkway • La Porte, TX 77571-5000 • 800-248-1427 • 713/474-8400 • 713/474-8419

E00 006

56286-14

56286-15

KIN-TEK*Good Analysis Depends On Good Calibration*

504 Laurel St.,
La Marque, TX 77568 U.S.A.
FAX: (409) 938-3710
Phone: (409) 938-3827

Certificate of Extension

This certificate extends the expiration date of the listed tubes as indicated, not to exceed two years from calibration date.

<u>Compound</u>	<u>S/N</u>	<u>Cal. Date</u>	<u>Orig. Exp.</u>	<u>Extended to</u>
Cyclohexane	19895	8/1/95	8/3/96	5/1/97
Cyclohexane	19896	8/1/95	8/3/96	5/1/97
Dodecane	19912	8/1/95	8/3/96	5/1/97
Dodecane	19913	8/1/95	8/3/96	5/1/97
Tridecane	19906	8/1/95	8/3/96	5/1/97
Tridecane	19907	8/1/95	8/3/96	5/1/97
Tridecane	19908	8/1/95	8/3/96	5/1/97
Tetradecane	19909	8/1/95	8/14/96	5/1/97
Tetradecane	19910	8/1/95	8/14/96	5/1/97
Tetradecane	19911	8/1/95	8/14/96	5/1/97
Methanol	20619	1/26/96	1/29/97	5/1/97
Ethanol	20622	1/26/96	1/29/97	5/1/97
2-Butanone	20617	1/26/96	1/29/97	5/1/97
Cyclohexanone	20747	3/11/96	3/15/97	5/1/97
Cyclohexanone	20748	3/11/96	3/15/97	5/1/97

Sharon Smith
Lab Supervisor
2/6/97

HNF-4073
Rev. 0

Pacific Northwest National Laboratory

HNF-4073

COMPOUND LISTING

Rev. 0

Method file : /chem/hpdosl.i/19011902.B/InCal2_53097.m
 Quant Method : ISTD Target Version : 3.10
 Last Update : 26-Jan-1999 16:44 Number of Cpnds : 72
 Data Type : MS DATA

Global Integrator : HP RTE

Chromat Events

Values

```

-----
Initial:Thresh Units      0.000000
Initial:Area Thresh      40000.000000
Initial:Max Peaks        150.000000
Initial:Bunching          1.000000
Initial:Smoothing         1.000000
Initial:Start Thresh      0.100000
Initial:Stop Thresh       0.000000
Initial:Baseline Reset    5.000000
Initial:Set Valley        100.000000
  
```

Compound	RT	RT Window	RF	Mass
1 Dichlorodifluoromethane	4.669	4.169-5.169	2.257	85.00
	4.669	4.169-5.169	0.000	87.00
	4.669	4.169-5.169	0.000	120.91
2 Chloromethane	5.046	4.546-5.546	1.420	50.00
	5.046	4.546-5.546	0.000	52.00
	5.046	4.546-5.546	0.000	50.49
3 1,2-dichloro-1,1,2,2-tetrafluoro	5.261	4.761-5.761	1.033	85.00
	5.261	4.761-5.761	0.000	135.00
	5.261	4.761-5.761	0.000	170.92
4 Methanol	5.347	4.847-5.847	1.159	31.00
	5.347	4.847-5.847	0.000	30.00
	5.347	4.847-5.847	0.000	32.04
5 Vinyl Chloride	5.552	5.052-6.052	0.726	62.00
	5.552	5.052-6.052	0.000	64.00
	5.552	5.052-6.052	0.000	62.50
6 1,3-Butadiene	5.670	5.170-6.170	0.000	54.00
	5.670	5.170-6.170	0.000	53.00
	5.670	5.170-6.170	0.000	54.00
7 Butane	5.972	5.472-6.472	0.350	43.00
	5.972	5.472-6.472	0.000	58.00
	5.972	5.472-6.472	0.000	58.12
8 Bromomethane	6.446	5.946-6.946	0.380	94.00
	6.446	5.946-6.946	0.000	96.00
	6.446	5.946-6.946	0.000	94.94

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

COMPOUND LISTING

Method file : /chem/hpdosl.i/19011902.B/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
9 Chloroethane	6.790	6.290-7.290	0.767	64.00
	6.790	6.290-7.290	0.000	66.00
	6.790	6.290-7.290	0.000	64.51
10 Ethanol	6.919	6.419-7.419	2.247	31.00
	6.919	6.419-7.419	0.000	45.00
	6.919	6.419-7.419	0.000	46.01
11 Acetonitrile	7.415	6.915-7.915	3.138	41.00
	7.415	6.915-7.915	0.000	39.00
	7.415	6.915-7.915	0.000	41.05
12 Acetone	7.910	7.410-8.410	4.744	43.00
	7.910	7.410-8.410	0.000	58.00
	7.910	7.410-8.410	0.000	58.08
13 Trichlorofluoromethane	8.319	7.819-8.819	2.010	101.00
	8.319	7.819-8.819	0.000	103.00
	8.319	7.819-8.819	0.000	137.37
14 Pentane	8.987	8.487-9.487	3.927	43.00
	8.987	8.487-9.487	0.000	57.00
	8.987	8.487-9.487	0.000	72.15
15 1,1-Dichloroethene	9.536	9.036-10.036	1.047	96.00
	9.536	9.036-10.036	0.000	61.00
	9.536	9.036-10.036	0.000	96.94
16 Methylene Chloride	9.719	9.219-10.219	1.183	84.00
	9.719	9.219-10.219	0.000	49.00
	9.719	9.219-10.219	0.000	84.93
17 1,1,2-trichloro-2,2,2-trifluoroethane	10.203	9.703-10.703	0.958	151.00
	10.203	9.703-10.703	0.000	103.00
	10.203	9.703-10.703	0.000	187.38
18 Propanenitrile	10.935	10.435-11.435	1.789	54.00
	10.935	10.435-11.435	0.000	52.00
	10.935	10.435-11.435	0.000	55.08
19 Propanol	10.903	10.403-11.403	1.799	31.00
	10.903	10.403-11.403	0.000	42.00
	10.903	10.403-11.403	0.000	60.10
20 1,1-Dichloroethane	11.840	11.340-12.340	2.189	63.00
	11.840	11.340-12.340	0.000	65.00
	11.840	11.340-12.340	0.000	98.96
21 2-Butanone	12.464	11.964-12.964	1.168	72.00
	12.464	11.964-12.964	0.000	43.00
	12.464	11.964-12.964	0.000	72.11
22 cis-1,2-Dichloroethene	13.358	12.858-13.858	1.161	96.00
	13.358	12.858-13.858	0.000	98.00
	13.358	12.858-13.858	0.000	96.94

E00 009

Pacific Northwest National Laboratory

HNF-4073

COMPOUND LISTING

Rev. 0

Method file : /chem/hpdos1.i/19011902.B/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
* 23 Bromochloromethane (IS)	13.670	13.170-14.170	37300	49.00
	13.670	13.170-14.170	0.000	128.00
	13.670	13.170-14.170	0.000	129.38
24 Hexane	13.735	13.235-14.235	2.403	57.00
	13.735	13.235-14.235	0.000	43.00
	13.735	13.235-14.235	0.000	86.18
25 Chloroform	13.885	13.385-14.385	2.015	83.00
	13.885	13.385-14.385	0.000	85.00
	13.885	13.385-14.385	0.000	119.38
26 Tetrahydrofuran	14.628	14.128-15.128	0.902	72.00
	14.628	14.128-15.128	0.000	42.00
	14.628	14.128-15.128	0.000	72.11
27 1,2-Dichloroethane	15.296	14.796-15.796	0.450	62.00
	15.296	14.796-15.796	0.000	98.00
	15.296	14.796-15.796	0.000	98.96
28 1,1,1-Trichloroethane	15.812	15.312-16.312	0.447	97.00
	15.812	15.312-16.312	0.000	99.00
	15.812	15.312-16.312	0.000	133.40
29 Butanenitrile	15.780	15.280-16.280	1.072	41.00
	15.780	15.280-16.280	0.000	52.00
	15.780	15.280-16.280	0.000	69.11
30 1-Butanol	16.254	15.754-16.754	0.202	56.00
	16.254	15.754-16.754	0.000	41.00
	16.254	15.754-16.754	0.000	74.12
31 Benzene	16.695	16.195-17.195	1.288	78.00
	16.695	16.195-17.195	0.000	77.00
	16.695	16.195-17.195	0.000	78.11
32 Carbon Tetrachloride	16.986	16.486-17.486	0.422	117.00
	16.986	16.486-17.486	0.000	119.00
	16.986	16.486-17.486	0.000	153.82
33 Cyclohexane	17.255	16.755-17.755	0.500	41.00
	17.255	16.755-17.755	0.000	56.00
	17.255	16.755-17.755	0.000	84.16
* 34 Difluorobenzene (IS)	17.244	16.744-17.744	135555	114.00
	17.244	16.744-17.744	0.000	114.00
	17.244	16.744-17.744	0.000	114.00
35 1,2-Dichloropropane	18.256	17.756-18.756	0.369	63.00
	18.256	17.756-18.756	0.000	112.00
	18.256	17.756-18.756	0.000	112.99
36 Trichloroethene	18.709	18.209-19.209	0.346	95.00
	18.709	18.209-19.209	0.000	130.00
	18.709	18.209-19.209	0.000	131.39

Pacific Northwest National Laboratory

HNF-4073

COMPOUND LISTING

Rev. 0

Method file : /chem/hpdos1.i/19011902.B/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
37 Heptane	19.204	18.704-19.704	0.444	71.00
	19.204	18.704-19.704	0.000	57.00
	19.204	18.704-19.704	0.000	100.20
38 cis-1,3-Dichloropropene	20.388	19.888-20.888	0.452	75.00
	20.388	19.888-20.888	0.000	39.00
	20.388	19.888-20.888	0.000	110.97
39 4-Methyl-2-Pentanone	20.399	19.899-20.899	0.420	43.00
	20.399	19.899-20.899	0.000	58.00
	20.399	19.899-20.899	0.000	100.16
40 Pyridine	20.593	20.093-21.093	0.715	79.00
	20.593	20.093-21.093	0.000	52.00
	20.593	20.093-21.093	0.000	79.10
41 trans-1,3-Dichloropropene	21.454	20.954-21.954	0.311	75.00
	21.454	20.954-21.954	0.000	77.00
	21.454	20.954-21.954	0.000	110.97
42 Pentanenitrile	21.486	20.986-21.986	0.368	54.00
	21.486	20.986-21.986	0.000	55.00
	21.486	20.986-21.986	0.000	83.13
43 1,1,2-Trichloroethane	21.896	21.396-22.396	0.279	83.00
	21.896	21.396-22.396	0.000	97.00
	21.896	21.396-22.396	0.000	133.40
44 Toluene	22.542	22.042-23.042	0.900	92.00
	22.542	22.042-23.042	0.000	91.00
	22.542	22.042-23.042	0.000	92.14
45 1,2-Dibromoethane	24.070	23.570-24.570	0.369	107.00
	24.070	23.570-24.570	0.000	109.00
	24.070	23.570-24.570	0.000	187.86
46 Octane	24.609	24.109-25.109	0.456	85.00
	24.609	24.109-25.109	0.000	57.00
	24.609	24.109-25.109	0.000	114.23
47 Bromoform	28.280	27.780-28.780	0.466	173.00
	28.280	27.780-28.780	0.000	171.00
	28.280	27.780-28.780	0.000	175.00
48 Tetrachloroethylene	25.104	24.604-25.604	0.314	164.00
	25.104	24.604-25.604	0.000	129.00
	25.104	24.604-25.604	0.000	165.83
* 49 D5-Chlorobenzene (IS)	26.601	26.101-27.101	114768	117.00
	26.601	26.101-27.101	0.000	119.00
	26.601	26.101-27.101	0.000	117.00
50 Chlorobenzene	26.708	26.208-27.208	0.991	112.00
	26.708	26.208-27.208	0.000	114.00
	26.708	26.208-27.208	0.000	112.56

Pacific Northwest National Laboratory

HNF-4073

COMPOUND LISTING

Rev. 0

Method file : /chem/hpdosl.i/19011902.B/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
51 Hexanenitrile	26.967	26.467-27.467	0.519	41.00
	26.967	26.467-27.467	0.000	54.00
	26.967	26.467-27.467	0.000	97.13
52 Ethylbenzene	27.580	27.080-28.080	1.620	91.00
	27.580	27.080-28.080	0.000	106.00
	27.580	27.080-28.080	0.000	106.17
53 p/m-Xylene	28.022	27.522-28.522	0.627	106.00
	28.022	27.522-28.522	0.000	91.00
	28.022	27.522-28.522	0.000	106.17
54 Cyclohexanone	28.431	27.931-28.931	0.263	55.00
	28.431	27.931-28.931	0.000	98.00
	28.431	27.931-28.931	0.000	98.14
55 Styrene	28.937	28.437-29.437	2.161	104.00
	28.937	28.437-29.437	0.000	78.00
	28.937	28.437-29.437	0.000	104.15
56 1,1,2,2-Tetrachloroethane	29.163	28.663-29.663	1.289	83.00
	29.163	28.663-29.663	0.000	85.00
	29.163	28.663-29.663	0.000	167.85
57 o-Xylene	29.238	28.738-29.738	1.409	106.00
	29.238	28.738-29.738	0.000	91.00
	29.238	28.738-29.738	0.000	106.17
58 Nonane	29.680	29.180-30.180	2.542	57.00
	29.680	29.180-30.180	0.000	71.00
	29.680	29.180-30.180	0.000	128.26
* 59 1-Bromo-4-Fluorobenzene (I	30.423	29.923-30.923	48307	95.00
60 1-Ethyl-2-Methyl-Benzene	30.423	29.923-30.923	0.000	174.00
	30.423	29.923-30.923	0.000	174.00
	32.630	32.130-33.130	3.134	105.00
61 1,3,5-Trimethylbenzene	32.630	32.130-33.130	0.000	120.00
	32.630	32.130-33.130	0.000	120.19
	32.845	32.345-33.345	2.714	105.00
62 1,2,4-Trimethylbenzene	32.845	32.345-33.345	0.000	120.00
	32.845	32.345-33.345	0.000	120.19
	34.116	33.616-34.616	2.699	105.00
63 Decane	34.116	33.616-34.616	0.000	120.00
	34.116	33.616-34.616	0.000	120.19
	34.363	33.863-34.863	1.600	43.00
64 1,3-Dichlorobenzene	34.363	33.863-34.863	0.000	57.00
	34.363	33.863-34.863	0.000	142.28
	34.622	34.122-35.122	1.655	146.00
	34.622	34.122-35.122	0.000	111.00
	34.622	34.122-35.122	0.000	147.00

Pacific Northwest National Laboratory

COMPOUND LISTING

HNF-4073
Rev. 0

Method file : /chem/hpdos1.i/19011902.B/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
65 1,4-Dichlorobenzene	34.837	34.337-35.337	1.625	146.00
	34.837	34.337-35.337	0.000	111.00
	34.837	34.337-35.337	0.000	147.00
66 1,2-Dichlorobenzene	35.957	35.457-36.457	1.465	146.00
	35.957	35.457-36.457	0.000	111.00
	35.957	35.457-36.457	0.000	147.00
67 Undecane	38.681	38.181-39.181	0.355	71.00
	38.681	38.181-39.181	0.000	85.00
	38.681	38.181-39.181	0.000	156.31
68 1,2,4-Trichlorobenzene	42.190	41.690-42.690	0.468	180.00
	42.190	41.690-42.690	0.000	182.00
	42.190	41.690-42.690	0.000	181.45
69 Dodecane	42.707	42.207-43.207	0.410	71.00
	42.707	42.207-43.207	0.000	85.00
	42.707	42.207-43.207	0.000	170.34
70 Hexachloro-1,3-butadiene	44.021	43.521-44.521	0.375	225.00
	44.021	43.521-44.521	0.000	227.00
	44.021	43.521-44.521	0.000	260.76
71 Tridecane	46.486	45.986-46.986	0.275	57.00
	46.486	45.986-46.986	0.000	71.00
	46.486	45.986-46.986	0.000	184.36
72 Tetradecane	50.244	49.744-50.744	0.019	57.00
	50.244	49.744-50.744	0.000	71.00
	50.244	49.744-50.744	0.000	198.34

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

HNF-4073
Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Calibration File Names:

Level 1: /chem/hpdos1.i/17060603.b/17060601.d
 Level 2: /chem/hpdos1.i/17060603.b/17060602.d
 Level 3: /chem/hpdos1.i/17060603.b/17060603.d
 Level 4: /chem/hpdos1.i/17060603.b/17060605.d
 Level 6: /chem/hpdos1.i/17060603.b/17060606.d
 Level 7: /chem/hpdos1.i/17060603.b/17060607.d

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
1 Dichlorodifluoromethane	2.43862	2.21722	2.14282	2.48912	2.30074	1.95123	2.25700	8.794
2 Chloromethane	1.51670	1.36577	1.28327	1.66862	1.44729	1.23883	1.42000	11.195
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	1.15696	1.03824	1.00931	1.11913	0.95411	0.92118	1.03300	8.881
4 Methanol	1.25346	1.16123	1.09867	1.29715	1.16982	0.97297	1.15900	9.942
5 Vinyl Chloride	0.71266	0.66882	0.65695	0.81333	0.77441	0.72917	0.72590	8.310
6 1,3-Butadiene	++++	++++	++++	++++	++++	++++	++++	++++
7 Butane	0.34398	0.31603	0.30881	0.37911	0.38102	0.37213	0.35020	9.197
8 Bromomethane	0.37120	0.34556	0.34262	0.42377	0.41003	0.38728	0.38010	8.751
9 Chloroethane	0.69294	0.74027	0.73558	0.80065	0.78056	0.85420	0.76740	7.396
10 Ethanol	2.33627	2.28573	2.21551	2.45731	2.10420	2.08464	2.24700	6.338
11 Acetonitrile	3.28791	3.10332	2.96812	3.46874	3.10207	2.89528	3.13800	6.718
12 Acetone	5.45540	4.89912	4.61756	5.24640	4.33599	3.90917	4.74400	12.153
13 Trichlorofluoromethane	2.04790	1.83001	1.79202	2.17301	2.08433	2.13406	2.01000	7.985
14 Pentane	4.26438	3.85542	3.71679	4.44576	3.80975	3.47097	3.92718	9.209
15 1,1-Dichloroethene	1.02274	0.91480	0.91574	1.10362	1.12103	1.20364	1.04700	11.181
16 Methylene Chloride	1.23125	1.06542	1.03565	1.21823	1.23680	1.31207	1.18300	9.154
17 1,1,2-trichloro-1,2,2-trifluoroethane	0.94001	0.82539	0.82920	0.99190	1.03530	1.12834	0.95840	12.402
18 Propanenitrile	1.92391	1.79091	1.70988	1.99267	1.73228	1.58660	1.78900	8.294
19 Propanol	2.10040	1.88320	1.80504	2.08617	1.55076	1.36782	1.79890	16.264
20 1,1-Dichloroethane	2.23981	2.03770	1.98200	2.33671	2.27178	2.26540	2.18890	6.552
21 2-Butanone	1.19644	1.10909	1.08435	1.28664	1.18454	1.14876	1.16800	6.172
22 cis-1,2-Dichloroethene	1.12732	1.02685	1.01888	1.20742	1.27325	1.30987	1.16100	10.640
24 Hexane	2.88095	2.52056	2.41983	2.73619	2.15002	1.70990	2.40300	17.636
25 Chloroform	2.07444	1.85421	1.81941	2.12416	2.11530	2.10292	2.01500	6.925
26 Tetrahydrofuran	0.86957	0.81350	0.80200	0.96237	0.96959	0.99783	0.90250	9.439
27 1,2-Dichloroethane	0.43891	0.40298	0.38542	0.47386	0.47183	0.52574	0.44980	11.461

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

HNF-4073
Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
28 1,1,1-Trichloroethane	0.45189	0.40828	0.39368	0.47799	0.46542	0.48342	0.44680	8.369
29 Butanenitrile	1.20704	1.11050	1.04656	1.21895	0.93633	0.91047	1.07200	12.271
30 1-Butanol	0.20749	0.19006	0.17665	0.23326	0.19447	0.21209	0.20230	9.761
31 Benzene	1.25728	1.14460	1.11280	1.33554	1.34939	1.53041	1.28800	11.873
32 Carbon Tetrachloride	0.40288	0.36319	0.35398	0.44031	0.45646	0.51784	0.42240	14.653
33 Cyclohexane	0.57805	0.49512	0.46019	0.55230	0.46170	0.45591	0.50050	10.513
35 1,2-Dichloropropane	0.37408	0.33321	0.31771	0.39037	0.38123	0.41983	0.36940	10.220
36 Trichloroethene	0.33845	0.30906	0.29949	0.36774	0.36606	0.39292	0.34560	10.560
37 Heptane	0.47230	0.43007	0.41365	0.50164	0.43896	0.40409	0.44350	8.350
38 cis-1,3-Dichloropropene	0.42950	0.40459	0.39475	0.49761	0.47756	0.50569	0.45160	10.688
39 4-Methyl-2-Pentanone	0.44922	0.41369	0.39148	0.47706	0.38758	0.40368	0.42050	8.428
40 Pyridine	0.74450	0.65035	0.61730	0.81950	0.71325	0.74466	0.71490	10.163
41 trans-1,3-Dichloropropene	0.28504	0.27757	0.26849	0.34413	0.33239	0.35709	0.31080	12.276
42 Pentanenitrile	0.37851	0.35454	0.33769	0.41598	0.35567	0.36492	0.36790	7.368
43 1,1,2-Trichloroethane	0.27063	0.24933	0.24070	0.30528	0.29478	0.31256	0.27890	10.737
44 Toluene	0.96561	0.87608	0.87112	1.04495	0.89074	0.75183	0.90010	10.972
45 1,2-Dibromoethane	0.38994	0.35145	0.35511	0.43452	0.37184	0.31318	0.36930	11.069
46 Octane	0.48174	0.44086	0.44653	0.54029	0.45429	0.36995	0.45560	12.217
47 Bromoform	0.43323	0.41873	0.42953	0.55635	0.51617	0.44458	0.46640	12.043
48 Tetrachloroethylene	0.32676	0.29200	0.29846	0.37138	0.32923	0.26300	0.31350	11.946
50 Chlorobenzene	1.09890	0.96828	0.96251	1.15541	0.96969	0.79105	0.9100	12.799
51 Hexanenitrile	0.59961	0.55446	0.54595	0.63118	0.43524	0.34496	0.51860	20.835
52 Ethylbenzene	1.76694	1.63023	1.61026	1.93511	1.53765	1.24094	1.62000	14.384
53 p-m-Xylene	0.70370	0.64289	0.63834	0.77037	0.58102	0.42493	0.62690	18.843
54 Cyclohexanone	0.28661	0.26115	0.24924	0.31865	0.24845	0.21561	0.26330	13.487
55 Styrene	2.17696	2.10051	2.12953	2.53465	2.16265	1.86392	2.16100	9.983
56 1,1,2,2-Tetrachloroethane	1.49708	1.34361	1.32572	1.51752	1.14624	0.90150	1.28900	18.046
57 o-Xylene	1.50299	1.41727	1.42008	1.69164	1.35059	1.06866	1.40900	14.486
58 Nonane	3.09792	2.83073	2.76713	3.03283	1.96311	1.55904	2.54200	24.791
60 1-Ethyl-2-Methyl-Benzene	3.23089	3.19082	3.16107	3.78398	3.00123	2.43646	3.13400	13.835
61 1,3,5-Trimethylbenzene	2.85800	2.75168	2.72974	3.24772	2.57358	2.12440	2.71400	13.533
62 1,2,4-Trimethylbenzene	2.77520	2.74984	2.71140	3.24214	2.56270	2.15471	2.69900	13.028
63 Decane	1.95316	1.82047	1.76343	1.90270	1.18211	0.97712	1.60000	25.837
64 1,3-Dichlorobenzene	1.59354	1.58350	1.61639	2.00362	1.70320	1.43165	1.65500	11.593

Pacific Northwest National Laboratory

HNF-4073

INITIAL CALIBRATION DATA

Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	± RSD
65 1,4-Dichlorobenzene	1.57185	1.56049	1.59150	1.98394	1.64309	1.39866	1.62500	11.949
66 1,2-Dichlorobenzene	1.43440	1.40496	1.42115	1.76383	1.47400	1.28979	1.46500	10.861
67 Undecane	0.31703	0.34344	0.34966	0.43709	0.35929	0.32633	0.35550	12.055
68 1,2,4-Trichlorobenzene	0.33583	0.39450	0.43207	0.50291	0.57264	0.56758	0.46760	20.567
69 Dodecane	0.34700	0.38982	0.42963	0.48048	0.41909	0.39707	0.41050	10.882
70 Hexachloro-1,3-butadiene	0.37281	0.35925	0.36522	0.41551	0.38933	0.34633	0.37470	6.554
71 Tridecane	0.26054	0.31961	0.34992	0.30368	0.22299	0.19515	0.27530	21.620
72 Tetradecane	0.01457	0.02319	0.02140	0.02540	0.01595	0.01452	0.01917	24.807

Data File: /chem/hpdos1.i/18122301.b/18122302.d

Date : 05-NOV-1998 23:02

Client ID: 200mL

Sample Info: CCV; 200mL; 54934-151-01

HNF-4073
Rev. 0

Page 1

Instrument: hpdos1.i

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

E00 017

INTERNAL STANDARD AREA SUMMARY (as of 01/21/99 12:32)

Datafile	Internal Standard	RT	TotalArea	QuantArea	AreaRatio	Percent
18122302.d	Bromochloromethane (IS)	13.65	55204370	3038229	18.17	100.00
18122302.d	Difluorobenzene (IS)	17.18	61001184	8797182	6.93	100.00
18122302.d	D5-Chlorobenzene (IS)	26.53	27411400	9182862	2.99	100.00
18122302.d	1-Bromo-4-Fluorobenzene (IS)	30.34	29466488	6001388	4.91	100.00
18122303.d	Bromochloromethane (IS)	13.59	13698270	2849638	4.81	93.79
18122303.d	Difluorobenzene (IS)	17.17	24698570	11230609	2.20	127.66
18122303.d	D5-Chlorobenzene (IS)	26.51	25667935	8742349	2.94	95.20
18122303.d	1-Bromo-4-Fluorobenzene (IS)	30.34	25815287	5282849	4.89	88.03
18122304.D	Bromochloromethane (IS)	13.60	19225989	3120139	6.16	102.70
18122304.D	Difluorobenzene (IS)	17.31	2264721	10349145	0.22	117.64
18122304.D	D5-Chlorobenzene (IS)	26.51	25521018	8652683	2.95	94.23
18122304.D	1-Bromo-4-Fluorobenzene (IS)	30.35	33058374	5837874	5.66	97.28
18122305.D	Bromochloromethane (IS)	13.64	27986851	3220698	8.69	106.01
18122305.D	Difluorobenzene (IS)	17.18	25632728	11136511	2.30	126.59
18122305.D	D5-Chlorobenzene (IS)	26.53	26211471	8795007	2.98	95.78
18122305.D	1-Bromo-4-Fluorobenzene (IS)	30.36	38360500	6067420	6.32	101.10
18122306.D	Bromochloromethane (IS)	13.64	26008699	2953717	8.81	97.22
18122306.D	Difluorobenzene (IS)	17.19	23638367	10270135	2.30	116.74
18122306.D	D5-Chlorobenzene (IS)	26.52	21616223	7159035	3.02	77.96
18122306.D	1-Bromo-4-Fluorobenzene (IS)	30.36	36300564	5788260	6.27	96.45
18122307.D	Bromochloromethane (IS)	13.64	19567021	2369381	8.26	77.99
18122307.D	Difluorobenzene (IS)	17.18	19084999	8218670	2.32	93.42
18122307.D	D5-Chlorobenzene (IS)	26.53	19173082	6408856	2.99	69.79
18122307.D	1-Bromo-4-Fluorobenzene (IS)	30.36	25910289	4361437	5.94	72.67
18122308.D	Bromochloromethane (IS)	13.66	22147230	1960002	11.30	64.51
18122308.D	Difluorobenzene (IS)	17.18	17006424	7098804	2.40	80.69
18122308.D	D5-Chlorobenzene (IS)	26.54	17579394	5743407	3.06	62.54
18122308.D	1-Bromo-4-Fluorobenzene (IS)	30.36	26345907	4068086	6.48	67.79
18122309.D	Bromochloromethane (IS)	13.66	23474811	2341784	10.02	77.08
18122309.D	Difluorobenzene (IS)	17.19	20452677	8736347	2.34	99.31
18122309.D	D5-Chlorobenzene (IS)	26.54	16776576	5425115	3.09	59.08
18122309.D	1-Bromo-4-Fluorobenzene (IS)	30.36	28517804	4536626	6.29	75.59

HNF-4073
Rev. 0

Data File : C:\HPCHEM\1\DATA\18122301.B\18122301.D
Acq On : 5 Nov 98 8:31 pm
Sample : Tune Check BFB
Misc : Tune Check BFB 56391-5-01

Vial: 1
Operator: Alex
Inst : System 1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\SUM1601.M
Title : exp

HNF-4073
Rev. 0

Peak Apex is scan: 2615

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.4	33296	PASS
75	95	30	66	42.4	72912	PASS
95	95	100	100	100.0	171904	PASS
96	95	5	9	6.5	11240	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	86.1	147968	PASS
175	174	4	9	7.4	10915	PASS
176	174	93	101	97.4	144192	PASS
177	176	5	9	6.3	9146	PASS

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: hpdos1.i
Lab File ID: 18122302.d
Analysis Type: AIR
Lab Sample ID: CCV
Quant Type: ISTD

Injection Date: 05-NOV-1998 23:02
Init. Calibration Date(s): 06/06/97 06/06/97
Init. Calibration Times: 10:35 16:58
Method File: /chem/hpdos1.i/18122301.b/InCal2_53097.

COMPOUND	RRF	RF200	MIN RRF	RD	MAX RD
1 Dichlorodifluoromethane	2.257	2.670	0.050	18.3	25.0
2 Chloromethane	1.420	2.418	0.050	70.3	25.0
3 1,2-Dichloroethane	1.033	1.427	0.050	38.1	25.0
4 Methanol	1.159	1.799	0.050	55.3	25.0
5 Vinyl Chloride	0.726	1.274	0.050	75.4	25.0
7 Butane	0.350	0.603	0.050	72.1	25.0
8 Bromomethane	0.380	0.519	0.050	36.5	25.0
9 Chloroethane	0.767	0.490	0.050	36.2	25.0
10 Ethanol	2.247	1.763	0.050	21.5	25.0
11 Acetonitrile	3.138	2.697	0.050	14.1	25.0
12 Acetone	4.744	5.421	0.050	14.3	25.0
13 Trichlorofluoromethane	2.010	2.047	0.050	1.9	25.0
14 Pentane	3.927	4.103	0.050	4.5	25.0
15 1,1-Dichloroethene	1.047	1.094	0.050	4.5	25.0
16 Methylene Chloride	1.183	1.144	0.050	3.3	25.0
17 1,1,2-Trichloroethane	0.958	1.050	0.050	9.5	25.0
18 Propanenitrile	1.789	1.754	0.050	2.0	25.0
19 Propanol	1.799	2.080	0.050	15.6	25.0
20 1,1-Dichloroethane	2.189	2.307	0.050	5.4	25.0
21 2-Butanone	1.168	1.156	0.050	1.0	25.0
22 cis-1,2-Dichloroethene	1.161	1.199	0.050	3.3	25.0
24 Hexane	2.403	2.161	0.050	10.1	25.0
25 Chloroform	2.015	2.091	0.050	3.8	25.0
26 Tetrahydrofuran	0.902	0.922	0.050	2.2	25.0
27 1,2-Dichloroethane	0.450	0.473	0.050	5.1	25.0
28 1,1,1-Trichloroethane	0.447	0.434	0.050	2.8	25.0
29 Butanenitrile	1.072	1.113	0.050	3.8	25.0
30 1-Butanol	0.202	0.201	0.050	0.9	25.0
31 Benzene	1.288	1.412	0.050	9.7	25.0
32 Carbon Tetrachloride	0.422	0.446	0.050	5.5	25.0
33 Cyclohexane	0.500	0.478	0.050	4.5	25.0
35 1,2-Dichloropropane	0.369	0.385	0.050	4.1	25.0
36 Trichloroethene	0.346	0.356	0.050	2.9	25.0
37 Heptane	0.444	0.416	0.050	6.3	25.0
38 cis-1,3-Dichloropropene	0.452	0.446	0.050	1.3	25.0
39 4-Methyl-2-Pentanone	0.420	0.484	0.050	15.0	25.0
40 Pyridine	0.715	0.316	0.050	55.7	25.0
41 trans-1,3-Dichloropropene	0.311	0.300	0.050	3.6	25.0
42 Pentanenitrile	0.368	0.393	0.050	6.8	25.0
43 1,1,2-Trichloroethane	0.279	0.291	0.050	4.4	25.0

Pacific Northwest National Laboratory

CONTINUING CALIBRATION COMPOUNDS

HNF-4073
Rev. 0

Instrument ID: hpdos1.i
Lab File ID: 18122302.d
Analysis Type: AIR
Lab Sample ID: CCV
Quant Type: ISTD

Injection Date: 05-NOV-1998 23:02
Init. Calibration Date(s): 06/06/97 06/06/97
Init. Calibration Times: 10:35 16:58
Method File: /chem/hpdos1.i/18122301.b/InCal2_53097.

COMPOUND	RRF	RF200	MIN RRF	1D	MAX 1D
44 Toluene	0.900	0.901	0.050	0.1	25.0
45 1,2-Dibromoethane	0.369	0.334	0.050	9.5	25.0
46 Octane	0.456	0.426	0.050	6.6	25.0
47 Bromoform	0.466	0.457	0.050	2.0	25.0
48 Tetrachloroethylene	0.314	0.313	0.050	0.1	25.0
50 Chlorobenzene	0.991	0.948	0.050	4.3	25.0
51 Hexanenitrile	0.519	0.542	0.050	4.5	25.0
52 Ethylbenzene	1.620	1.617	0.050	0.2	25.0
53 p/m-Xylene	0.627	0.569	0.050	9.3	25.0
54 Cyclohexanone	0.263	0.267	0.050	1.2	25.0
55 Styrene	2.161	1.667	0.050	22.9	25.0
56 1,1,2,2-Tetrachloroethane	1.289	1.246	0.050	3.4	25.0
57 o-Xylene	1.409	1.331	0.050	5.5	25.0
58 Nonane	2.542	2.430	0.050	4.4	25.0
60 1-Ethyl-2-Methyl-Benzene	3.134	3.186	0.050	1.6	25.0
61 1,3,5-Trimethylbenzene	2.714	2.752	0.050	1.4	25.0
62 1,2,4-Trimethylbenzene	2.699	2.711	0.050	0.4	25.0
63 Decane	1.600	1.525	0.050	4.7	25.0
64 1,3-Dichlorobenzene	1.655	1.716	0.050	3.7	25.0
65 1,4-Dichlorobenzene	1.625	1.666	0.050	2.5	25.0
66 1,2-Dichlorobenzene	1.465	1.585	0.050	8.2	25.0
67 Undecane	0.355	0.320	0.050	10.1	25.0
68 1,2,4-Trichlorobenzene	0.468	0.592	0.050	26.6	25.0<-
69 Dodecane	0.410	0.340	0.050	17.2	25.0
70 Hexachloro-1,3-butadiene	0.375	0.368	0.050	1.8	25.0
71 Tridecane	0.275	0.262	0.050	4.9	25.0
72 Tetradecane	0.019	0.027	0.050	42.3	25.0<-

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

Data file : /chem/hpdos1.i/18122301.b/18122302.d
Lab Smp Id: CCV Client Smp ID: 200mL
Inj Date : 05-NOV-1998 23:02
Operator : Alex Inst ID: hpdos1.i
Smp Info : CCV; 200mL; 54934-151-01
Misc Info :
Comment :
Method : /chem/hpdos1.i/18122301.b/InCal2_53097.m
Meth Date : 21-Jan-1999 12:37 john Quant Type: ISTD
Cal Date : 05-NOV-1998 23:02 Cal File: 18122302.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all1.sub
Target Version: 3.10

Compounds	QUANT SIG				AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COL
					(ng)	(ng)
1 Dichlorodifluoromethane	85.00	4.626	4.626	(0.340)	7300240	108.0
2 Chloromethane	50.00	5.003	5.003	(0.368)	2760542	45.10
3 12dichloro122-tetrafluoroeth	85.00	5.218	5.218	(0.384)	5526966	153.0
4 Methanol	31.00	5.358	5.358	(0.394)	5376152	118.0
5 Vinyl Chloride	62.00	5.498	5.498	(0.404)	1799265	55.80
7 Butane	43.00	5.907	5.907	(0.434)	1448058	94.90
8 Bromomethane	94.00	6.392	6.392	(0.470)	1113972	84.80
9 Chloroethane	64.00	6.736	6.736	(0.495)	713913	57.60
10 Ethanol	31.00	6.930	6.930	(0.509)	5043340	113.0
11 Acetonitrile	41.00	7.393	7.393	(0.543)	8125719	119.0
12 Acetone	43.00	7.878	7.878	(0.579)	16746132	122.0
13 Trichlorofluoromethane	101.00	8.254	8.254	(0.607)	6375488	123.0
14 Pentane	43.00	8.922	8.922	(0.656)	8435652	81.20
15 1,1-Dichloroethene	96.00	9.471	9.471	(0.696)	2399181	86.60
16 Methylene Chloride	84.00	9.654	9.654	(0.710)	2195924	75.80
17 112trichloro122trifluoroethane	151.00	10.149	10.149	(0.746)	4437668	167.0
18 Propanenitrile	54.00	10.903	10.903	(0.801)	7948054	179.0
19 Propanol	31.00	10.881	10.881	(0.800)	5319912	101.0
20 1,1-Dichloroethane	63.00	11.775	11.775	(0.865)	5164310	88.40
21 2-Butanone	72.00	12.421	12.421	(0.913)	3747934	128.0
22 cis-1,2-Dichloroethene	96.00	13.293	13.293	(0.977)	2628537	86.60
* 23 Bromochloromethane (IS)	49.00	13.605	13.605	(1.000)	3038229	120.0
24 Hexane	57.00	13.659	13.659	(1.004)	8919186	163.0
25 Chloroform	83.00	13.831	13.831	(1.017)	5664499	107.0
26 Tetrahydrofuran	72.00	14.563	14.563	(1.070)	2129225	91.20
27 1,2-Dichloroethane	62.00	15.231	15.231	(0.887)	3789859	88.40
28 1,1,1-Trichloroethane	97.00	15.737	15.737	(0.916)	4689110	119.0
29 Butanenitrile	41.00	15.726	15.726	(0.915)	11507132	114.0
30 1-Butanol	56.00	16.211	16.211	(0.944)	2327607	128.0

E00 022

HNF-4073
Rev 0

Compounds	QUANT SIG				RESPONSE	CAL-AMT	ON-COL
	MASS	RT	EXP RT	REL RT		(ng)	(ng)
-----	----	--	-----	-----	-----	-----	-----
31 Benzene	78.00	16.620	16.620	(0.967)	8928136	69.70	76.43 (Q)
32 Carbon Tetrachloride	117.00	16.911	16.911	(0.984)	5536353	137.0	144.5
33 Cyclohexane	41.00	17.180	17.180	(1.000)	5598418	129.1	123.3 (Q)
* 34 Difluorobenzene (IS)	114.00	17.180	17.180	(1.000)	8797182	97.00	(Q)
35 1,2-Dichloropropane	63.00	18.192	18.192	(1.059)	3523320	101.0	105.2
36 Trichloroethene	95.00	18.633	18.633	(1.085)	3773703	117.0	120.4 (Q)
37 Heptane	71.00	19.128	19.128	(1.113)	4486677	119.0	111.5
38 cis-1,3-Dichloropropene	75.00	20.324	20.324	(1.183)	3607517	89.20	88.08
39 4-Methyl-2-Pentanone	43.00	20.334	20.334	(1.184)	7059869	161.0	185.1
40 Pyridine	79.00	20.517	20.517	(1.194)	2984900	104.0	46.04 (QM)
41 trans-1,3-Dichloropropene	75.00	21.389	21.389	(1.245)	2423509	89.20	85.98
42 Pentanenitrile	54.00	21.411	21.411	(1.246)	3848387	108.0	115.3
43 1,1,2-Trichloroethane	83.00	21.820	21.820	(1.270)	3143173	119.0	124.3
44 Toluene	92.00	22.466	22.466	(0.847)	6132927	82.30	82.36 (Q)
45 1,2-Dibromoethane	107.00	23.995	23.995	(0.905)	4644504	168.0	152.0
46 Octane	85.00	24.544	24.544	(0.925)	2750142	78.10	72.96
47 Bromoform	173.00	28.194	28.194	(1.063)	4460978	118.0	115.6 (Q)
48 Tetrachloroethylene	164.00	25.029	25.029	(0.944)	3836495	148.0	147.9 (Q)
* 49 D5-Chlorobenzene (IS)	117.00	26.525	26.525	(1.000)	9182862	111.0	(Q)
50 Chlorobenzene	112.00	26.633	26.633	(1.004)	7922185	101.0	96.63
51 Hexanenitrile	41.00	26.891	26.891	(1.014)	6902271	154.0	160.9
52 Ethylbenzene	91.00	27.505	27.505	(1.037)	12681077	94.80	94.62
53 p/m-Xylene	106.00	27.936	27.936	(1.053)	8941992	190.0	172.4 (Q)
54 Cyclohexanone	55.00	28.355	28.355	(1.069)	2401299	108.9	110.2 (Q)
55 Styrene	104.00	28.851	28.851	(0.951)	5168978	93.00	71.74 (Q)
56 1,1,2,2-Tetrachloroethane	83.00	29.088	29.088	(0.959)	6229151	150.0	144.9
57 o-Xylene	106.00	29.152	29.152	(0.961)	4207969	94.80	89.57 (Q)
58 Nonane	57.00	29.604	29.604	(0.976)	7517143	92.80	88.69
* 59 1-Bromo-4-Fluorobenzene (IS)	95.00	30.336	30.336	(1.000)	6001388	180.0	(Q)
60 1-Ethyl-2-Methyl-Benzene	105.00	32.554	32.554	(1.073)	11364252	107.0	108.8
61 1,3,5-Trimethylbenzene	105.00	32.770	32.770	(1.080)	9816488	107.0	108.5 (Q)
62 1,2,4-Trimethylbenzene	105.00	34.040	34.040	(1.122)	9670035	107.0	107.4 (Q)
63 Decane	43.00	34.288	34.288	(1.130)	7828277	154.0	146.7
64 1,3-Dichlorobenzene	146.00	34.546	34.546	(1.139)	7496534	131.0	135.8
65 1,4-Dichlorobenzene	146.00	34.751	34.751	(1.145)	7277266	131.0	134.3
66 1,2-Dichlorobenzene	146.00	35.881	35.881	(1.183)	6920736	131.0	141.7
67 Undecane	71.00	38.605	38.605	(1.273)	1183323	111.0	99.84
68 1,2,4-Trichlorobenzene	180.00	42.115	42.115	(1.388)	3196924	162.0	205.0 (Q)
69 Dodecane	71.00	42.643	42.643	(1.406)	1280361	113.0	93.55
70 Hexachloro-1,3-butadiene	225.00	43.945	43.945	(1.449)	2858229	233.0	228.8
71 Tridecane	57.00	46.411	46.411	(1.530)	829970	95.10	90.42
72 Tetradecane	57.00	50.018	50.018	(1.649)	73867	81.20	115.6 (M)

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

E00 023

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCV; 200mL; 54934-151-01

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2 53097.m
 File : 18122302.d
 Injection Date : 05-NOV-1998 23:02 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCV
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CCALIB_5

VolumeFactor: 100 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.626	4.626	7300240	127.75	1.2775	236.67	
Chloromethane	23	50.49	5.003	5.003	2760542	76.78	0.7678	340.65	
1,2-dichloro-1,1,2,2-tetrafluoroethane	23	170.92	5.218	5.218	5526966	211.32	2.1132	276.95	
Methanol	23	32.04	5.358	5.358	5376152	183.21	1.8321	1280.87	
Vinyl Chloride	23	62.50	5.498	5.498	1799265	97.90	0.9790	350.87	
Butane	23	58.12	5.907	5.907	1448058	163.32	1.6332	629.44	
Bromomethane	23	94.94	6.392	6.392	1113972	115.75	1.1575	273.11	
Chloroethane	23	64.51	6.736	6.736	713913	36.74	0.3674	127.59	
Ethanol	23	46.01	6.930	6.930	5043340	88.65	0.8865	431.59	
Acetonitrile	23	41.05	7.393	7.393	8125719	102.28	1.0228	558.09	
Acetone	23	58.08	7.878	7.878	16746132	139.42	1.3942	537.71	
Trichlorofluoromethane	23	137.37	8.254	8.254	6375488	125.28	1.2528	204.28	
Pentane	23	72.15	8.922	8.922	8435652	84.84	0.8484	263.40	
1,1-Dichloroethene	23	96.94	9.471	9.471	2399181	90.51	0.9051	209.13	
Methylene Chloride	23	84.93	9.654	9.654	2195924	73.32	0.7332	193.37	
1,1,2-trichloro-1,2,2-trifluoroethane	23	187.38	10.149	10.149	4437668	182.88	1.8288	218.62	
Propanenitrile	23	55.08	10.903	10.903	7948054	175.47	1.7547	713.62	
Propanol	23	60.10	10.881	10.881	5319912	116.80	1.1680	435.34	
1,1-Dichloroethane	23	98.96	11.775	11.775	5164310	93.19	0.9319	210.93	
2-Butanone	23	72.11	12.421	12.421	3747934	126.74	1.2674	393.70	
cis-1,2-Dichloroethene	23	96.94	13.293	13.293	2628537	89.42	0.8942	206.63	
Hexane	23	86.18	13.659	13.659	8919186	146.60	1.4660	381.04	
Chloroform	23	119.38	13.831	13.831	5664499	111.03	1.1103	208.34	
Tetrahydrofuran	23	72.11	14.563	14.563	2129225	93.18	0.9318	289.46	
1,2-Dichloroethane	34	98.96	15.231	15.231	3789859	92.90	0.9290	210.29	
1,1,1-Trichloroethane	34	133.40	15.737	15.737	4689110	115.72	1.1572	194.31	
Butanenitrile	34	69.11	15.726	15.726	11507132	118.36	1.1836	383.63	
1-Butanol	34	74.12	16.211	16.211	2327607	126.87	1.2687	383.40	
Benzene	34	78.11	16.620	16.620	8928136	76.43	0.7643	219.19	
Carbon Tetrachloride	34	153.82	16.911	16.911	5536353	144.52	1.4452	210.46	
Cyclohexane	34	84.16	17.180	17.180	5598418	123.34	1.2334	328.27	
1,2-Dichloropropane	34	112.99	18.192	18.192	3523320	105.17	1.0517	208.49	
Trichloroethene	34	131.39	18.633	18.633	3773703	120.40	1.2040	205.26	

01/21/99 12:37

18122302.d

Page 1

E00 024

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.128	19.128	4486677	111.55	1.1155	249.37	
cis-1,3-Dichloropropene	34	110.97	20.324	20.324	3607517	88.08	0.8808	177.80	
4-Methyl-2-Pentanone	34	100.16	20.334	20.334	7059869	185.12	1.8512	414.01	
Pyridine	34	79.10	20.517	20.517	2984900	46.04	0.4604	130.37	
trans-1,3-Dichloropropene	34	110.97	21.389	21.389	2423509	85.98	0.8598	173.55	
Pentanenitrile	34	83.13	21.411	21.411	3848387	115.34	1.1534	310.79	
1,1,2-Trichloroethane	34	133.40	21.820	21.820	3143173	124.26	1.2426	208.66	
Toluene	49	92.14	22.466	22.466	6132927	82.36	0.8236	200.23	
1,2-Dibromomethane	49	187.86	23.995	23.995	4644504	152.02	1.5202	181.27	
Octane	49	114.23	24.544	24.544	2750142	72.97	0.7297	143.08	
Bromoform	49	175.00	28.194	28.194	4460978	115.62	1.1562	147.99	
Tetrachloroethylene	49	165.83	25.029	25.029	3836495	147.93	1.4793	199.81	
Chlorobenzene	49	112.56	26.633	26.633	7922185	96.63	0.9663	192.30	
Hexanenitrile	49	97.13	26.891	26.891	6902271	160.88	1.6088	371.02	
Ethylbenzene	49	106.17	27.505	27.505	12681077	94.62	0.9462	199.63	
p/m-Xylene	49	106.17	27.936	27.936	8941992	172.42	1.7242	363.77	
Cyclohexanone	49	98.14	28.355	28.355	2401299	110.24	1.1024	251.62	
Styrene	59	104.15	28.851	28.851	5168978	71.74	0.7174	154.30	
1,1,2,2-Tetrachloroethane	59	167.85	29.088	29.088	6229151	144.94	1.4494	193.43	
o-Xylene	59	106.17	29.152	29.152	4207969	89.57	0.8957	188.99	
Nonane	59	128.26	29.604	29.604	7517143	88.69	0.8869	154.90	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.554	32.554	11364252	108.76	1.0876	202.69	
1,3,5-Trimethylbenzene	59	120.19	32.770	32.770	9816488	108.48	1.0848	202.18	
1,2,4-Trimethylbenzene	59	120.19	34.040	34.040	9670035	107.46	1.0746	200.27	
Decane	59	142.28	34.288	34.288	7828277	146.75	1.4675	231.03	
1,3-Dichlorobenzene	59	147.00	34.546	34.546	7496534	135.86	1.3586	207.02	
1,4-Dichlorobenzene	59	147.00	34.751	34.751	7277266	134.32	1.3432	204.68	
1,2-Dichlorobenzene	59	147.00	35.881	35.881	6920736	141.69	1.4169	215.91	
Undecane	59	156.31	38.605	38.605	1183323	99.84	0.9984	143.07	
1,2,4-Trichlorobenzene	59	181.45	42.115	42.115	3196924	205.06	2.0506	253.15	
Dodecane	59	170.34	42.643	42.643	1280361	93.55	0.9355	123.02	
Hexachloro-1,3-butadiene	59	260.76	43.945	43.945	2858229	228.79	2.2879	196.54	
Tridecane	59	184.36	46.411	46.411	829970	90.42	0.9042	109.86	
Tetradecane	59	198.34	50.018	50.018	73867	115.57	1.1557	130.52	
Bromochloromethane (IS)	23	129.38	13.605	13.605	3038229	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.180	17.180	8797182	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.525	26.525	9182862	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.336	30.336	6001388	180.00	1.8000	231.72	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

01/21/99 12:37

18122302.d

Page 2

EOO 026

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCV; 200mL; 54934-151-01

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122302.d

HNF-4073
Rev. 0

Sample Info : CCV; 200mL; 54934-151-01

Date : 06-NOV-98 00:23

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Date: 06-NOV-98 00:23

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB; 200mL Nitrogen

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

Date : 06-NOV-98 00:23

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB; 200mL Nitrogen

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

Date : 06-NOV-98 00:23

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB: 200mL Nitrogen

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

36 Trichloroethene

Date : 06-NOV-98 00:23

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB; 200mL Nitrogen

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122303.d
 Injection Date : 06-NOV-98 00:23 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCB
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.626				0.0007	0.13	U
Chloromethane	23	50.49	5.003				0.0006	0.27	U
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.218				0.0033	0.43	U
Methanol	23	32.04	5.358				0.0032	2.20	U
Vinyl Chloride	23	62.50	5.498				0.0004	0.14	U
Butane	23	58.12	5.907				0.0006	0.23	U
Bromomethane	23	94.94	6.392				0.0013	0.31	U
Chloroethane	23	64.51	6.736				0.0014	0.47	U
Ethanol	23	46.01	6.930				0.0010	0.49	U
Acetonitrile	23	41.05	7.393				0.0010	0.55	U
Acetone	23	58.08	7.878	7.952	96212	0.75	0.0037	1.44	J
Trichlorofluoromethane	23	137.37	8.254				0.0012	0.20	U
Pentane	23	72.15	8.922				0.0009	0.29	U
1,1-Dichloroethene	23	96.94	9.471				0.0009	0.22	U
Methylene Chloride	23	84.93	9.654	9.664	10875	0.40	0.0020	0.53	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.149				0.0010	0.12	U
Propanenitrile	23	55.08	10.903				0.0009	0.39	U
Propanol	23	60.10	10.881				0.0007	0.26	U
1,1-Dichloroethane	23	98.96	11.775				0.0005	0.11	U
2-Butanone	23	72.11	12.421				0.0007	0.22	U
cis-1,2-Dichloroethene	23	96.94	13.293				0.0009	0.20	U
Hexane	23	86.18	13.659				0.0008	0.21	U
Chloroform	23	119.38	13.831				0.0006	0.12	U
Tetrahydrofuran	23	72.11	14.563				0.0004	0.12	U
1,2-Dichloroethane	34	98.96	15.231				0.0005	0.12	U
1,1,1-Trichloroethane	34	133.40	15.737				0.0008	0.13	U
Butanenitrile	34	69.11	15.726				0.0009	0.28	U
1-Butanol	34	74.12	16.211				0.0008	0.24	U
Benzene	34	78.11	16.620				0.0004	0.11	U
Carbon Tetrachloride	34	153.82	16.911				0.0009	0.12	U
Cyclohexane	34	84.16	17.180				0.0009	0.24	U
1,2-Dichloropropane	34	112.99	18.192				0.0008	0.15	U
Trichloroethene	34	131.39	18.633	18.632	18357	0.45	0.0022	0.38	J

01/21/99 14:23

18122303.d

Page 1

E00 034

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.128				0.0004	0.10	U
cis-1,3-Dichloropropene	34	110.97	20.324				0.0006	0.12	U
4-Methyl-2-Pentanone	34	100.16	20.334				0.0009	0.19	U
Pyridine	34	79.10	20.517				0.0046	1.32	U
trans-1,3-Dichloropropene	34	110.97	21.389				0.0004	0.09	U
Pentanenitrile	34	83.13	21.411				0.0011	0.28	U
1,1,2-Trichloroethane	34	133.40	21.820				0.0007	0.12	U
Toluene	49	92.14	22.466				0.0005	0.12	U
1,2-Dibromoethane	49	187.86	23.995				0.0013	0.16	U
Octane	49	114.23	24.544				0.0006	0.12	U
Bromoform	49	175.00	28.194				0.0029	0.38	U
Tetrachloroethylene	49	165.83	25.029				0.0011	0.14	U
Chlorobenzene	49	112.56	26.633				0.0006	0.13	U
Hexanenitrile	49	97.13	26.891				0.0013	0.30	U
Ethylbenzene	49	106.17	27.505				0.0007	0.15	U
p/m-Xylene	49	106.17	27.936				0.0033	0.69	U
Cyclohexanone	49	98.14	28.355				0.0015	0.33	U
Styrene	59	104.15	28.851				0.0005	0.12	U
1,1,2,2-Tetrachloroethane	59	167.85	29.088				0.0011	0.14	U
o-Xylene	59	106.17	29.152				0.0007	0.15	U
Nonane	59	128.26	29.604				0.0004	0.07	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.554				0.0004	0.08	U
1,3,5-Trimethylbenzene	59	120.19	32.770				0.0004	0.08	U
1,2,4-Trimethylbenzene	59	120.19	34.040				0.0006	0.12	U
Decane	59	142.28	34.288				0.0008	0.12	U
1,3-Dichlorobenzene	59	147.00	34.546				0.0004	0.07	U
1,4-Dichlorobenzene	59	147.00	34.751				0.0004	0.07	U
1,2-Dichlorobenzene	59	147.00	35.881				0.0004	0.07	U
Undecane	59	156.31	38.605				0.0070	1.01	U
1,2,4-Trichlorobenzene	59	181.45	42.115				0.0007	0.09	U
Dodecane	59	170.34	42.643				0.0024	0.32	U
Hexachloro-1,3-butadiene	59	260.76	43.945	43.966	31931	2.96	0.0148	1.27	
Tridecane	59	184.36	46.411				0.0015	0.18	U
Tetradecane	59	198.34	50.018				0.0011	0.12	U
Bromochloromethane (IS)	23	129.38	13.605	13.594	2849638	120.00	0.6000	103.88	
Difluorobenzene (IS)	34	114.00	17.180	17.168	11230609	97.00	0.4850	95.30	
D5-Chlorobenzene (IS)	49	117.00	26.525	26.513	8742349	111.00	0.5550	106.26	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.336	30.335	5282849	180.00	0.9000	115.86	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown	23	0		3.790	1264830	11.08	0.0554		J
Carbon dioxide	23	44	124-38-9	3.894	4085562	35.79	0.1790	91.10	NJ
Ammonia	23	17	7664-41-7	4.101	972832	8.52	0.0426	56.15	NJ

Internal Standard Information for TICS

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	13698270
Difluorobenzene (IS)	34	24698570
D5-Chlorobenzene (IS)	49	25667935
1-Bromo-4-Fluorobenzene (IS)	59	25815287

E00 035

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

01/21/99 14:23

18122303.d

Page 2

E00 036

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122303.d

HNF-4073
Rev. 0

Sample Info : CCB; 200mL Nitrogen

Data File: /chem/hpdos1.i/18122301.b/18122304.D

Page 1

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Dichlorodifluoromethane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Chloromethane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

4 Methanol

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

7 Butane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226: 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Ethanol

E00 044

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

11 Acetonitrile

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

12 Acetone

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Pentane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

18 Propanenitrile

E00 050

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

19 Propanol

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

21 2-Butanone

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Butanenitrile

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

30 1-Butanol

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

31 Benzene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

33 Cyclohexane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 Heptane

Date: 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

39 4-Methyl-2-Pentanone

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 Pyridine

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

43 1,1,2-Trichloroethane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

44 Toluene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 Octane

E00 065

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

50 Chlorobenzene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

51 Hexanenitrile

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

52 Ethylbenzene

Date: 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

53 p/n-Xylene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226: 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

54 Cyclohexanone

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

58 Nonane

Date: 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

60 1-Ethyl-2-Methyl-Benzene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

61 1,3,5-Trimethylbenzene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

62 1,2,4-Trimethylbenzene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

63 Decane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

66 1,2-Dichlorobenzene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

67 Undecane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

68 1,2,4-Trichlorobenzene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

69 Dodecane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

71 Tridecane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

72 Tetradecane

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115913	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	86	C3H6	42

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	9	C3H8	44
Propane	74-98-6	nbs75k.1	62268	7	C3H8	44
Propane	74-98-6	nbs75k.1	38	7	C3H8	44

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.1	131	64	CH3NO2	61
Monoethanolamine	141-43-5	nbs75k.1	62369	7	C2H7NO	61
Monoethanolamine	141-43-5	nbs75k.1	133	4	C2H7NO	61

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.1	62260	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	90	C3H6	42
Propene	115-07-1	nbs75k.1	62258	83	C3H6	42

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	36	7	C2H4O	44
Isobutane	75-28-5	nbs75k.1	62334	9	C4H10	58
Ethylene oxide	75-21-8	nbs75k.1	62267	7	C2H4O	44

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	90	C4H8	56

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62309	86	C4H8	56
1-Butene	106-98-9	nbs75k.1	62307	86	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	86	C4H8	56

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (E)-	624-64-6	nbs75k.1	62301	74	C4H8	56
2-Butene, (Z)-	590-18-1	nbs75k.1	77	74	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56

E00 091

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	93	C5H10	70
2-Butene, 2-methyl-	513-35-9	nbs75k.1	62461	90	C5H10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	87	C5H10	70

E00 092

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (E)-	646-04-8	nbs75k.1	233	90	CEH10	70
2-Pentene, (Z)-	627-20-3	nbs75k.1	62456	91	CEH10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	91	CEH10	70

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (Z)-	627-20-3	WILEY138.1	116335	62	C5H10	70
2-Butene, 2-methyl-	513-35-9	nbs75k.1	228	58	C5H10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	62467	58	C5H10	70

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 4-methyl-	691-37-2	nbs75k.1	599	52	C6H12	84
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	43	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	43	C4H8	56

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Silanol, trimethyl-	1066-40-6	nbs75k.1	62980	64	C3H10OSi	90
Silanol, trimethyl-	1066-40-6	nbs75k.1	907	64	C3H10OSi	90
Butanoic acid, trimethylsilyl ester	16844-99-8	nbs75k.1	12325	56	C7H16O2Si	160

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2-methyl-	107-83-5	nbs75k.1	733	90	C6H14	86
Pentane, 2-methyl-	107-83-5	nbs75k.1	62863	87	C6H14	86
Pentane, 2-methyl-	107-83-5	WILEY138.1	117115	87	C6H14	86

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdosl.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62486	86	C4H8O	72
Butanal	123-72-8	WILEY138.1	116378	86	C4H8O	72
Butanal	123-72-8	WILEY138.1	116385	83	C4H8O	72

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 3-methyl-	96-14-0	nbs75k.1	62867	91	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.1	734	91	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.1	62868	86	C6H14	86

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62755	95	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	50	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	50	C6H12	84
2-Hexene	592-43-8	WILEY138.1	116888	50	C6H12	84

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Pentadiene, 3-methyl-	1115-08-8	nbs75k.l	494	87	C6H10	82
Cyclopentene, 1-methyl-	693-89-0	nbs75k.l	62682	86	C6H10	82
Cyclopentene, 3-methyl-	1120-62-3	nbs75k.l	62678	80	C6H10	82

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	nbs75k.1	62758	86	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	86	C6H12	84
2-Hexene	592-43-8	nbs75k.1	62759	80	C6H12	84

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	598	72	C6H12	84
Cyclopentane, methyl-	96-37-7	nbs75k.1	594	49	C6H12	84
2-Butene, (E)-	624-64-6	nbs75k.1	62302	53	C4H8	56

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, methyl-	96-37-7	nbs75k.1	594	83	C6H12	84
Cyclohexane	110-82-7	nbs75k.1	62776	72	C6H12	84
Cyclohexane	110-82-7	nbs75k.1	62777	72	C6H12	84

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1-Butyne, 3-methyl-
Unknown
4-Heptyn-2-ol

CAS Number	Library	Entry	Quality	Formula	Weight
598-23-2	nbs75k.1	62413	58	CEH8	68
		0	0		0
19781-81-8	nbs75k.1	2618	50	C7H12O	112

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexene, 2-methyl-, (E)-	692-24-0	nbs75k.1	63228	94	C7H14	98
1-Butene, 2-ethyl-3-methyl-	7357-93-9	nbs75k.1	1366	91	C7H14	98
Cyclopropane, 1,1-diethyl-	1003-19-6	nbs75k.1	1349	90	C7H14	98

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile, 2-methylene-	1647-11-6	nbs75k.1	445	94	CEH7N	81
2-Pentenitrile	13284-42-9	nbs75k.1	447	58	CEH7N	81
1,2-Butadiene	590-19-2	nbs75k.1	63	47	C4H6	54

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	50	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	78	C7H14	98
Cyclohexane, 1-methyl-2-propyl-	4291-79-6	nbs75k.1	66074	74	C10H20	140

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	WILEY138.1	117780	94	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	91	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117782	91	C7H14	98

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	95	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	91	C7H14	98

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	97	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	97	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	96	C7H14	98

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, ethyl-	1640-89-7	nbs75k.1	1350	49	C7H14	98
3-Hexyn-1-ol	1002-28-4	nbs75k.1	1249	46	C6H10O	98
1,4-Pentadiene	591-93-5	nbs75k.1	180	43	C5H8	68

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

2-Butenal, 2-ethenyl-
2-Cyclopenten-1-one, 2-methyl-
2-Butenal, 2-ethenyl-

CAS Number	Library	Entry	Quality	Formula	Weight
20521-42-0	nbs75k.1	1092	74	C6H8O	96
1120-73-6	nbs75k.1	63117	74	C6H8O	96
20521-42-0	WILEY138.1	576	74	C6H8O	96

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	1367	64	C7H14	98
Cyclopentane, 1,2,3-trimethyl-, (1.alpha.)	2613-69-6	WILEY138.1	119104	64	C8H16	112
1-Heptene, 3-methyl-	4810-09-7	nbs75k.1	2686	59	C8H16	112

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-HEXENE, 3-ETHYL-						
Cyclohexanecarboxaldehyde	2043-61-0	nbs75k.1	63982	49	C7H12O	112
3-Hexene, 2,2-dimethyl-, (Z)-	690-92-6	nbs75k.1	64050	47	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	2712	47	C8H16	112

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	1141	96	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	96	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	63138	95	C7H12	96

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	1556	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117990	91	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63384	90	C6H12O	100

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	58	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119059	83	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	81	C8H16	112

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	83	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	83	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119371	83	C8H18	114

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal	66-25-1	nbs75k.1	63409	64	C ₆ H ₁₂ O	100
Hexanal	66-25-1	nbs75k.1	1573	64	C ₆ H ₁₂ O	100
Cyclobutanol, 2-ethyl-	35301-43-0	nbs75k.1	1521	50	C ₆ H ₁₂ O	100

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	91	C8H16	112
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	87	C5H10	70

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptenal, (Z)-	6728-31-0	nbs75k.1	63962	50	C7H12O	112
Cyclopentane, 2-propenyl-	3524-75-2	nbs75k.1	2360	46	C6H14	110
Cyclopentane, 2-propenyl-	3524-75-2	nbs75k.1	63883	46	C6H14	110

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	87	C8H16	112
ETHYL-2 METHYL-3 PENTENE-1	0-00-0	WILEY138.1	2685	87	C8H16	112
2-PENTENE, 3-ETHYL-2-METHYL-	0-00-0	WILEY138.1	2690	80	C8H16	112

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	90	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	C8H16	112
2-Octene, (E)-	13389-42-9	WILEY138.1	2641	91	C8H16	112

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

2-HEPTENE, 3-METHYL-
1-Pentene, 3-ethyl-4-methyl-
Heptane, 3-methylene-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2651	95	C8H16	112
61847-80-1	nbs75k.1	2732	90	C8H16	112
1632-16-2	nbs75k.1	64031	72	C8H16	112

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.l	2713	87	C8H16	112
2-Octene	111-67-1	nbs75k.l	63998	90	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.l	2689	93	C8H16	112

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	74	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	WILEY138.1	119328	68	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	64	C7H14O	114

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C8 Alkane (mw 114)						
1-Hexene	592-41-6	nbs75k.1	62755	50	C6H12	84
7-Methoxy-8-oxa-1-azabicyclo[5.1.0]octan	0-00-0	nbs75k.1	8153	53	C7H13NO2	143
1-Hexene	592-41-6	nbs75k.1	62753	52	C6H12	84

Data File: /chem/hpdos1.i/18122301.b/18122304.D

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown CB Alkane (mw 114)						
Unknown			0	0		0
7-Methoxy-8-oxa-1-azabicyclo[5.1.0]octane	0-00-0	nbs75k.1	8153	59	C7H13NO2	143
Cyclopentane, 1,1-dimethyl-	1638-26-2	nbs75k.1	63237	47	C7H14	98

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkane (mw 128)						
Heptane, 2,6-dimethyl-	1072-05-5	nbs75k.1	65137	58	C9H20	128
Heptane, 2,6-dimethyl-	1072-05-5	nbs75k.1	5156	50	C9H20	128
Hexane, 4-ethyl-2-methyl-	3074-75-7	nbs75k.1	5158	50	C9H20	128

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	nbs75k.1	5054	33	C6H16O	128
Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	WILEY138.1	120898	33	C6H16O	128
Pyrrolidine, 1-acetyl-	4030-18-6	nbs75k.1	2784	25	C6H11NO	113

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	64172	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	WILEY138.1	119309	91	C7H14O	114

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119305	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119301	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119304	90	C7H14O	114

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
Ethanol, 2-butoxy-	111-76-2	WILEY138.1	119790	53	C6H14O2	118
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	52	C8H18O	130
n-Butyl ether	142-96-1	nbs75k.1	65307	43	C8H18O	130

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64381	83	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	3383	78	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64382	78	C7H16O	116

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226: 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

2-Heptanol, (S)-

2-Heptanol

2-Butanol, 3-methyl-

CAS Number

Library

Entry

Quality

Formula

Weight

6033-23-4

nbs75k.1

3355

72

C7H16O

116

543-49-7

nbs75k.1

64346

72

C7H16O

116

598-75-4

nbs75k.1

62960

59

C5H12O

88

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	nbs75k.1	4624	94	C9H18	126
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	WILEY138.1	120623	94	C9H18	126
1-Heptene	592-76-7	nbs75k.1	63242	81	C7H14	98

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanenitrile, 3-methyl-	53783-89-4	nbs75k.1	2433	64	C7H13N	111
3-Hepten-1-ol, (E)-	2108-05-6	nbs75k.1	3047	37	C7H14O	114
Pentanenitrile, 4-methyl-	542-54-1	nbs75k.1	63155	32	C6H11N	97

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	83321-16-8	nbs75k.l	4173	43	C ₈ H ₁₂ O	124
Unknown Alkene/Cycloalkane			0	0		0
Cyclohexane, 1-ethyl-4-methyl-, cis-	4926-78-7	nbs75k.l	64933	38	C ₉ H ₁₈	126

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane	0-00-0	WILEY138.1	5830	40		128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	59	C6H13BO2	128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	WILEY138.1	5771	59	C6H13BO2	128

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)

1-Methyl-2-cyclopenten-1-ol

Furan, 2-methoxy-

2,4-Azetidinedione, 3,3-diethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
40459-88-9	WILEY138.1	844	56	C6H10O	98
25414-22-6	nbs75k.1	1208	53	CEH6O2	98
42282-85-9	WILEY138.1	122529	53	C7H11NO2	141

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane	1123-28-0	nbs75k.1	8343	72		128
1-HYDROXYCYCLOHEXANECARBOXYLIC ACID	1123-28-0	WILEY138.1	10615	72	C7H12O3	144
Hexanoic acid, anhydride	2051-49-2	nbs75k.1	26310	59	C12H22O3	214

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one, (E)-	18402-82-9	nbs75k.1	4533	38	C8H14O	126
Unknown hydrocarbon			0	0		0
2(5H)-FURANONE, 4,5,5-TRIMETHYL-	0-00-0	WILEY138.1	5202	40	C7H10O2	126

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

Heptane, 1-(1-butenyloxy)-, (E)-

Heptane, 1-(1-butenyloxy)-, (Z)-

Heptane, 1-(1-butenyloxy)-, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
56052-80-3	nbs75k.1	15313	53	C11H22O	170
56052-79-0	nbs75k.1	15309	53	C11H22O	170
56052-80-3	WILEY138.1	21618	53	C11H22O	170

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdosl.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	WILEY138.1	118931	83	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63907	72	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	64	C7H13N	111

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65060	90	C8H16O	128
4-Octanone	589-63-9	WILEY138.1	5942	90	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	5058	87	C8H16O	128

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)
2-Hexenal, 2-ethyl-
3-Heptene, 3-ethyl-
6-Dodecanol

CAS Number	Library	Entry	Quality	Formula	Weight
645-62-5	nbs75k.1	64926	72	C ₈ H ₁₄ O	126
74764-46-8	nbs75k.1	4663	64	C ₉ H ₁₈	126
6836-38-0	nbs75k.1	19531	59	C ₁₂ H ₂₆ O	186

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Histamine Dihydrochloride	51-45-6	nbs75k.1	63898	25	C5H9N3	111
1,1-Diethylpropargylamine	3234-64-8	nbs75k.1	2434	17	C7H13N	111
1H-Pyrazole, 1-methyl-	930-36-9	nbs75k.1	62662	17	C4H6N2	82

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octanone	106-68-3	nbs75k.1	65093	76	C8H16O	128
3-Heptanone, 6-methyl-	624-42-0	nbs75k.1	65048	64	C8H16O	128
3-Heptanone, 6-methyl-	624-42-0	nbs75k.1	5041	50	C8H16O	128

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octanone	111-13-7	WILEY138.1	120848	91	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	5038	90	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	65044	90	C8H16O	128

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	13427-43-5	nbs75k.1	7580	35		126
1-Hexene, 3,3,5-trimethyl-	13427-43-5	nbs75k.1	4683	58	C9H18	126
Unknown			0	0		0

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkane (mw 128)

Furan, 2,5-dihydro-2,5-dimethyl-

1H-Pyrazole, 4,5-dihydro-1,5-dimethyl-

1,1-Hexylenedioxybutane

CAS Number	Library	Entry	Quality	Formula	Weight
59242-27-2	nbs75k.1	1246	43	C6H10O	98
5775-96-2	nbs75k.1	1226	38	C6H10N2	98
0-00-0	nbs75k.1	15761	37	C10H20O2	172

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown hydrocarbon

1,3,5-Triazine, 1,3,5-tricyclohexylhexah

1H-Pyrazole, 1-methyl-

1H-Imidazole, 1-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
6281-14-7	nbs75k.1	47327	47	C21H39N3	333
930-36-9	nbs75k.1	62662	46	C4H6N2	82
616-47-7	nbs75k.1	62661	37	C4H6N2	82

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Cyclopentanecarboxylic acid, ethenyl est	16523-06-1	nbs75k.1	7375	10	C8H12O2	140
Cyclopentanecarboxylic acid, ethenyl est	16523-06-1	WILEY138.1	9211	10	C8H12O2	140
Hexanenitrile, 5-methyl-	19424-34-1	nbs75k.1	2432	9	C7H13N	111

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
2-Decene, (Z)-	20348-51-0	nbs75k.1	66058	80	C10H20	140
2-Decene, (Z)-	20348-51-0	WILEY138.1	9438	80	C10H20	140
1-Octene, 3,7-dimethyl-	4984-01-4	nbs75k.1	66070	72	C10H20	140

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.1

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 1-methyl-3-propyl-	4291-80-9	nbs75k.1	7596	72	C10H20	140
Cyclohexane, 1-methyl-2-propyl-	4291-79-6	nbs75k.1	66072	62	C10H20	140
3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	nbs75k.1	7530	58	C10H20	140

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65294	83	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	5518	83	C ₈ H ₁₈ O	130

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	67323	90	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	15626	90	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	81	C11H24	156

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	7565	81	C10H20	140
Cyclohexane, butyl-	1678-93-9	WILEY138.1	122508	81	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	WILEY138.1	9503	81	C10H20	140

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkene/Cycloalkane (mw 154)						
Dodecane, 2,5-dimethyl-	56292-65-0	nbs75k.1	22531	47	C14H30	198
Dodecane, 2,6,11-trimethyl-	31295-56-4	nbs75k.1	25998	38	C15H32	212
Undecane, 3,6-dimethyl-	17301-28-9	nbs75k.1	19000	38	C13H28	184

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	40	CEH15N	125
1H-Imidazole, 2-methyl-	693-98-1	nbs75k.1	62663	43	C4H6N2	82
7-Azabicyclo[4.1.0]heptane, 1-methyl-	25022-25-7	nbs75k.1	2429	40	C7H13N	111

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 5-methyl-	13151-35-4	nbs75k.1	11605	72	C11H24	156
Hexane, 2,2,3,3-tetramethyl-	13475-81-5	nbs75k.1	8106	53	C10H22	142
Undecane	1120-21-4	nbs75k.1	67318	53	C11H24	156

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkane (mw 156)						
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	40	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	67324	38	C11H24	156
Octane, 3,3-dimethyl-	4110-44-5	nbs75k.1	8088	38	C10H22	142

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

Decane, 2-methyl-

Unknown Alkane

Heptadecane, 2,6-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
6975-98-0	nbs75k.1	67320	64	C11H24	156
		0	0		0
54105-67-8	nbs75k.1	37466	64	C19H40	268

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Ethyl-2,2,6-trimethylcyclohexane	0-00-0	nbs75k.1	11030	94	C11H22	154
Cyclohexane, 1,1-dimethyl-2-propyl-	81983-71-3	nbs75k.1	11086	91	C11H22	154
Nonane, 2-methyl-3-methylene-	55499-08-6	nbs75k.1	11051	59	C11H22	154

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	78	C11H24	156
Unknown C11 Alkene/Cycloalkane (mw 154)			0	0		0
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	78	C11H24	156

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev 0

Library Search Compound Match

Naphthalene, decahydro-, trans-
Naphthalene, decahydro-, trans-
Naphthalene, decahydro-, trans-

CAS Number	Library	Entry	Quality	Formula	Weight
493-02-7	WILEY138.1	122347	96	C10H18	138
493-02-7	nbs75k.1	65955	95	C10H18	138
493-02-7	nbs75k.1	7108	95	C10H18	138

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

Bicyclo[3.1.0]hexan-3-one, 4-methyl-1-(1

Spiro[2.5]octane

p-Menth-8(10)-en-9-ol, cis-

CAS Number	Library	Entry	Quality	Formula	Weight
471-15-8	nbs75k.1	10345	49	C10H16O	152
185-65-9	nbs75k.1	2339	38	C8H14	110
15714-13-3	nbs75k.1	10931	38	C10H18O	154

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
4(1H)-Pyridinone, 2,3-dihydro-1-methyl-	35488-00-7	nbs75k.1	2418	46	C6H9NO	111
2(1H)-Pyridinone, 3-hydroxy-	16867-04-2	nbs75k.1	2408	35	C6H5NO2	111
4(1H)-Pyrimidinone, 2-amino-	108-53-2	nbs75k.1	2404	35	C4H5N3O	111

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

Unknown

3-Acetyl cyclohexanone

Cyclopentane, 1,2-dimethyl-3-(1-methylethyl)

CAS Number

Library

Entry

Quality

Formula

Weight

937-45-1

nbs75k.1

10818

46

C₉H₁₄O₂

154

489-20-3

nbs75k.1

7606

38

C₁₀H₂₀

140

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
Octane, 4-ethyl-
Undecane, 5-methyl-
Heptadecane, 2,6,10,14-tetramethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
15869-86-0	nbs75k.1	8095	59	C10H22	142
1632-70-8	nbs75k.1	15363	53	C12H26	170
18344-37-1	nbs75k.1	42200	53	C21H44	296

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Cycloalkene						
Cyclohexanone, 2-methyl-5-(1-methylethen	7764-50-3	nbs75k.1	10308	45	C10H16O	152
Bicyclo[4.1.0]heptane, 3,7,7-trimethyl-	18968-23-5	nbs75k.1	7090	42	C10H18	138
Cyclohexanone, 2-methyl-5-(1-methylethen	7764-50-3	nbs75k.1	66948	42	C10H16O	152

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	64	C12H26	170
Unknown C12 Alkane (mw 170)			0	0		0
Octane, 6-ethyl-2-methyl-	62016-19-7	nbs75k.1	11609	78	C11H24	156

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown Alkyl Decahydronaphthalene
Naphthalene, decahydro-2-methyl-
Pulegone
1-Dodecyne

CAS Number	Library	Entry	Quality	Formula	Weight
2958-76-1	nbs75k.1	67009	91	C11H20	152
89-82-7	nbs75k.1	66994	72	C10H16O	152
765-03-7	nbs75k.1	68014	70	C12H22	166

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Cyclohexane, pentyl-

4292-92-6

nbs75k.1

67185

93

C11H22

154

Cyclohexane, pentyl-

4292-92-6

nbs75k.1

11044

83

C11H22

154

n-Amylcyclohexane

29949-27-7

nbs75k.1

11054

81

C11H22

154

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	96	C11H20	152
Unknown			0	0		0
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	96	C11H20	152

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Undecane, 2-methyl-
Undecane, 4-methyl-
Tridecane, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
7045-71-8	nbs75k.1	15354	78	C12H26	170
2980-69-0	nbs75k.1	68256	64	C12H26	170
26730-12-1	nbs75k.1	22537	56	C14H30	198

Date: 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.1	15361	86	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	86	C12H26	170
Tetradecane	629-59-4	nbs75k.1	69661	72	C14H30	198

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	83	C12H26	170
Decane, 3,8-dimethyl-	17312-55-9	nbs75k.1	68255	78	C12H26	170
Dodecane, 3-methyl-	17312-57-1	nbs75k.1	69025	64	C13H28	184

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.l	14152	38	C12H22	166
Bicyclo[3.1.0]hexan-3-one, 4-methyl-1-(1	471-15-8	nbs75k.l	10345	58	C10H16O	152
Bicyclo[4.1.0]heptan-3-one, 4,7,7-trimet	4176-04-9	nbs75k.l	10380	58	C10H16O	152

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	83	C12H26	170
Decane, 3,8-dimethyl-	17312-55-9	nbs75k.1	68255	78	C12H26	170
Dodecane, 3-methyl-	17312-57-1	nbs75k.1	69025	64	C13H28	184

Date: 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14152	38	C12H22	166
Bicyclo[3.1.0]hexan-3-one, 4-methyl-1-(1	471-15-8	nbs75k.1	10345	58	C10H16O	152
Bicyclo[4.1.0]heptan-3-one, 4,7,7-trimethyl	4176-04-9	nbs75k.1	10380	58	C10H16O	152

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	nbs75k.1	14151	87	C12H22	166
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14152	49	C12H22	166
Cyclopropane, (2-methylenebutyl)-	74685-56-6	nbs75k.1	2353	43	C8H14	110

E00 185

Date: 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69033	97	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	27745	97	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	96	C13H28	184

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066,C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Bicyclo[2.2.1]heptan-2-one, 1,7,7-trimethyl	464-48-2	nbs75k.l	10338	38	C10H16O	152
3-Nonyne	20184-89-8	nbs75k.l	4226	27	C9H16	124
5,5-Dimethyl-1,3-hexadiene	1515-79-3	nbs75k.l	2323	25	C8H14	110

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.l	68868	93	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.l	18489	83	C13H26	182
Cyclopropane, 1-butyl-2-(2-methylpropyl)	41977-35-9	nbs75k.l	11036	74	C11H22	154

Date : 06-NOV-98 01:41

Client ID: 100 ml

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C13 Alkene/Cycloalkane (mw 180)						
Cyclohexane, (4-methylpentyl)-	61142-20-9	nbs75k.1	14775	50	C12H24	168
Cyclohexane, octyl-	1795-15-9	nbs75k.1	21971	59	C14H28	196
Cyclohexane, eicosyl-	4443-55-4	nbs75k.1	50821	50	C26H52	364

Date : 06-NOV-98 01:41

Client ID: 100 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-066.C226; 100 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Tridecane, 7-methyl-

Nonane, 3-methyl-

Nonane, 3-methyl-

CAS Number

Library

Entry

Quality

Formula

Weight

26730-14-3

WILEY138.1

34139

90

C14H30

198

5911-04-6

WILEY138.1

10243

83

C10H22

142

5911-04-6

nbs75k.1

8075

78

C10H22

142

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-066.C226; 100 ml; 2X

HNF-4073
Rev. C

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122304.D
 Injection Date : 06-NOV-98 01:41 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106 VP006-066.C226
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 100 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.626	4.625	12111	0.17	0.0035	0.65	J
Chloromethane	23	50.49	5.003	5.002	5001	0.08	0.0016	0.71	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.218				0.0130	1.70	U
Methanol	23	32.04	5.358	5.368	681255	14.56	0.2912	203.59	
Vinyl Chloride	23	62.50	5.498				0.0016	0.57	U
Butane	23	58.12	5.907	5.906	3812162	243.28	4.8655	1875.21	E
Bromomethane	23	94.94	6.392				0.0052	1.23	U
Chloroethane	23	64.51	6.736				0.0054	1.88	U
Ethanol	23	46.01	6.930	6.886	1512649	33.00	0.6600	321.34	
Acetonitrile	23	41.05	7.393	7.403	98777	1.41	0.0282	15.37	J
Acetone	23	58.08	7.878	7.866	2770816	19.66	0.3931	151.62	
Trichlorofluoromethane	23	137.37	8.254	8.253	79760	1.50	0.0300	4.89	J
Pentane	23	72.15	8.922	8.921	2354592	22.07	0.4414	137.04	
1,1-Dichloroethene	23	96.94	9.471				0.0038	0.88	U
Methylene Chloride	23	84.93	9.654	9.642	10997	0.37	0.0074	1.95	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.149				0.0040	0.48	U
Propanenitrile	23	55.08	10.903	10.859	258474	5.67	0.1134	46.10	
Propanol	23	60.10	10.881	10.869	190830	3.53	0.0706	26.30	
1,1-Dichloroethane	23	98.96	11.775				0.0020	0.45	U
2-Butanone	23	72.11	12.421	12.409	203689	6.77	0.1355	42.08	
cis-1,2-Dichloroethene	23	96.94	13.293				0.0034	0.79	U
Hexane	23	86.18	13.659	13.647	1445315	25.72	0.5144	133.70	
Chloroform	23	119.38	13.831				0.0026	0.49	U
Tetrahydrofuran	23	72.11	14.563	14.562	31173	1.30	0.0260	8.08	
1,2-Dichloroethane	34	98.96	15.231				0.0022	0.50	U
1,1,1-Trichloroethane	34	133.40	15.737				0.0032	0.54	U
Butanenitrile	34	69.11	15.726	15.693	1009225	8.50	0.1700	55.09	
1-Butanol	34	74.12	16.211	16.199	950443	44.43	0.8886	268.54	
Benzene	34	78.11	16.620	16.608	139488	0.93	0.0185	5.31	
Carbon Tetrachloride	34	153.82	16.911				0.0034	0.50	U
Cyclohexane	34	84.16	17.180	17.254	88219	1.73	0.0346	9.21	J
1,2-Dichloropropane	34	112.99	18.192				0.0030	0.59	U
Trichloroethene	34	131.39	18.633				0.0024	0.41	U

01/21/99 10:58

18122304.D

Page 1

ECO 191

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.128	19.138	3413842	76.97	1.5393	344.12	
cis-1,3-Dichloropropene	34	110.97	20.324				0.0024	0.48	U
4-Methyl-2-Pentanone	34	100.16	20.334	20.301	157562	3.05	0.0611	13.66	
Pyridine	34	79.10	20.517	20.592	216645	6.42	0.1283	36.34	J
trans-1,3-Dichloropropene	34	110.97	21.389				0.0018	0.36	U
Pentanenitrile	34	83.13	21.411	21.388	574465	13.70	0.2741	73.85	
1,1,2-Trichloroethane	34	133.40	21.820	21.754	32126	1.03	0.0207	3.47	J
Toluene	49	92.14	22.466	22.465	639347	9.11	0.1821	44.27	
1,2-Dibromosthane	49	187.86	23.995				0.0052	0.62	U
Octane	49	114.23	24.544	24.543	515739	15.54	0.3109	60.96	
Bromoform	49	175.00	28.194				0.0118	1.51	U
Tetrachloroethylene	49	165.83	25.029				0.0042	0.57	U
Chlorobenzene	49	112.56	26.633	26.675	22182	0.30	0.0060	1.19	J
Hexanenitrile	49	97.13	26.891	26.879	403715	9.56	0.1912	44.09	
Ethylbenzene	49	106.17	27.505	27.504	38360	0.30	0.0061	1.28	J
p/m-Xylene	49	106.17	27.936	27.913	22202	0.50	0.0100	2.11	J
Cyclohexanone	49	98.14	28.355	28.354	375669	18.08	0.3616	82.54	
Styrene	59	104.15	28.851				0.0022	0.47	U
1,1,2,2-Tetrachloroethane	59	167.85	29.088				0.0042	0.56	U
o-Xylene	59	106.17	29.152				0.0028	0.59	U
Nonane	59	128.26	29.604	29.592	982179	12.46	0.2493	43.54	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.554	32.542	14529	0.14	0.0028	0.52	J
1,3,5-Trimethylbenzene	59	120.19	32.770	32.779	8531	0.10	0.0019	0.36	J
1,2,4-Trimethylbenzene	59	120.19	34.040	34.028	15492	0.18	0.0035	0.66	J
Decane	59	142.28	34.288	34.276	2266326	45.83	0.9167	144.31	
1,3-Dichlorobenzene	59	147.00	34.546				0.0018	0.27	U
1,4-Dichlorobenzene	59	147.00	34.751				0.0018	0.27	U
1,2-Dichlorobenzene	59	147.00	35.881	35.880	9803	0.19	0.0038	0.58	J
Undecane	59	156.31	38.605	38.604	1297755	125.14	2.5029	358.67	
1,2,4-Trichlorobenzene	59	181.45	42.115	42.114	20356	1.06	0.0212	2.62	J
Dodecane	59	170.34	42.643	42.631	2032965	184.45	3.6890	485.10	
Hexachloro-1,3-butadiene	59	260.76	43.945	43.933	16359	1.37	0.0274	2.36	J
Tridecane	59	184.36	46.411	46.377	3879259	456.94	9.1389	1110.39	E
Tetradecane	59	198.34	50.018	49.952	94470	106.76	2.1351	241.14	
Bromochloromethane (IS)	23	129.38	13.605	13.593	3120139	120.00	2.4000	415.52	
Difluorobenzene (IS)	34	114.00	17.180	17.168	10349145	97.00	1.9400	381.19	
D5-Chlorobenzene (IS)	49	117.00	26.525	26.513	8652683	111.00	2.2200	425.03	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.336	30.346	5837874	180.00	3.6000	463.45	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Carbon dioxide	23	44	124-38-9	3.894	1936221	12.09	0.2417	123.05	NJ
Propene	23	42	115-07-1	4.463	7171177	44.76	0.8952	477.43	NJ
Propane	23	44	74-98-6	4.517	4582769	28.60	0.5721	291.24	NJ
Methyl nitrite	23	61	624-91-9	4.797	644380	4.02	0.0804	29.54	NJ
Cyclopropane	23	42	75-19-4	5.056	582571	3.64	0.0727	38.79	NJ
Acetaldehyde	23	44	75-07-0	5.282	780906	4.87	0.0975	49.63	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.723	11787378	73.57	1.4714	588.57	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Butene	23	56	106-98-9	6.121	849954	5.31	0.1061	42.44	NJ
2-Butene, (E)-	23	56	624-64-6	6.466	2111421	13.18	0.2636	105.43	NJ
1-Butene, 2-methyl-	23	70	563-46-2	8.727	1214280	7.58	0.1516	48.51	NJ
2-Pentene, (E)-	23	70	646-04-8	9.201	1230514	7.68	0.1536	49.15	NJ
2-Pentene, (Z)-	23	70	627-20-3	9.545	1058734	6.61	0.1322	42.29	NJ
1-Pentene, 4-methyl-	23	84	691-37-2	11.419	611409	3.82	0.0763	20.35	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.515	818470	5.11	0.1022	25.43	NJ
Pentane, 2-methyl-	23	86	107-83-5	12.065	1219222	7.61	0.1522	39.64	J
Butanal	23	72	123-72-8	12.204	1173277	7.32	0.1465	45.57	NJ
Pentane, 3-methyl-	23	86	96-14-0	12.807	303316	1.89	0.0379	9.86	NJ
1-Hexene	23	84	592-41-6	13.066	13931659	86.96	1.7391	463.76	NJ
2-Hexene, (E)-	23	84	4050-45-7	13.863	1493107	9.32	0.1864	49.70	NJ
1,4-Pentadiene, 3-methyl-	23	82	1115-08-8	14.304	360047	2.25	0.0449	12.28	NJ
2-Hexene	23	84	592-43-8	14.401	942654	5.88	0.1177	31.38	NJ
1-Pentene, 2-methyl-	23	84	763-29-1	14.724	578626	3.61	0.0722	19.26	NJ
Cyclopentane, methyl-	23	84	96-37-7	15.273	285148	1.78	0.0356	9.49	NJ
1-Butyne, 3-methyl-	34	68	598-23-2	15.854	319496	13.68	0.2737	90.16	J
3-Hexene, 2-methyl-, (E)-	34	98	692-24-0	16.856	352970	15.12	0.3024	69.11	NJ
Butanenitrile, 2-methylene-	34	81	1647-11-6	17.480	1166892	49.98	0.9996	276.43	NJ
3-Heptene, (E)-	34	98	14686-14-7	17.598	1333661	57.12	1.1424	261.13	NJ
1-Heptene	34	98	592-76-7	18.503	7212636	308.92	6.1785	1412.22	NJ
3-Heptene	34	98	592-78-8	18.987	38513275	1649.56	32.9911	7540.83	NJ
2-Heptene	34	98	592-77-8	19.364	44989484	1926.94	38.5388	8808.86	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.859	32805792	1405.10	28.1020	6423.32	NJ
Cyclopentane, ethyl-	34	98	1640-89-7	21.205	591713	25.34	0.5069	115.86	NJ
2-Butenal, 2-ethenyl-	34	96	20521-42-0	21.647	12050877	516.15	10.3230	2408.70	NJ
Cyclopentane, 1,2-dimethyl-, cis-	34	98	1192-18-3	21.840	1335178	57.19	1.1437	261.43	NJ
3-HEXENE, 3-ETHYL-	49	112	1632-16-2	22.153	1179071	5.13	0.1026	20.51	J
2-Heptyne	49	96	1119-65-9	22.766	12058926	52.45	1.0490	244.76	NJ
2-Hexanone	49	100	591-78-6	22.874	4772160	20.76	0.4151	92.99	NJ
2-Octene, (E)-	49	112	13389-42-9	23.003	5532805	24.06	0.4813	96.26	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.208	24712409	107.48	2.1497	422.39	NJ
Hexanal	49	100	66-25-1	23.391	465191	2.02	0.0405	9.06	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.865	27334175	118.89	2.3777	475.54	NJ
4-Heptenal, (Z)-	49	112	6728-31-0	24.220	1916525	8.34	0.1667	33.34	NJ
3-Heptene, 3-methyl-	49	112	7300-03-0	24.371	6417059	27.91	0.5582	111.64	NJ
2-Octene	49	112	111-67-1	24.661	2778069	12.08	0.2417	48.33	NJ
2-HEPTENE, 3-METHYL-	49	112	0-00-0	24.941	5267120	22.91	0.4582	91.63	NJ
2-Octene, (Z)-	49	112	7642-04-8	25.189	2724682	11.85	0.2370	47.40	NJ
3-Hexanone, 5-methyl-	49	114	623-56-3	25.501	1426774	6.21	0.1241	24.39	NJ
Unknown C8 Alkane (mw 114)	49	114		25.716	363343	1.58	0.0316	6.21	J
Unknown C8 Alkane (mw 114)	49	114		25.921	538301	2.34	0.0468	9.20	J
Unknown C9 Alkane (mw 128)	49	0		26.147	591389	2.57	0.0514		J
Furan, tetrahydro-2,2,5,5-tetramethyl-	49	128	15045-43-9	27.687	2147704	9.34	0.1868	32.69	NJ
3-Heptanone	49	114	106-35-4	28.010	71114761	309.30	6.1861	1215.51	NJ
2-Heptanone	49	114	110-43-0	28.128	23727344	103.20	2.0640	405.55	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	49	126		28.354	6580117	28.62	0.5724	101.76	J
3-Heptanol	59	116	589-82-2	28.645	10033211	54.63	1.0926	210.98	NJ
2-Heptanol, (S)-	59	116	6033-23-4	28.774	1442308	7.85	0.1571	30.33	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Cyclopropane, 1-methyl-2-pentyl-	59	126	41977-37-1	29.054	2442511	13.30	0.2660	47.29	NJ
Hexanenitrile, 3-methyl-	59	111	53783-89-4	29.216	1114187	6.07	0.1213	24.49	NJ
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	59	124	83321-16-8	29.409	489922	2.67	0.0534	9.64	J
1,3-Diethyl-1,4-epoxybutane	59	128	0-00-0	30.884	12464980	67.87	1.3574	237.55	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		31.003	17232039	93.83	1.8765		J
1,2-Diethyl-1,4-epoxybutane	59	128	1123-28-0	31.089	14601271	79.50	1.5901	278.26	NJ
3-Octen-2-one, (E)-	59	126	18402-82-9	31.380	16266011	88.57	1.7713	314.90	J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.552	3418197	18.61	0.3722		J
Heptanenitrile	59	111	629-08-3	31.929	3382418	18.42	0.3683	74.33	NJ
4-Octanone	59	128	589-63-9	32.273	2087749	11.37	0.2274	39.79	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	140		32.489	451560	2.46	0.0492	7.87	J
Unknown hydrocarbon	59	0		32.704	624935	3.40	0.0681		J
3-Octanone	59	128	106-68-3	32.833	457708	2.49	0.0498	8.72	NJ
2-Octanone	59	128	111-13-7	33.005	1657389	9.02	0.1805	31.59	NJ
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	59	126	13427-43-5	33.124	1569149	8.54	0.1709	30.38	J
Unknown C9 Alkane (mw 128)	59	128		33.296	522433	2.84	0.0569	9.96	J
Unknown hydrocarbon	59	0		33.414	446699	2.43	0.0486		J
Unknown hydrocarbon	59	0		33.662	10310362	56.14	1.1228		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		33.770	1855353	10.10	0.2020		J
Cyclohexane, 1-methyl-3-propyl-	59	140	4291-80-9	34.007	1565248	8.52	0.1705	27.27	NJ
1-Hexanol, 2-ethyl-	59	130	104-76-7	34.900	6464043	35.20	0.7039	121.29	NJ
Decane, 4-methyl-	59	156	2847-72-5	35.406	4041154	22.00	0.4401	63.19	NJ
Cyclohexane, (2-methylpropyl)-	59	140	1678-98-4	36.225	2889213	15.73	0.3146	50.34	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		36.515	1155662	6.29	0.1258		J
Octanenitrile	59	125	124-12-9	36.623	1070377	5.83	0.1166	20.89	NJ
Decane, 5-methyl-	59	156	13151-35-4	36.827	970118	5.28	0.1056	15.17	NJ
Unknown C11 Alkane (mw 156)	59	0		37.010	885162	4.82	0.0964		J
Decane, 2-methyl-	59	156	6975-98-0	37.129	682972	3.72	0.0744	10.68	J
1-Ethyl-2,2,6-trimethylcyclohexane	59	154	0-00-0	37.258	941056	5.12	0.1025	14.91	NJ
Decane, 3-methyl-	59	156	13151-34-3	37.452	707365	3.85	0.0770	11.06	J
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.743	1756342	9.56	0.1913	31.05	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		37.979	655817	3.57	0.0714		J
Unknown hydrocarbon	59	0		38.152	1646754	8.97	0.1793		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		39.110	1439866	7.84	0.1568		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		39.422	1130929	6.16	0.1232		J
Unknown Cycloalkene	59	0		39.713	802950	4.37	0.0874		J
Undecane, 5-methyl-	59	170	1632-70-8	39.874	650335	3.54	0.0708	9.33	J
Unknown Alkyl Decahydronaphthalene	59	0		40.165	1354955	7.38	0.1476		J
Cyclohexane, pentyl-	59	154	4292-92-6	40.606	816306	4.44	0.0889	12.93	NJ
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.897	1802408	9.81	0.1963	28.93	J
Undecane, 2-methyl-	59	170	7045-71-8	41.091	358520	1.95	0.0390	5.14	NJ
Decane, 2,9-dimethyl-	59	170	1002-17-1	41.252	867508	4.72	0.0945	12.45	NJ
Undecane, 3-methyl-	59	170	1002-43-3	41.554	357210	1.94	0.0389	5.13	NJ
Naphthalene, decahydro-1,5-dimethyl-	59	166	66552-62-3	43.018	482243	2.63	0.0525	7.09	NJ
Naphthalene, decahydro-2,6-dimethyl-	59	166	1618-22-0	43.147	401978	2.19	0.0438	5.91	NJ
Undecane, 2,6-dimethyl-	59	184	17301-23-4	43.266	3264120	17.77	0.3555	43.27	NJ
Unknown Alkyl Decahydronaphthalene	59	0		44.235	632733	3.45	0.0689		J
Cyclohexane, 2-butyl-1,1,3-trimethyl-	59	182	54676-39-0	44.579	767544	4.18	0.0836	10.29	NJ
Unknown C13 Alkene/Cycloalkane (mw 180)	59	180		44.665	884770	4.82	0.0963	11.99	J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Tridecane, 7-methyl-	59	198	26730-14-3	45.516	2439383	13.28	0.2656	30.05	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	19225989
Difluorobenzene (IS)	34	2264721
D5-Chlorobenzene (IS)	49	25521018
1-Bromo-4-Fluorobenzene (IS)	59	33058374

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

01/21/99 10:58

18122304.D

Page 5

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-066.C226; 100 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122304.D

HNF-4073
Rev. 0

Sample Info : C-106 VP006-066.C226; 100 ml; 2X

Data File: /chem/hpdos1.i/18122301.b/18122305.D

Page 1

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Chloromethane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Methanol

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

11 Acetonitrile

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

18 Propanenitrile

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

19 Propanol

Date: 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

21 2-Butanone

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Butanenitrile

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

30 1-Butanol

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

31 Benzene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

33 Cyclohexane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 Heptane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 4-Methyl-2-Pentanone

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 Pyridine

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

43 1,1,2-Trichloroethane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

44 Toluene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

46 Octane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

48 Tetrachloroethylene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

51 Hexanenitrile

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

52 Ethylbenzene

100 2:38

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

53 p/m-Xylene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

55 Styrene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

56 1,1,2,2-Tetrachloroethane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

57 o-Xylene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

58 Nonane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

60 1-Ethyl-2-Methyl-Benzene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

61 1,3,5-Trimethylbenzene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

62 1,2,4-Trimethylbenzene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

63 Decane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

67 Undecane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

68 1,2,4-Trichlorobenzene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

69 Dodecane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057,C303; 200 ml; 2K

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

70 Hexachloro-1,3-butadiene

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

71 Tridecane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

72 Tetradecane

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO ₂	44
Carbon dioxide	124-38-9	WILEY138.1	115913	7	CO ₂	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO ₂	44

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrous Oxide	10024-97-2	nbs75k.1	62271	7	N2O	44
Nitrous Oxide	10024-97-2	nbs75k.1	62270	7	N2O	44
Nitrous Oxide	10024-97-2	nbs75k.1	39	7	N2O	44

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	86	C3H6	42

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	74	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.1	131	56	CH3NO2	61
Nitrous acid, methyl ester	624-91-9	WILEY138.1	116168	56	CH3NO2	61
Nitrous acid, methyl ester	624-91-9	WILEY138.1	116167	9	CH3NO2	61

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.1	62260	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	90	C3H6	42
Propene	115-07-1	nbs75k.1	62258	83	C3H6	42

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	WILEY138.1	115917	9	C2H4O	44
3-Butenoic acid, ethyl ester	1617-18-1	nbs75k.1	2877	23	C6H10O2	114
3-Butenoic acid, ethyl ester	1617-18-1	WILEY138.1	2950	23	C6H10O2	114

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	90	C4H8	56
2-Butene, (E)-	624-64-6	nbs75k.1	62301	80	C4H8	56

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.1

Sample Info: C-106 VP006-057.C303; 200 ml: 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62307	64	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	86	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	86	C4H8	56

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (E)-	624-64-6	nbs75k.1	62301	74	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	94	C5H10	70
2-Butene, 2-methyl-	513-35-9	nbs75k.1	228	80	C5H10	70
Cyclopropane, 1,1-dimethyl-	1630-94-0	nbs75k.1	62468	80	C5H10	70

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

2-Pentene, (E)-

646-04-8

nbs75k.1

233

90

C5H10

70

1-Butene, 2-methyl-

563-46-2

WILEY138.1

116339

94

C5H10

70

2-Pentene, (Z)-

627-20-3

nbs75k.1

62456

91

C5H10

70

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.1

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Spiropentane	157-40-4	nbs75k.1	62415	90	CEH8	68
1-Pentyne	627-19-0	nbs75k.1	62419	70	CEH8	68
1-Pentyne	627-19-0	nbs75k.1	190	58	CEH8	68

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene(Z)	627-20-3	nbs75k.1	114	9		70
1-Butanol, 3-methyl-	123-51-3	nbs75k.1	62954	38	CEH120	88
Oxirane, 2-(1,1-dimethylethyl)-3-methyl-	53897-30-6	WILEY138.1	3160	28	C7H14O	114

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 4-methyl-	691-37-2	nbs75k.1	599	62	C6H12	84
2-Butene, (E)-	624-64-6	nbs75k.1	62302	43	C4H8	56
2-Butene	107-01-7	nbs75k.1	62303	43	C4H8	56

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Silanol, trimethyl-	1066-40-6	WILEY138.1	117352	50	C3H10OSi	90
Silanol, trimethyl-, propanoate	16844-98-7	nbs75k.1	8762	56	C6H14O2Si	146
Butanoic acid, trimethylsilyl ester	16844-99-8	nbs75k.1	12325	56	C7H16O2Si	160

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.1	62464	80	CEH10	70
Cyclopropane, ethyl-	1191-96-4	nbs75k.1	227	72	CEH10	70
1-Pentene	109-67-1	nbs75k.1	230	64	CEH10	70

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2-methyl-	107-83-5	nbs75k.1	62863	87	C6H14	86
Pentane, 2-methyl-	107-83-5	WILEY138.1	117115	87	C6H14	86
Pentane, 2-methyl-	107-83-5	WILEY138.1	106	87	C6H14	86

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	WILEY138.1	116385	83	C4H8O	72
Butanal	123-72-8	nbs75k.1	62486	68	C4H8O	72
Butanal	123-72-8	WILEY138.1	116378	68	C4H8O	72

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 3-methyl-	96-14-0	nbs75k.l	62867	87	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.l	62868	86	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.l	734	86	C6H14	86

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62755	95	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	50	C6H12	84
2-Hexene	592-43-8	WILEY138.1	116888	50	C6H12	84
2-Hexene	592-43-8	nbs75k.1	62759	43	C6H12	84

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Pentadiene, 3-methyl-	1115-08-8	nbs75k.1	494	90	C6H10	82
Cyclopentene, 3-methyl-	1120-62-3	nbs75k.1	62679	86	C6H10	82
Cyclopentene, 3-methyl-	1120-62-3	nbs75k.1	62678	86	C6H10	82

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	nbs75k.1	62758	90	C6H12	84
2-Hexene, (Z)-	7688-21-3	WILEY138.1	116886	90	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	90	C6H12	84

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrous acid, butyl ester	544-16-1	WILEY138.1	118379	42	C4H9NO2	103
Isobutyl formate	0-00-0	nbs75k.1	1689	33	C5H10O2	102
Formic acid, 2-methylpropyl ester	542-55-2	nbs75k.1	63494	10	C5H10O2	102

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	598	90	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	72	C6H12	84
1-Hexene	592-41-6	nbs75k.1	62755	59	C6H12	84

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexene, 2-methyl-, (E)-	692-24-0	nbs75k.1	1320	93	C7H14	98
3-Hexene, 3-methyl-, (E)-	3899-36-3	nbs75k.1	1359	87	C7H14	98
3-Hexene, 2-methyl-, (Z)-	15840-60-5	nbs75k.1	1328	83	C7H14	98

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073**Rev. 0**

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile, 2-methylene-	1647-11-6	nbs75k.1	445	96	CSH7N	81
2-Pentenitrile	13284-42-9	WILEY138.1	116729	70	CSH7N	81
2-Pentenitrile	13284-42-9	nbs75k.1	447	62	CSH7N	81

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C8 Alkane (mw 114)

Hexane

2-Nonenal, (E)-

2-Nonenal, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
110-54-3	WILEY138.1	117111	49	C6H14	86
18829-56-6	nbs75k.1	66050	38	C9H16O	140
18829-56-6	WILEY138.1	122464	38	C9H16O	140

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	WILEY138.1	117780	95	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	94	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117782	94	C7H14	98

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	87	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	91	C7H14	98

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	1337	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene, (E)-	14686-13-6	WILEY138.1	898	96	C7H14	98

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	95	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, ethyl-	1640-89-7	nbs75k.1	63255	30	C7H14	98
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	46	C7H12	96
1,3-Pentadiene, (E)-	2004-70-8	nbs75k.1	188	46	C5H8	68

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butenal, 2-ethenyl-	20521-42-0	WILEY138.1	576	74	C6H8O	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	76	C6H8O	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	WILEY138.1	593	76	C6H8O	96

Date: 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	1367	72	C7H14	98
Cyclopentane, 1,2,3-trimethyl-, (1.alpha.	2613-69-6	nbs75k.1	2714	72	C8H16	112
Cyclopentane, 1,3-dimethyl-, trans-	1759-58-6	WILEY138.1	941	72	C7H14	98

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2667	64	C8H16	112
Cyclohexanecarboxaldehyde	2043-61-0	nbs75k.1	63982	58	C7H12O	112
1-Pentene, 3-ethyl-2-methyl-	19780-66-6	nbs75k.1	63999	58	C8H16	112

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	1141	96	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	96	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	63138	95	C7H12	96

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	1556	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117990	91	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63386	90	C6H12O	100

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	64	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	87	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	86	C8H16	112

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	90	C8H18	114

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal	66-25-1	nbs75k.1	63410	64	C6H12O	100
Hexanal	66-25-1	nbs75k.1	63409	64	C6H12O	100
Hexanal	66-25-1	nbs75k.1	63408	47	C6H12O	100

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	CEH16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	91	CEH16	112
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	87	CEH10	70

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptenal,(Z)	6728-31-0	nbs75k.1	226	46	CEH10	112
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	232	43	CEH10	70
1,4-Hexadiene, 2,5-dimethyl-	927-97-9	nbs75k.1	2390	43	CEH14	110

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	87	C8H16	112
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	87	C8H16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	87	C8H16	112

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	95	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	C8H16	112
2-Octene	111-67-1	WILEY138.1	119055	95	C8H16	112

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64033	87	C8H16	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	87	C8H16	112

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	87	C8H16	112
2-Octene	111-67-1	nbs75k.1	63998	90	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	93	C8H16	112

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	68	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	WILEY138.1	119328	62	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	58	C7H14O	114

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C8 Alkane (mw 114)

Cyclopropane, pentyl-

1-Heptene

Cyclopropane, 1-methyl-2-octyl-

CAS Number	Library	Entry	Quality	Formula	Weight
2511-91-3	nbs75k.1	2656	64	C8H16	112
592-76-7	nbs75k.1	63242	59	C7H14	98
37617-26-8	nbs75k.1	14744	59	C12H24	168

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C8 Alkane (mw 114)						
Cyclobutane, 1,2-diethyl-, trans-	19341-98-1	nbs75k.1	2701	50	C8H16	112
Cyclopropane, 1-ethyl-2-methyl-, cis-	19781-68-1	nbs75k.1	588	50	C6H12	84
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	598	47	C6H12	84

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C9 Alkane (mw 128)

Octane, 2-methyl-

Octane, 2-methyl-

Octane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
3221-61-2	nbs75k.1	65117	70	C9H20	128
3221-61-2	nbs75k.1	5142	70	C9H20	128
3221-61-2	WILEY138.1	6037	70	C9H20	128

Date: 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	nbs75k.1	5062	9	C8H16O	128
Pyrrolidine, 1-acetyl-	4030-18-6	nbs75k.1	2784	25	C6H11NO	113
Pyrrolidine, 1-acetyl-	4030-18-6	WILEY138.1	2804	25	C6H11NO	113

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.1

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	64173	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64172	80	C7H14O	114

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119304	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119301	90	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	64165	83	C7H14O	114

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ethanol, 2-butoxy-	111-76-2	WILEY138.1	119790	50	C6H14O2	118
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	52	C8H18O	130
n-Butyl ether	142-96-1	nbs75k.1	65307	42	C8H18O	130

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanol, (S)-	6033-23-4	nbs75k.1	3355	78	C7H16O	116
2-Heptanol	543-49-7	nbs75k.1	64345	64	C7H16O	116
2-Heptanol	543-49-7	nbs75k.1	64348	64	C7H16O	116

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 8 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS E00-301 THRU PAGE E00-673 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	nbs75k.1	4624	94	C ₉ H ₁₈	126
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	WILEY138.1	120623	94	C ₉ H ₁₈	126
1-Nonene	124-11-8	nbs75k.1	64956	72	C ₉ H ₁₈	126

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanenitrile, 3-methyl-	53783-89-4	nbs75k.1	2433	74	C7H13N	111
Hexanenitrile, 3-methyl-	53783-89-4	WILEY138.1	2361	74	C7H13N	111
Pentanenitrile, 4-methyl-	542-54-1	nbs75k.1	1175	37	C6H11N	97

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	83321-16-8	nbs75k.1	4173	46	C ₈ H ₁₂ O	124
2-Cyclopenten-1-one, 3,4,4-trimethyl-	30434-65-2	nbs75k.1	4178	43	C ₈ H ₁₂ O	124
2-Hexene, 3,4,4-trimethyl-	53941-19-8	nbs75k.1	4671	38	C ₉ H ₁₈	126

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		WILEY138.1	120813	53	C8H16O	128
1-Ethylcyclohexanol	1940-18-7	WILEY138.1	6017	53	C8H16O	128
1H-1,2,4-Triazole-3,5-diamine	1455-77-2	WILEY138.1	117824	53	C2H5N5	99

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)
1-Hexyn-3-ol
Furan, 2-methoxy-
4-Hydroxy-4-methylpentanone

CAS Number	Library	Entry	Quality	Formula	Weight
105-31-7	nbs75k.1	1263	72	C6H10O	98
25414-22-6	nbs75k.1	1208	59	C5H6O2	98
0-00-0	nbs75k.1	3236	59	C6H12O2	116

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		nbs75k.1	22401	64	C8H16O	128
1-HYDROXYCYCLOHEXANECARBOXYLIC ACID	1123-28-0	WILEY138.1	10615	56	C7H12O3	144
1-Hydroxycyclohexanecarboxylic acid	1123-28-0	nbs75k.1	8343	56	C7H12O3	144

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one, (E)-	18402-82-9	nbs75k.1	4533	40	C8H14O	126
Unknown C9 Alkene/Cycloalkane (mw 126)			0	0		0
2(5H)-FURANONE, 4,5,5-TRIMETHYL-	0-00-0	WILEY138.1	5202	50	C7H10O2	126

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

Heptane, 1-(1-butenyloxy)-, (Z)-

Heptane, 1-(1-butenyloxy)-, (E)-

Heptane, 1-(1-butenyloxy)-, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
56052-79-0	nbs75k.1	15309	59	C11H22O	170
56052-80-3	nbs75k.1	15313	59	C11H22O	170
56052-80-3	WILEY138.1	21618	59	C11H22O	170

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	WILEY138.1	118931	91	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	59	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63907	59	C7H13N	111

E00 309

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: BB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	5058	90	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65061	86	C8H16O	128
4-Octanone	589-63-9	WILEY138.1	120861	74	C8H16O	128

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057_C303; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octanone	111-13-7	nbs75k.1	65043	90	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	5038	90	C8H16O	128
2-Octanone	111-13-7	WILEY138.1	5937	90	C8H16O	128

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	19899-39-9	WILEY138.1	9527	53	C10H20	140
1-Hexene, 3,3,5-trimethyl-	13427-43-5	nbs75k.1	64967	49	C9H18	126
1-Hexene, 3,5,5-trimethyl-	4316-65-8	WILEY138.1	120620	49	C9H18	126

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkane (mw 128)						
Cyclopentanone, oxime	1192-28-5	nbs75k.1	63283	38	C5H9NO	99
Cyclohexanemethanol, 4-methyl-, trans-	3937-49-3	nbs75k.1	5117	23	C8H16O	128
Cyclohexane, (1-methylethyl)-	696-29-7	nbs75k.1	64966	17	C9H18	126

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdosl.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Hexanenitrile	628-73-9	nbs75k.1	63154	9	C6H11N	97
Propanoic acid, 3-cyano-, methyl ester	4107-62-4	nbs75k.1	2754	9	C6H7NO2	113
1,2,3,6-Tetrahydropyridine	694-05-3	nbs75k.1	62699	9	C5H9N	83

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

1-Octene, 3,7-dimethyl-
3-Octene, (E)-
3-Octene, (E)-

CAS Number

Library

Entry

Quality

Formula

Weight

4984-01-4

nbs75k.1

66070

83

C10H20

140

14919-01-8

nbs75k.1

64020

83

C8H16

112

14919-01-8

WILEY138.1

119058

83

C8H16

112

500 315

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65292	83	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121201	83	C ₈ H ₁₈ O	130

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	67323	87	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	15626	87	C11H24	156
Nonane, 2,6-dimethyl-	17302-28-2	nbs75k.1	11598	80	C11H24	156

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	7565	81	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	WILEY138.1	9503	81	C10H20	140
Cyclohexane, butyl-	1678-93-9	WILEY138.1	122508	81	C10H20	140

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
1-Octadecanol
1-Dodecanol, 2-methyl-, (S)-
Decane, 2,5,6-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
112-92-5	nbs75k.1	72028	43	C18H38O	270
57289-26-6	nbs75k.1	23010	43	C13H28O	200
62108-23-0	nbs75k.1	19019	43	C13H28	184

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	64	C8H15N	125
Octanenitrile	124-12-9	WILEY138.1	5025	64	C8H15N	125
2-Hexenoic acid, 3-hexenyl ester, (E,Z)-	53398-87-1	nbs75k.1	21872	47	C12H20O2	196

E00 320

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 5-methyl-	13151-35-4	nbs75k.1	11605	53	C11H24	156
Decane, 5-methyl-	13151-35-4	WILEY138.1	15627	53	C11H24	156
1,1-DIPENTYL-2-13C-ETHYLENE	33717-94-1	WILEY138.1	20727	50	C1113CH24	168

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

Unknown C11 Alkane (mw 156)

1,2-Cyclohexanedione

Decane, 4-methyl-

Triethylenediamine

CAS Number	Library	Entry	Quality	Formula	Weight
765-87-7	nbs75k.l	63942	43	C6H8O2	112
2847-72-5	nbs75k.l	67324	30	C11H24	156
280-57-9	nbs75k.l	2535	27	C6H12N2	112

E00 322

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.l	67322	80	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.l	67320	78	C11H24	156
Hexacosane	630-01-3	nbs75k.l	73942	64	C26H54	366

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Ethyl-2,2,6-trimethylcyclohexane	0-00-0	nbs75k.1	11030	94	C11H22	154
Cyclohexane, 1,1-dimethyl-2-propyl-	81983-71-3	nbs75k.1	11086	91	C11H22	154
5-Undecene, (E)-	764-97-6	nbs75k.1	67184	58	C11H22	154

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	81	C11H24	156
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	62	C11H24	156
Dodecane, 3-methyl-	17312-57-1	nbs75k.1	19011	59	C13H28	184

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122343	98	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65956	96	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	8835	96	C10H18	138

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Cyclohexanol, 1-ethynyl-	78-27-3	nbs75k.1	4199	60	C8H12O	124
Cyclohexanol, 1-ethynyl-	78-27-3	nbs75k.1	64798	53	C8H12O	124
2-Ethyl-3-methylcyclopentene	0-00-0	nbs75k.1	2317	50	C8H14	110

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
2(1H)-Pyrimidinone, 4-amino-	71-30-7	nbs75k.1	63896	43	C4H5N3O	111
2(1H)-Pyrimidinone, 4-amino-	71-30-7	nbs75k.1	2403	38	C4H5N3O	111
3-Buten-2-one, 4-(1-aziridinyl)-	18277-57-1	nbs75k.1	2425	38	C6H9NO	111

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
Oxazole, 2,4-dimethyl-
Oxazole, 2,4-dimethyl-
4(3H)-Pyrimidinone

CAS Number	Library	Entry	Quality	Formula	Weight
7208-05-1	nbs75k.1	1168	46	C5H7NO	97
7208-05-1	WILEY138.1	673	46	C5H7NO	97
51953-17-4	nbs75k.1	1060	38	C4H4N2O	96

E00 329

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	89	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126018	89	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126019	64	C12H26	170

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Undecane, 5-methyl-

Ether, hexyl pentyl

Tetradecane

CAS Number	Library	Entry	Quality	Formula	Weight
1632-70-8	nbs75k.1	68258	68	C12H26	170
32357-83-8	nbs75k.1	15858	59	C11H24O	172
629-59-4	nbs75k.1	69657	59	C14H30	198

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C12 Alkene/Cycloalkane (mw 168)						
Cyclohexanone, 2-methyl-5-(1-methylethen	7764-50-3	nbs75k.1	10308	49	C10H16O	152
Cyclohexanone, 2-methyl-5-(1-methylethen	5948-04-9	nbs75k.1	66972	45	C10H16O	152
Cyclohexanone, 2-methyl-5-(1-methylethen	5948-04-9	nbs75k.1	66973	45	C10H16O	152

neo 332

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C12 Alkane (mw 170)						
Undecane, 4-methyl-	2980-69-0	nbs75k.1	15354	62	C12H26	170
Nonane, 5-(1-methylpropyl)-	62185-54-0	nbs75k.1	19016	58	C13H28	184
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	70270	58	C15H32	212

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown Alkyl Decahydronaphthalene
Naphthalene, decahydro-2-methyl-
Naphthalene, decahydro-2-methyl-
2-METHYLDECALIN (PROBABLY TRANS)

CAS Number	Library	Entry	Quality	Formula	Weight
2958-76-1	nbs75k.1	67009	91	C11H20	152
2958-76-1	WILEY138.1	124046	91	C11H20	152
2958-76-1	WILEY138.1	13881	91	C11H20	152

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.l	11044	83	C11H22	154
Cyclohexane, octyl-	1795-15-9	nbs75k.l	21971	72	C14H28	196
Cyclohexane, 1,1'-(1,4-butanediyl)bis-	6165-44-2	nbs75k.l	70645	72	C16H30	222

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	95	C11H20	152
TRANS-ANTI-1-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13878	95	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	76	C11H20	152

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	94	C12H26	170
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.1	15361	78	C12H26	170
Decane, 3,8-dimethyl-	17312-55-9	nbs75k.1	68255	70	C12H26	170

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-1,5-dimethyl-	1008-80-6	nbs75k.1	14168	46	C12H22	166
Cyclohexanone, 5-methyl-2-(1-methylethyl)	15932-80-6	nbs75k.1	10356	60	C10H16O	152
Pulegone	69-82-7	nbs75k.1	66994	53	C10H16O	152

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69033	97	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	27745	97	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	96	C13H28	184

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown Alkyl Decahydronaphthalene

Acetamide, N-methyl-N-[4-[4-methoxy-1-he

2-Hexyl-1-decanol

Cetylpyridinium Chloride

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	nbs75k.1	31490	64	C13H22N2O2	238
0-00-0	nbs75k.1	32422	52	C16H34O	242
6004-24-6	nbs75k.1	50020	49	C21H40ClNO	357

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown Alkyl Decahydronaphthalene

2,7-Octadiene, 4-methyl-

cis,trans-1,10-Dimethylspiro[4,5]decane

Cyclohexene, 1-pentyl-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	nbs75k.1	4209	46	C9H16	124
0-00-0	nbs75k.1	14138	35	C12H22	166
15232-85-6	nbs75k.1	10428	25	C11H20	152

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.l	18489	68	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.l	68867	64	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.l	68868	55	C13H26	182

E00 342

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C13 Alkene/Cycloalkane (mw 182)						
Tridecane, 7-propyl-	55045-09-5	nbs75k.1	29265	53	C16H34	226
Decane, 2,3,6-trimethyl-	62238-12-4	nbs75k.1	19047	49	C13H28	184
Dodecane, 2-methyl-	1560-97-0	nbs75k.1	19039	47	C13H28	184

E00 343

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057,C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane,7-methyl	26730-14-3	nbs75k.1	11603	83		198
Nonane, 3-methyl-	5911-04-6	WILEY138.1	10243	83	C10H22	142
Octane, 2,3,7-trimethyl-	62016-34-6	WILEY138.1	15638	83	C11H24	156

Date : 06-NOV-98 03:23

Client ID: 200 ml

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, 1,2-dibutyl-	62199-52-4	nbs75k.1	18498	93	C13H26	182
Cyclopentane, 1-pentyl-2-propyl-	62199-51-3	nbs75k.1	18495	68	C13H26	182
Cyclopentane, butyl-	2040-95-1	nbs75k.1	4645	58	C9H18	126

Date : 06-NOV-98 03:23

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 1,2,3-trimethyl-	1678-97-3	nbs75k.1	64939	74	C ₉ H ₁₈	126
6-Tridecene, 7-methyl-	24949-42-6	nbs75k.1	21974	64	C ₁₄ H ₂₈	196
Cyclopentane, propyl-	2040-96-2	nbs75k.1	2694	58	C ₈ H ₁₆	112

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-057.C303; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122305.D
 Injection Date : 06-NOV-98 03:23 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106 VP006-057.C303
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.626	4.626	24131	0.34	0.0034	0.62	J
Chloromethane	23	50.49	5.003	5.003	8636	0.13	0.0013	0.59	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.218				0.0065	0.85	U
Methanol	23	32.04	5.358	5.347	1259083	26.07	0.2607	182.26	
Vinyl Chloride	23	62.50	5.498				0.0008	0.29	U
Butane	23	58.12	5.907	5.918	7488207	462.94	4.6294	1784.23	E
Bromomethane	23	94.94	6.392				0.0026	0.61	U
Chloroethane	23	64.51	6.736				0.0027	0.94	U
Ethanol	23	46.01	6.930	6.909	3228069	68.23	0.6823	332.18	
Acetonitrile	23	41.05	7.393	7.393	324048	4.48	0.0448	24.43	
Acetone	23	58.08	7.878	7.867	5460389	37.53	0.3753	144.73	
Trichlorofluoromethane	23	137.37	8.254	8.265	143863	2.62	0.0262	4.27	
Pentane	23	72.15	8.922	8.933	4789867	43.49	0.4349	135.03	
1,1-Dichloroethene	23	96.94	9.471				0.0019	0.44	U
Methylene Chloride	23	84.93	9.654	9.665	11450	0.37	0.0037	0.98	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.149				0.0020	0.24	U
Propanenitrile	23	55.08	10.903	10.871	646567	13.74	0.1374	55.86	
Propanol	23	60.10	10.881	10.881	369247	6.61	0.0661	24.65	
1,1-Dichloroethane	23	98.96	11.775				0.0010	0.23	U
2-Butanone	23	72.11	12.421	12.410	440006	14.18	0.1418	44.04	
cis-1,2-Dichloroethene	23	96.94	13.293				0.0017	0.39	U
Hexane	23	86.18	13.659	13.670	3070161	52.93	0.5293	137.57	
Chloroform	23	119.38	13.831				0.0013	0.24	U
Tetrahydrofuran	23	72.11	14.563	14.585	71084	2.87	0.0287	8.92	
1,2-Dichloroethane	34	98.96	15.231				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.737				0.0016	0.27	U
Butanenitrile	34	69.11	15.726	15.705	2188419	17.13	0.1713	55.51	
1-Butanol	34	74.12	16.211	16.211	1892271	82.20	0.8220	248.42	
Benzene	34	78.11	16.620	16.631	306939	1.89	0.0189	5.43	
Carbon Tetrachloride	34	153.82	16.911				0.0017	0.25	U
Cyclohexane	34	84.16	17.180	17.180	145123	2.64	0.0264	7.04	
1,2-Dichloropropane	34	112.99	18.192				0.0015	0.30	U
Trichloroethene	34	131.39	18.633				0.0012	0.20	U

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Page 1

E00 347

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.128	19.161	5411915	113.39	1.1339	253.48	
cis-1,3-Dichloropropene	34	110.97	20.324				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.334	20.324	320321	5.77	0.0577	12.91	
Pyridine	34	79.10	20.517	20.560	223515	6.15	0.0615	17.42	J
trans-1,3-Dichloropropene	34	110.97	21.389				0.0009	0.18	U
Pentanenitrile	34	83.13	21.411	21.400	1211175	26.85	0.2685	72.35	
1,1,2-Trichloroethane	34	133.40	21.820	21.863	65754	1.97	0.0197	3.30	
Toluene	49	92.14	22.466	22.477	1402859	19.66	0.1966	47.78	
1,2-Dibromoethane	49	187.86	23.995				0.0026	0.31	U
Octane	49	114.23	24.544	24.555	1007460	29.87	0.2987	58.58	
Bromoform	49	175.00	28.194				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.029	25.039	7229	0.29	0.0029	0.39	J
Chlorobenzene	49	112.56	26.633				0.0013	0.26	U
Hexanenitrile	49	97.13	26.891	26.902	858324	20.00	0.2000	46.11	
Ethylbenzene	49	106.17	27.505	27.516	68941	0.54	0.0054	1.14	J
p/m-Xylene	49	106.17	27.936	27.925	38765	0.86	0.0086	1.81	J
Cyclohexanone	49	98.14	28.355				0.0029	0.66	U
Styrene	59	104.15	28.851	28.894	5262	0.09	0.0009	0.20	J
1,1,2,2-Tetrachloroethane	59	167.85	29.088	28.678	21684	0.52	0.0052	0.69	J
o-Xylene	59	106.17	29.152	29.163	17528	0.39	0.0039	0.82	J
Nonane	59	128.26	29.604	29.615	1933445	23.61	0.2361	41.23	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.554	32.554	17295	0.16	0.0016	0.30	J
1,3,5-Trimethylbenzene	59	120.19	32.770	32.780	10440	0.11	0.0011	0.21	J
1,2,4-Trimethylbenzene	59	120.19	34.040	34.051	23095	0.25	0.0025	0.47	J
Decane	59	142.28	34.288	34.288	3864968	75.21	0.7521	118.40	
1,3-Dichlorobenzene	59	147.00	34.546				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.751				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.881				0.0009	0.14	U
Undecane	59	156.31	38.605	38.616	2140298	198.58	1.9858	284.58	
1,2,4-Trichlorobenzene	59	181.45	42.115	42.115	16702	0.84	0.0084	1.03	J
Dodecane	59	170.34	42.643	42.643	2934652	256.18	2.5618	336.88	E
Hexachloro-1,3-butadiene	59	260.76	43.945	43.945	11430	0.92	0.0092	0.79	J
Tridecane	59	184.36	46.411	46.389	6258984	709.36	7.0936	861.89	E
Tetradecane	59	198.34	50.018	49.931	201700	219.31	2.1931	247.68	E
Bromochloromethane (IS)	23	129.38	13.605	13.605	3220698	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.180	17.180	11136511	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.525	26.536	8795007	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.336	30.358	6067420	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Carbon dioxide	23	44	124-38-9	3.895	4170167	17.88	0.1788	91.03	NJ
Nitrous Oxide	23	44	10024-97-2	3.964	4700807	20.16	0.2016	102.61	NJ
Propene	23	42	115-07-1	4.465	14588045	62.55	0.6255	333.60	NJ
Propane	23	44	74-98-6	4.518	9918986	42.53	0.4253	216.52	NJ
Methyl nitrite	23	61	624-91-9	4.809	1413102	6.06	0.0606	22.25	NJ
Cyclopropane	23	42	75-19-4	5.057	1135064	4.87	0.0487	25.96	NJ
Acetaldehyde	23	44	75-07-0	5.283	1632079	7.00	0.0700	35.63	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	5.724	22553937	96.71	0.9671	386.82	NJ
1-Butene	23	56	106-98-9	6.133	2055589	8.81	0.0881	35.26	NJ
2-Butene, (E)-	23	56	624-64-6	6.467	4529410	19.42	0.1942	77.68	NJ
1-Butene, 2-methyl-	23	70	563-46-2	8.739	2767879	11.87	0.1187	37.98	NJ
2-Pentene, (E)-	23	70	646-04-8	9.202	2754704	11.81	0.1181	37.80	NJ
Spiropentane	23	68	157-40-4	9.428	487235	2.09	0.0209	6.88	NJ
2-Pentene (Z)	23	70	627-20-3	9.579	3182139	13.64	0.1364	43.66	NJ
1-Pentene, 4-methyl-	23	84	691-37-2	11.441	1359329	5.83	0.0583	15.54	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.538	1662374	7.13	0.0713	17.74	NJ
1-Pentene	23	70	109-67-1	11.936	687432	2.95	0.0295	9.43	NJ
Pentane, 2-methyl-	23	86	107-83-5	12.076	2708900	11.62	0.1162	30.25	NJ
Butanal	23	72	123-72-8	12.216	2357500	10.11	0.1011	31.45	NJ
Pentane, 3-methyl-	23	86	96-14-0	12.819	743338	3.19	0.0319	8.30	NJ
1-Hexene	23	84	592-41-6	13.078	27842476	119.38	1.1938	318.35	NJ
2-Hexene, (E)-	23	84	4050-45-7	13.874	3322859	14.25	0.1425	37.99	NJ
1,4-Pentadiene, 3-methyl-	23	82	1115-08-8	14.316	1273372	5.46	0.0546	14.91	NJ
2-Hexene	23	84	592-43-8	14.413	2423083	10.39	0.1039	27.71	NJ
Nitrous acid, butyl ester	23	103	544-16-1	14.520	3517757	15.08	0.1508	32.80	NJ
1-Pentene, 2-methyl-	23	84	763-29-1	14.736	1393498	5.97	0.0597	15.93	NJ
3-Hexene, 2-methyl-, (E)-	34	98	692-24-0	16.878	799942	3.03	0.0303	6.92	NJ
Butanenitrile, 2-methylene-	34	81	1647-11-6	17.492	3483428	13.18	0.1318	36.45	NJ
Unknown C8 Alkane (mw 114)	34	0		17.847	3318417	12.56	0.1256		J
1-Heptene	34	98	592-76-7	18.535	14999435	56.76	0.5676	129.74	NJ
3-Heptene	34	98	592-78-9	19.161	86569201	327.60	3.2760	748.79	NJ
2-Heptene	34	98	592-77-8	19.376	69127009	261.59	2.6159	597.92	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.882	56067967	212.17	2.1217	484.97	NJ
Cyclopentane, ethyl-	34	98	1640-89-7	21.217	1148253	4.35	0.0435	9.93	NJ
2-Butenal, 2-ethenyl-	34	96	20521-42-0	21.659	23394718	88.53	0.8853	206.57	NJ
Cyclopentane, 1,2-dimethyl-, cis-	34	98	1192-18-3	21.852	2366939	8.96	0.0896	20.47	NJ
2-HEXENE, 3-ETHYL-	49	112	0-00-0	22.165	2452733	10.39	0.1039	20.77	NJ
2-Heptyne	49	96	1119-65-9	22.789	24703599	104.61	1.0461	244.10	NJ
2-Hexanone	49	100	591-78-6	22.886	5598842	23.71	0.2371	53.11	NJ
2-Octene, (E)-	49	112	13389-42-9	23.015	9873635	41.81	0.4181	83.63	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.220	43585313	184.57	1.8457	362.67	NJ
Hexanal	49	100	66-25-1	23.414	1091573	4.62	0.0462	10.35	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.887	49700517	210.47	2.1047	420.94	NJ
4-Heptenal, (Z)	49	112	6728-31-0	24.243	3949749	16.73	0.1673	33.45	NJ
3-Heptene, 3-methyl-	49	112	7300-03-0	24.383	13042916	55.23	0.5523	110.47	NJ
2-Octene	49	112	111-67-1	24.684	5686691	24.08	0.2408	48.16	NJ
2-HEPTENE, 3-METHYL-	49	112	0-00-0	24.953	10837535	45.89	0.4589	91.79	NJ
2-Octene, (Z)-	49	112	7642-04-8	25.212	5821228	24.65	0.2465	49.30	NJ
3-Hexanone, 5-methyl-	49	114	623-56-3	25.524	3103569	13.14	0.1314	25.82	NJ
Unknown C8 Alkane (mw 114)	49	0	25.728	747620	3.17	0.0317			J
Unknown C8 Alkane (mw 114)	49	0	25.944	1041636	4.41	0.0441			J
Unknown C9 Alkane (mw 128)	49	0	26.159	1400948	5.93	0.0593			J
Furan, tetrahydro-2,2,5,5-tetramethyl-	49	128	15045-43-9	27.699	4456121	18.87	0.1887	33.02	NJ
3-Heptanone	49	114	106-35-4	28.043	103617580	438.80	4.3880	862.20	NJ
2-Heptanone	49	114	110-43-0	28.162	38513890	163.10	1.6310	320.47	NJ
Ethanol, 2-butoxy-	49	118	111-76-2	28.366	12788462	54.16	0.5416	102.81	NJ

HNF-4073
REV. 0

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E00 350

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2-Heptanol, (S)-	59	116	6033-23-4	28.797	3170261	14.88	0.1488	28.73	NJ
Cyclopropane, 1-methyl-2-pentyl-	59	126	41977-37-1	29.066	4381901	20.56	0.2056	36.55	NJ
Hexanenitrile, 3-methyl-	59	111	53783-89-4	29.227	1978803	9.29	0.0929	18.74	NJ
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	59	124	83321-16-8	29.421	929915	4.36	0.0436	7.88	NJ
1,3-Diethyl-1,4-epoxybutane	59	128		30.907	22659047	106.32	1.0632	186.07	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		31.025	29571816	138.76	1.3876		J
1,2-Diethyl-1,4-epoxybutane	59	128		31.112	24233415	113.71	1.1371	198.99	NJ
3-Octen-2-one, (E)-	59	126	18402-82-9	31.402	30359181	142.46	1.4246	253.25	J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.564	6155596	28.88	0.2888		J
Heptanenitrile	59	111	629-08-3	31.941	7982599	37.46	0.3746	75.59	NJ
4-Octanone	59	128	589-63-9	32.285	4747134	22.28	0.2228	38.98	NJ
2-Octanone	59	128	111-13-7	33.007	3579680	16.80	0.1680	29.39	NJ
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	59	140	19899-39-9	33.136	2948584	13.84	0.1384	22.14	NJ
Unknown C9 Alkane (mw 128)	59	0		33.437	1300217	6.10	0.0610		J
Unknown hydrocarbon	59	0		33.674	19467500	91.35	0.9135		J
1-Octene, 3,7-dimethyl-	59	140	4984-01-4	33.792	3606856	16.92	0.1692	27.08	NJ
1-Hexanol, 2-ethyl-	59	130	104-76-7	34.912	26079465	122.37	1.2237	210.86	NJ
Decane, 4-methyl-	59	156	2847-72-5	35.418	7363815	34.55	0.3455	49.62	NJ
Cyclohexane, (2-methylpropyl)-	59	140	1678-98-4	36.236	5461785	25.63	0.2563	41.01	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		36.527	2081150	9.77	0.0977		J
Octanenitrile	59	125	124-12-9	36.624	3134533	14.71	0.1471	26.36	NJ
Decane, 5-methyl-	59	156	13151-35-4	36.839	1918137	9.00	0.0900	12.92	NJ
Unknown C11 Alkane (mw 156)	59	0		37.022	1743305	8.18	0.0818		J
Decane, 2-methyl-	59	156	6975-98-0	37.152	1194414	5.60	0.0560	8.05	NJ
1-Ethyl-2,2,6-trimethylcyclohexane	59	154	0-00-0	37.259	1704313	8.00	0.0800	11.63	NJ
Decane, 3-methyl-	59	156	13151-34-3	37.464	1602661	7.52	0.0752	10.80	NJ
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.755	3478001	16.32	0.1632	26.49	NJ
Unknown hydrocarbon	59	0		38.002	1126847	5.29	0.0529		J
Unknown hydrocarbon	59	0		38.153	4469669	20.97	0.2097		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		39.111	3630751	17.04	0.1704		J
Undecane, 5-methyl-	59	170	1632-70-8	39.445	2299463	10.79	0.1079	14.22	NJ
Unknown C12 Alkane (mw 170)	59	0		39.445	2299463	10.79	0.1079		J
Unknown C12 Alkene/Cycloalkane (mw 168)	59	0		39.725	1466393	6.88	0.0688		J
Unknown C12 Alkane (mw 170)	59	0		39.886	1322396	6.21	0.0621		J
Unknown Alkyl Decahydronaphthalene	59	0		40.177	2579436	12.10	0.1210		J
Cyclohexane, pentyl-	59	154	4292-92-6	40.618	1512594	7.10	0.0710	10.32	NJ
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.909	3214262	15.08	0.1508	22.23	NJ
Undecane, 2-methyl-	59	170	7045-71-8	41.264	1686486	7.91	0.0791	10.43	NJ
Naphthalene, decahydro-1,5-dimethyl-	59	166	1008-80-6	43.041	823004	3.86	0.0386	5.21	NJ
Undecane, 2,6-dimethyl-	59	184	17301-23-4	43.267	5473193	25.68	0.2568	31.27	NJ
Unknown Alkyl Decahydronaphthalene	59	0		43.568	847172	3.98	0.0398		J
Unknown Alkyl Decahydronaphthalene	59	0		44.258	935882	4.39	0.0439		J
Cyclohexane, 2-butyl-1,1,3-trimethyl-	59	182	54676-39-0	44.591	1247626	5.85	0.0585	7.21	NJ
Unknown C13 Alkene/Cycloalkane (mw 182)	59	0		45.108	712794	3.34	0.0334		J
Tridecane, 7-methyl	59	198	26730-14-3	45.528	4485180	21.05	0.2105	23.81	J
Cyclopentane, 1,2-dibutyl-	59	182	62199-52-4	45.937	1043936	4.90	0.0490	6.03	NJ
Cyclohexane, 1,2,3-trimethyl-	59	126	1678-97-3	46.723	701917	3.29	0.0329	5.86	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	27986851

E00 351

Difluorobenzene (IS)	34	25632728
D5-Chlorobenzene (IS)	49	26211471
1-Bromo-4-Fluorobenzene (IS)	59	38360500

HNF-4073
Rev. 0

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

01/21/99 14:26

18122305.D

Page 4

E00 352

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122305.D

HNF-4073
Rev. 0

Sample Info : C-106 VP006-057.C303; 200 ml; 2X

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

2 Chloromethane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

4 Methanol

E00 358

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

7 Butane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Ethanol

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Acetonitrile

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

E00 362

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

16 Methylene Chloride

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanenitrile

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

EO 370

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column: phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

29 Butanenitrile

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

30 1-Butanol

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

33 Cyclohexane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 Heptane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

39 4-Methyl-2-Pentanone

18122306.D

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

40 Pyridine

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

43 1,1,2-Trichloroethane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Toluene

E00 382

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

46 Octane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

48 Tetrachloroethylene

HNF-4073
REV. 0

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E00 385

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

50 Chlorobenzene

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

51 Hexanenitrile

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

52 Ethylbenzene

E00 388

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

53 p/n-Xylene

E00 380

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

54 Cyclohexanone

E00 350

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

56 1,1,2,2-Tetrachloroethane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

57 o-Xylene

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

58 Nonane

000 393

Date: 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

60 1-Ethyl-2-Methyl-Benzene

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

61 1,3,5-Trimethylbenzene

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

62 1,2,4-Trimethylbenzene

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

63 Decane

E00 397

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

67 Undecane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

68 1,2,4-Trichlorobenzene

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

69 Dodecane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

71 Tridecane

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

72 Tetradecane

EOO 403

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	WILEY138.1	115912	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	34	5	CO2	44

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrous Oxide	10024-97-2	nbs75k.1	62270	5	N2O	44
Nitrous Oxide	10024-97-2	nbs75k.1	62271	5	N2O	44
Nitrogen oxide (N2O)	10024-97-2	WILEY138.1	115933	5	N2O	44

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	78	C3H6	42

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	64	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.l	131	56	CH3NO2	61
Monoethanolamine	141-43-5	nbs75k.l	62369	7	C2H7NO	61
Monoethanolamine	141-43-5	nbs75k.l	133	4	C2H7NO	61

EOD 408

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.1	62260	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	90	C3H6	42
Propene	115-07-1	nbs75k.1	62258	83	C3H6	42

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdcsl.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	62264	7	C2H4O	44
3-Butenoic acid, ethyl ester	1617-18-1	nbs75k.1	2877	28	C6H10O2	114
Isobutane	75-28-5	nbs75k.1	62334	9	C4H10	58

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62304	72	C4H8	56

ECO 411

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdcsl.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62307	86	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	86	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	86	C4H8	56

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (E)-	624-64-6	nbs75k.1	62301	74	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	87	C4H8	56

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C5 Alkane (mw 72)

Butane, 2-nitro-

3-Buten-1-ol

Propane, 2,2-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
600-24-8	WILEY138.1	1503	25	C4H9NO2	103
627-27-0	nbs75k.1	62484	27	C4H8O	72
463-82-1	WILEY138.1	116462	23	C5H12	72

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	91	CSH10	70
Cyclopropane, 1,1-dimethyl-	1630-94-0	nbs75k.1	235	91	CSH10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	62467	86	CSH10	70

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (E)-	646-04-8	nbs75k.1	233	90	CEH10	70
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	94	CEH10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	91	CEH10	70

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (Z)-	627-20-3	nbs75k.1	62456	30	C5H10	70
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	43	C5H10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	225	43	C5H10	70

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Silanol, trimethyl-
SILANOL, TERT-BUTYLDIMETHYL-
Silanol, trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
1066-40-6	nbs75k.1	907	64	C ₃ H ₁₀ OSi	90
0-00-0	WILEY138.1	6898	72	C ₆ H ₁₆ OSi	132
1066-40-6	WILEY138.1	117352	64	C ₃ H ₁₀ OSi	90

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.1	62464	72	C ₅ H ₁₀	70
Cyclobutane, methyl-	598-61-8	nbs75k.1	229	72	C ₅ H ₁₀	70
Cyclopentane	287-92-3	nbs75k.1	234	72	C ₅ H ₁₀	70

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2-methyl-	107-83-5	nbs75k.1	733	90	C6H14	86
Pentane, 2-methyl-	107-83-5	WILEY138.1	106	87	C6H14	86
Pentane, 2-methyl-	107-83-5	nbs75k.1	62865	86	C6H14	86

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	WILEY138.1	116385	80	C4H8O	72
Propanal, 2-methyl-	78-84-2	nbs75k.1	62512	50	C4H8O	72
Butanal	123-72-8	WILEY138.1	116378	50	C4H8O	72

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 3-methyl-	96-14-0	nbs75k.1	62868	90	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.1	734	90	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.1	62867	90	C6H14	86

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62755	95	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84

EOO 423

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Hexadiene, (Z)-	7318-67-4	nbs75k.l	486	93	C6H10	82
2,4-Hexadiene, (E,E)-	5194-51-4	nbs75k.l	467	93	C6H10	82
trans-1,4-Hexadiene	7319-00-8	nbs75k.l	498	87	C6H10	82

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	50	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	50	C6H12	84
2-Hexene, (E)-	4050-45-7	WILEY138.1	116890	50	C6H12	84

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Pentadiene, 3-methyl-	1115-08-8	nbs75k.1	494	91	C6H10	82
Cyclopentene, 1-methyl-	693-89-0	nbs75k.1	62682	86	C6H10	82
Cyclopentene, 1-methyl-	693-89-0	WILEY138.1	116781	86	C6H10	82

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	WILEY138.1	116887	91	C6H12	84
3-Hexene, (Z)-	7642-09-3	nbs75k.1	607	83	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	90	C6H12	84

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	598	83	C6H12	84
1-Pentene, 2-methyl-	763-29-1	WILEY138.1	116894	83	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	64	C6H12	84

EOC 428

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, methyl-	96-37-7	nbs75k.1	594	87	C6H12	84
Cyclopentane, methyl-	96-37-7	nbs75k.1	62763	78	C6H12	84
Cyclohexane	110-82-7	nbs75k.1	62779	64	C6H12	84

E00 429

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	803	72	C4H8O2	88
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	62903	56	C4H8O2	88
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	62902	56	C4H8O2	88

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexene, 2-methyl-, (E)-	692-24-0	nbs75k.1	1320	90	C7H14	98
3-Hexene, 2-methyl-, (Z)-	15840-60-5	nbs75k.1	1328	93	C7H14	98
2-Hexene, 2-methyl-	2738-19-4	nbs75k.1	63229	90	C7H14	98

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Unknown C7 Alkane (mw 100)

Pentane, 2,4-dimethyl-

Pentane, 2,4-dimethyl-

Acetic acid, octyl ester

CAS Number	Library	Entry	Quality	Formula	Weight
108-08-7	nbs75k.1	63424	38	C7H16	100
108-08-7	WILEY138.1	1239	38	C7H16	100
112-14-1	nbs75k.1	68339	36	C10H20O2	172

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile, 2-methylene-	1647-11-6	nbs75k.1	445	94	C5H7N	81
2-Pentenitrile	13284-42-9	WILEY138.1	116729	70	C5H7N	81
2-Pentenitrile	13284-42-9	nbs75k.1	447	62	C5H7N	81

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	72	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	78	C7H14	98
Cyclohexane, 1-methyl-2-propyl-	4291-79-6	nbs75k.1	66074	72	C10H20	140

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C9 Alkane (mw 128)

1-Butanol, 2-methyl-

Oxirane, (3-methylbutyl)-

Oxirane, (3-methylbutyl)-

CAS Number	Library	Entry	Quality	Formula	Weight
137-32-6	WILEY138.1	117274	50	C5H12O	88
53229-41-7	nbs75k.1	3027	47	C7H14O	114
53229-41-7	WILEY138.1	3154	47	C7H14O	114

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdosl.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	WILEY138.1	117780	95	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	94	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117782	94	C7H14	98

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	93	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	91	C7H14	98

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	1337	93	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	93	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	93	C7H14	98

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	95	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, ethyl-	1640-89-7	nbs75k.1	1112	50		98
3,4-Heptadiene	2454-31-1	WILEY138.1	615	50	C7H12	96
1,3-Pentadiene	504-60-9	nbs75k.1	178	49	C5H8	68

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butenal, 2-ethenyl-	20521-42-0	nbs75k.1	1092	74	C6H8O	96
2-Butenal, 2-ethenyl-	20521-42-0	WILEY138.1	576	74	C6H8O	96
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	72	C7H12	96

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	63274	72	C7H14	98
Cyclopentane, 1,2,3-trimethyl-, (1.alpha	2613-69-6	WILEY138.1	119104	78	C8H16	112
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	1367	72	C7H14	98

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, 3-ethyl		nbs75k.1	63958	59		112
Cyclohexanone, 4-methyl-	589-92-4	WILEY138.1	119034	59	C7H12O	112
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	50	C8H16	112

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	97	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	96	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	96	C7H12	96

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	1556	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117990	91	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63386	90	C6H12O	100

Date : 06-NOV-98 04:23

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13399-42-9	WILEY138.1	2641	59	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119059	80	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	74	C8H16	112

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	91	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119371	91	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	90	C8H18	114

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal	66-25-1	nbs75k.1	63409	64	C6H12O	100
Hexanal	66-25-1	nbs75k.1	63408	47	C6H12O	100
Cyclobutanol, 2-ethyl-	35301-43-0	nbs75k.1	1521	40	C6H12O	100

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	C ₈ H ₁₆	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	91	C ₈ H ₁₆	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.	4850-28-6	nbs75k.1	2684	90	C ₈ H ₁₆	112

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptenal, (Z)	6728-31-0	nbs75k.1	62462	43		112
Unknown C8 Alkene/Cycloalkane (mw 112)			0	0		0
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	43	C ₈ H ₁₆	112

E00 450

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	87	C8H16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	87	C8H16	112
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	86	C8H16	112

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	WILEY138.1	119056	91	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	C8H16	112
2-Octene, (E)-	13389-42-9	WILEY138.1	2641	91	C8H16	112

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C ₈ H ₁₆	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64033	87	C ₈ H ₁₆	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	87	C ₈ H ₁₆	112

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	87	C8H16	112
2-Octene	111-67-1	WILEY138.1	119054	87	C8H16	112
3-Octene, (E)-	14919-01-8	nbs75k.1	64020	90	C8H16	112

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	68	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	58	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	WILEY138.1	119328	58	C7H14O	114

E00 455

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdcsl.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown CB Alkane (mw 114)

CYCLOBUTANE, BUTYL-

1-Hexene

Cyclobutane, 1,2-diethyl-, trans-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2697	80	C8H16	112
592-41-6	WILEY138.1	116882	64	C8H12	84
19341-98-1	WILEY138.1	2699	59	C8H16	112

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C9 Alkane (mw 128)

5-Decanone, 2-methyl-

5-Decanone, 2-methyl-

Decane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
54410-89-8	nbs75k.1	15318	53	C11H22O	170
54410-89-8	WILEY138.1	21606	53	C11H22O	170
6975-98-0	nbs75k.1	67320	43	C11H24	156

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	nbs75k.l	5062	33		128
Cyclohexanone, oxime	100-64-1	nbs75k.l	2772	50	C6H11NO	113
Pyrrolidine, 1-acetyl-	4030-18-6	nbs75k.l	2784	38	C6H11NO	113

E00 458

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	64173	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64172	90	C7H14O	114

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119301	90	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	64165	78	C7H14O	114
2-Hexanone, 5-methyl-	110-12-3	nbs75k.1	64147	64	C7H14O	114

E00 460

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ethanol, 2-butoxy-	111-76-2	WILEY138.1	119790	53	C6H14O2	118
n-Butyl ether	142-96-1	nbs75k.1	5535	53	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	6583	53	C8H18O	130

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64381	83	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	3383	78	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64382	78	C7H16O	116

E00 462

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanol, (S)-	6033-23-4	nbs75k.1	3355	64	C7H16O	116
2-Heptanol	543-49-7	nbs75k.1	64348	72	C7H16O	116
2-Butanol	78-92-2	WILEY138.1	116568	64	C4H10O	74

E00 463

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	nbs75k.1	4624	47	C ₉ H ₁₈	126
1-Heptene	592-76-7	nbs75k.1	63242	87	C ₇ H ₁₄	98
1-Nonene	124-11-8	nbs75k.1	64956	72	C ₉ H ₁₈	126

E00 464

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	83321-16-8	nbs75k.1	4173	64	C8H12O	124
1,1-Dimethyl-1-silacyclo-2,4-hexadiene	52023-18-4	nbs75k.1	4155	64	C7H12Si	124
2-Cyclopenten-1-one, 3,4,4-trimethyl-	30434-65-2	nbs75k.1	4178	59	C8H12O	124

E00 465

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		WILEY138.1	117824	53		128
2(3H)-Furanone, 5-ethyldihydro-5-methyl-1-Ethylcyclohexanol	2865-82-9	WILEY138.1	120813	53	C7H12O2	128
	1940-18-7	WILEY138.1	6017	53	C6H16O	128

E00 466

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)
1-Hexyn-3-ol
4-Hydroxy-4-methylpentanone
Furan, 2-methoxy-

CAS Number	Library	Entry	Quality	Formula	Weight
105-31-7	nbs75k.1	1263	72	C6H100	98
0-00-0	nbs75k.1	3236	59	C6H1202	116
25414-22-6	nbs75k.1	1208	59	C5H602	98

E00 467

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		nbs75k.1	8343	72	C7H12O3	128
2,2'-Bioxepane	74793-02-5	nbs75k.1	22401	72	C12H22O2	198
1-HYDROXYCYCLOHEXANECARBOXYLIC ACID	1123-28-0	WILEY138.1	10615	72	C7H12O3	144

E00 468

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkane (mw 142)

2(5H)-FURANONE, 4,5,5-TRIMETHYL-

3-Octen-2-one, (E)-

Oxazole, trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	5202	50	C7H10O2	126
18402-82-9	WILEY138.1	5296	35	C8H14O	126
20662-84-4	WILEY138.1	2343	33	C6H9NO	111

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

Hexanal, 2-ethyl-

Hexanal, 2-ethyl-

Hexanal, 2-ethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
123-05-7	nbs75k.1	5098	70	C8H16O	128
123-05-7	WILEY138.1	120843	70	C8H16O	128
123-05-7	nbs75k.1	65087	53	C8H16O	128

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	WILEY138.1	118931	94	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63907	64	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	59	C7H13N	111

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65062	87	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65060	87	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	5058	87	C8H16O	128

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octanone	111-13-7	nbs75k.1	65043	90	C8H16O	128
2-Octanone	111-13-7	WILEY138.1	5937	90	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	65044	83	C8H16O	128

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	19899-39-9	WILEY138.1	9527	50	C10H20	140
3-Octene, 4-ethyl-	53966-51-1	nbs75k.1	7578	58	C10H20	140
3-Octene, 4-ethyl-	53966-51-1	WILEY138.1	9466	58	C10H20	140

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Butanedinitrile, 2,3-dimethyl-	16411-13-5	nbs75k.l	2112	28	C ₆ H ₈ N ₂	108
Butanedinitrile, 2,3-dimethyl-	16411-13-5	WILEY138.l	1881	28	C ₆ H ₈ N ₂	108
Hexanenitrile, 5-methyl-	19424-34-1	nbs75k.l	2432	9	C ₇ H ₁₃ N	111

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)

1-Octene, 3,7-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
4984-01-4	nbs75k.1	66070	59	C10H20	140
112-30-1	WILEY138.1	124750	72	C10H22O	158
74663-91-5	WILEY138.1	14830	72	C11H22	154

1-Decanol

Cyclopropane, 1-heptyl-2-methyl-

E00 476

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	5518	83	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121193	83	C ₈ H ₁₈ O	130

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdsol.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	93	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	67323	87	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	15626	87	C11H24	156

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	7565	74	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66057	83	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	WILEY138.1	9503	74	C10H20	140

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

1-Dodecanol, 2-methyl-, (S)-

1-Dodecanol, 2-methyl-, (S)-

1-Hexene, 5,5-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
57289-26-6	nbs75k.1	23010	47	C13H28O	200
57289-26-6	WILEY138.1	34901	47	C13H28O	200
7116-86-1	nbs75k.1	2662	37	C8H16	112

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	64	C8H15N	125
Octanenitrile	124-12-9	WILEY138.1	5025	64	C8H15N	125
Nonanenitrile	2243-27-8	nbs75k.1	65973	42	C9H17N	139

E00 481

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
	Decane, 5-methyl-	nbs75k.1	5159		156
13475-81-5	Hexane, 2,2,3,3-tetramethyl-	nbs75k.1	8106	C10H22	142
3074-76-8	Hexane, 3-ethyl-3-methyl-	WILEY138.1	6052	C9H20	128

EOO 482

Date: 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Decane, 4-methyl-

Decane, 4-methyl-

Decane, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
2847-72-5	WILEY138.1	124560	59	C11H24	156
2847-72-5	nbs75k.1	11615	50	C11H24	156
2847-72-5	WILEY138.1	124558	49	C11H24	156

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67320	76	C11H24	156
Heptane, 2,6-dimethyl-	1072-05-5	nbs75k.1	65137	64	C9H20	128
Heptane, 2,6-dimethyl-	1072-05-5	nbs75k.1	5156	64	C9H20	128

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdcsl.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Ethyl-2,2,6-trimethylcyclohexane	0-00-0	nbs75k.l	11030	91	C11H22	154
Cyclohexane, 1,1-dimethyl-2-propyl-	81983-71-3	nbs75k.l	11086	91	C11H22	154
5-Undecene, (E)-	764-97-6	nbs75k.l	67184	59	C11H22	154

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	95	C11H24	156
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	76	C11H24	156
Dotriacontane	544-85-4	nbs75k.1	74491	47	C32H66	451

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122343	97	C10H18	138
Naphthalene, decahydro-	91-17-8	nbs75k.1	7045	96	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65956	96	C10H18	138

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
2(1H)-Pyrimidinone, 4-amino-	71-30-7	nbs75k.1	63896	43	C4H5N3O	111
2(1H)-Pyrimidinone, 4-amino-	71-30-7	nbs75k.1	2403	38	C4H5N3O	111
2(1H)-Pyrimidinone, 4-amino-	71-30-7	WILEY138.1	118915	38	C4H5N3O	111

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Oxazole, 2,4-dimethyl-	7208-05-1	nbs75k.1	1168	46	CEH7NO	97
Oxazole, 2,4-dimethyl-	7208-05-1	WILEY138.1	673	46	CEH7NO	97
4(1H)-Pyrimidinone	4562-27-0	nbs75k.1	1061	38	C4H4N2O	96

EOO 489

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Undecane, 5-methyl-

Octane, 2-methyl-

Octane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
1632-70-8	nbs75k.1	15363	60	C12H26	170
3221-61-2	nbs75k.1	5142	64	C9H20	128
3221-61-2	WILEY138.1	6037	64	C9H20	128

E00 490

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	46	C12H26	170
1-Iodo-2-methylnonane	0-00-0	nbs75k.1	37255	72	C10H21I	268
Decane, 2,4-dimethyl-	2801-84-5	nbs75k.1	15360	59	C12H26	170

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	94	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	94	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	94	C11H20	152

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049,C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	67185	94	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	87	C11H22	154
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	83	C11H22	154

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	96	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	96	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	96	C11H20	152

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	94	C12H26	170
Undecane, 2-methyl-	7045-71-8	WILEY138.1	21649	94	C12H26	170
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.1	15361	86	C12H26	170

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	83	C12H26	170
Decane, 3,8-dimethyl-	17312-55-9	nbs75k.1	68255	64	C12H26	170
Decane, 2,3,8-trimethyl-	62238-14-6	nbs75k.1	19049	59	C13H28	184

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
5-Dodecene, (Z)-	7206-28-2	nbs75k.1	14752	93	C12H24	168
3-Dodecene, (Z)-	7239-23-8	nbs75k.1	68121	93	C12H24	168
5-Dodecene, (Z)-	7206-28-2	WILEY138.1	20668	93	C12H24	168

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	nbs75k.1	14151	64	C12H22	166
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14152	60	C12H22	166
trans,trans-1,10-Dimethylspiro[4.5]decan	0-00-0	nbs75k.1	14137	60	C12H22	166

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml: 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69033	96	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	96	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	27745	96	C13H28	184

Date : 06-NOV-98 04:43

Client ID: 200 ml

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown Alkyl Decahydronaphthalene

2-Decalone, cat

Norbornane, 2-isobutyl-

2(1H)-Naphthalenone, octahydro-4a-methyl

CAS Number	Library	Entry	Quality	Formula	Weight
4832-17-1	nbs75k.1	10378	43	C10H16O	152
18127-14-5	nbs75k.1	10422	38	C11H20O	152
938-06-7	nbs75k.1	14105	38	C11H18O	166

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.1

Sample Info: C-106 VP006-049.C223; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	91	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	83	C13H26	182
2-Dodecene, 2-methyl-	55103-82-7	nbs75k.1	18482	53	C13H26	182

E00 501

Date : 06-NOV-98 04:43

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-049.C223; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane, 7-methyl-	26730-14-3	WILEY138.1	128286	64	C14H30	198
Octane, 2,3,7-trimethyl-	62016-34-6	nbs75k.1	11603	78	C11H24	156
Dodecane, 2,7,10-trimethyl-	74645-98-0	nbs75k.1	26005	78	C15H32	212

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-049.C223; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122306.D
 Injection Date : 06-NOV-98 04:43 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106 VP006-049.C223
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.626	4.624	18171	0.28	0.0028	0.51	J
Chloromethane	23	50.49	5.003	5.012	6509	0.11	0.0011	0.49	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.218				0.0065	0.85	U
Methanol	23	32.04	5.358	5.356	1118942	25.26	0.2526	176.61	
Vinyl Chloride	23	62.50	5.498				0.0008	0.29	U
Butane	23	58.12	5.907	5.916	6771486	456.47	4.5647	1759.29	B
Bromomethane	23	94.94	6.392				0.0026	0.61	U
Chloroethane	23	64.51	6.736				0.0027	0.94	U
Ethanol	23	46.01	6.930	6.907	2959400	68.20	0.6820	332.06	
Acetonitrile	23	41.05	7.393	7.391	290527	4.38	0.0438	23.88	
Acetone	23	58.08	7.878	7.865	4687768	35.13	0.3513	135.48	
Trichlorofluoromethane	23	137.37	8.254	8.263	118125	2.34	0.0234	3.82	J
Pentane	23	72.15	8.922	8.931	4419911	43.76	0.4376	135.87	
1,1-Dichloroethene	23	96.94	9.471				0.0019	0.44	U
Methylene Chloride	23	84.93	9.654	9.663	12193	0.43	0.0043	1.14	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.149	10.137	7520	0.29	0.0029	0.35	J
Propanenitrile	23	55.08	10.903	10.869	573583	13.29	0.1329	54.04	
Propanol	23	60.10	10.881	10.890	347579	6.79	0.0679	25.30	
1,1-Dichloroethane	23	98.96	11.775				0.0010	0.23	U
2-Butanone	23	72.11	12.421	12.419	407089	14.30	0.1430	44.42	
cis-1,2-Dichloroethene	23	96.94	13.293				0.0017	0.39	U
Hexane	23	86.18	13.659	13.668	2825726	53.12	0.5312	138.07	
Chloroform	23	119.38	13.831	13.829	12134	0.24	0.0024	0.44	J
Tetrahydrofuran	23	72.11	14.563	14.583	57408	2.53	0.0253	7.86	
1,2-Dichloroethane	34	98.96	15.231				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.737				0.0016	0.27	U
Butanenitrile	34	69.11	15.726	15.714	1911414	16.22	0.1622	52.57	
1-Butanol	34	74.12	16.211	16.209	1753782	82.61	0.8261	249.66	
Benzene	34	78.11	16.620	16.629	286297	1.91	0.0191	5.49	
Carbon Tetrachloride	34	153.82	16.911				0.0017	0.25	U
Cyclohexane	34	84.16	17.180	17.189	115634	2.28	0.0228	6.08	
1,2-Dichloropropane	34	112.99	18.192				0.0015	0.30	U
Trichloroethene	34	131.39	18.633				0.0012	0.20	U

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Page 1

E00 503

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.128	19.159	4758319	108.10	1.0810	241.67	
cis-1,3-Dichloropropene	34	110.97	20.324				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.334	20.332	294296	5.75	0.0575	12.86	
Pyridine	34	79.10	20.517	20.591	120300	3.59	0.0359	10.17	J
trans-1,3-Dichloropropene	34	110.97	21.389				0.0009	0.18	U
Pentanenitrile	34	83.13	21.411	21.398	1058605	25.45	0.2545	68.57	
1,1,2-Trichloroethane	34	133.40	21.820	21.861	50498	1.64	0.0164	2.75	
Toluene	49	92.14	22.466	22.486	1309687	22.54	0.2254	54.81	
1,2-Dibromoethane	49	187.86	23.995				0.0026	0.31	U
Octane	49	114.23	24.544	24.553	908471	33.09	0.3309	64.89	
Bromoform	49	175.00	28.194				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.029	25.037	5711	0.28	0.0028	0.38	J
Chlorobenzene	49	112.56	26.633	26.685	38262	0.63	0.0063	1.25	J
Hexanenitrile	49	97.13	26.891	26.900	699321	20.01	0.2001	46.16	
Ethylbenzene	49	106.17	27.505	27.514	61977	0.59	0.0059	1.25	J
p/m-Xylene	49	106.17	27.936	27.923	31940	0.87	0.0087	1.84	J
Cyclohexanone	49	98.14	28.355	28.343	219785	12.79	0.1279	29.18	
Styrene	59	104.15	28.851				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.088	29.064	111008	2.77	0.0277	3.70	
o-Xylene	59	106.17	29.152	29.161	15095	0.35	0.0035	0.74	J
Nonane	59	128.26	29.604	29.613	1819960	23.29	0.2329	40.68	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.554	32.563	14460	0.14	0.0014	0.26	J
1,3,5-Trimethylbenzene	59	120.19	32.770	32.778	9475	0.11	0.0011	0.20	J
1,2,4-Trimethylbenzene	59	120.19	34.040	34.049	21494	0.25	0.0025	0.46	J
Decane	59	142.28	34.288	34.286	3782134	77.14	0.7714	121.45	
1,3-Dichlorobenzene	59	147.00	34.546				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.751				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.881				0.0009	0.14	U
Undecane	59	156.31	38.605	38.625	2113954	205.60	2.0560	294.63	
1,2,4-Trichlorobenzene	59	181.45	42.115	42.135	11965	0.63	0.0063	0.78	J
Dodecane	59	170.34	42.643	42.682	3152883	288.51	2.8851	379.39	E
Hexachloro-1,3-butadiene	59	260.76	43.945	43.965	8781	0.74	0.0074	0.64	J
Tridecane	59	184.36	46.411	46.387	7838174	931.19	9.3119	1131.40	E
Tetradecane	59	198.34	50.018	49.930	305446	348.13	3.4813	393.17	E
Bromochloromethane (IS)	23	129.38	13.605	13.603	2953717	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.180	17.189	10270135	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.525	26.523	7159035	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.336	30.356	5788260	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Carbon dioxide	23	44	124-38-9	3.904	2867411	13.23	0.1323	67.35	NJ
Nitrous Oxide	23	44	10024-97-2	3.962	3485319	16.08	0.1608	81.87	NJ
Propene	23	42	115-07-1	4.463	11312298	52.19	0.5219	278.36	NJ
Propane	23	44	74-98-6	4.516	8321610	38.39	0.3839	195.46	NJ
Methyl nitrite	23	61	624-91-9	4.807	1026112	4.73	0.0473	17.39	NJ
Cyclopropane	23	42	75-19-4	5.055	889658	4.10	0.0410	21.89	NJ
Acetaldehyde	23	44	75-07-0	5.292	1103055	5.09	0.0509	25.91	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1-Propene, 2-methyl-	23	56	115-11-7	5.722	19981945	92.19	0.9219	368.77	NJ
1-Butene	23	56	106-98-9	6.131	1920781	8.86	0.0886	35.45	NJ
2-Butene, (E)-	23	56	624-64-6	6.465	4255639	19.63	0.1963	78.54	NJ
Unknown C5 Alkane (mw 72)	23	72		7.972	1847440	8.52	0.0852	26.52	J
1-Butene, 2-methyl-	23	70	563-46-2	8.748	2632884	12.15	0.1215	38.87	NJ
2-Pentene, (E)-	23	70	646-04-8	9.211	2541639	11.73	0.1173	37.53	NJ
2-Pentene, (Z)-	23	70	627-20-3	9.566	2339683	10.79	0.1079	34.54	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.536	1619262	7.47	0.0747	18.59	NJ
1-Pentene	23	70	109-67-1	11.935	537696	2.48	0.0248	7.94	NJ
Pentane, 2-methyl-	23	86	107-83-5	12.075	2472796	11.41	0.1141	29.72	NJ
Butanal	23	72	123-72-8	12.214	1951509	9.00	0.0900	28.01	NJ
Pentane, 3-methyl-	23	86	96-14-0	12.828	632256	2.92	0.0292	7.60	NJ
1-Hexene	23	84	592-41-6	13.076	25834388	119.20	1.1920	317.86	NJ
1,4-Hexadiene, (Z)-	23	82	7318-67-4	13.377	486988	2.25	0.0225	6.14	NJ
2-Hexene, (E)-	23	84	4050-45-7	13.873	3008877	13.88	0.1388	37.02	NJ
1,4-Pentadiene, 3-methyl-	23	82	1115-08-8	14.314	1336739	6.17	0.0617	16.85	NJ
2-Hexene	23	84	592-43-8	14.411	2306367	10.64	0.1064	28.38	NJ
1-Pentene, 2-methyl-	23	84	763-29-1	14.734	1319757	6.09	0.0609	16.24	NJ
Cyclopentane, methyl-	23	84	96-37-7	15.283	571616	2.64	0.0264	7.03	NJ
1,3-Dioxolane, 2-methyl-	34	88	497-26-7	15.455	209101	0.86	0.0086	2.18	NJ
3-Hexene, 2-methyl-, (E)-	34	98	692-24-0	16.876	775708	3.18	0.0318	7.28	NJ
Unknown C7 Alkane (mw 100)	34	100		17.329	3140479	12.89	0.1289	28.87	J
Butanenitrile, 2-methylene-	34	81	1647-11-6	17.490	2274496	9.33	0.0933	25.81	NJ
3-Heptene, (E)-	34	98	14686-14-7	17.619	2783087	11.42	0.1142	26.10	NJ
Unknown C9 Alkane (mw 128)	34	0		17.856	2932178	12.03	0.1203		J
1-Heptene	34	98	592-76-7	18.524	13673685	56.11	0.5611	128.25	NJ
3-Heptene	34	98	592-78-9	19.008	56323725	231.12	2.3112	528.28	NJ
2-Heptene	34	98	592-77-8	19.374	61714931	253.25	2.5325	578.85	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.880	49698533	203.94	2.0394	466.14	NJ
Cyclopentane, ethyl-	34	98	1640-89-7	21.215	1226842	5.03	0.0503	11.51	NJ
2-Butenal, 2-ethenyl-	34	96	20521-42-0	21.657	20099999	82.48	0.8248	192.45	NJ
Cyclopentane, 1,2-dimethyl-, cis-	34	98	1192-18-3	21.851	2795551	11.47	0.1147	26.22	NJ
2-Hexene, 3-ethyl	49	112		22.163	2659396	13.66	0.1366	27.31	NJ
2-Heptyne	49	96	1119-65-9	22.787	22630066	116.21	1.1621	271.15	NJ
2-Hexanone	49	100	591-78-6	22.884	8377637	43.02	0.4302	96.36	NJ
2-Octene, (E)-	49	112	13389-42-9	23.024	10095950	51.84	0.5184	103.69	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.218	40752399	209.26	2.0926	411.19	NJ
Hexanal	49	100	66-25-1	23.412	928802	4.77	0.0477	10.68	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.885	44582935	228.93	2.2893	457.87	NJ
4-Heptenal, (Z)	49	112	6728-31-0	24.241	3492127	17.93	0.1793	35.86	J
3-Heptene, 3-methyl-	49	112	7300-03-0	24.381	11380823	58.44	0.5844	116.88	NJ
2-Octene	49	112	111-67-1	24.682	4867987	25.00	0.2500	49.99	NJ
2-HEPTENE, 3-METHYL-	49	112	0-00-0	24.951	9570832	49.15	0.4915	98.29	NJ
2-Octene, (Z)-	49	112	7642-04-8	25.210	5097086	26.17	0.2617	52.35	NJ
3-Hexanone, 5-methyl-	49	114	623-56-3	25.522	2608051	13.39	0.1339	26.31	NJ
Unknown C8 Alkane (mw 114)	49	0		25.942	1112196	5.71	0.0571		J
Unknown C9 Alkane (mw 128)	49	0		26.157	1163384	5.97	0.0597		J
Furan, tetrahydro-2,2,5,5-tetramethyl-	49	128	15045-43-9	27.707	3906409	20.06	0.2006	35.10	NJ
3-Heptanone	49	114	106-35-4	28.052	89797025	461.11	4.6111	906.04	NJ

HNF-4073
REV. 0

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E00 506

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	----	-----	-----	-----	-----	-----
2-Heptanone	49	114	110-43-0	28.160	29598013	151.99	1.5199	298.64	NJ
Ethanol, 2-butoxy-	49	118	111-76-2	28.364	10624127	54.56	0.5456	103.56	NJ
3-Heptanol	59	116	589-82-2	28.655	18329727	90.89	0.9089	175.51	NJ
2-Heptanol, (S)-	59	116	6033-23-4	28.795	2817648	13.97	0.1397	26.98	NJ
Cyclopropane, 1-methyl-2-pentyl-	59	126	41977-37-1	29.064	4321661	21.43	0.2143	38.10	NJ
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	59	124	83321-16-8	29.419	1006874	4.99	0.0499	9.02	NJ
1,3-Diethyl-1,4-epoxybutane	59	128		30.905	20994550	104.10	1.0410	182.18	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		31.024	26956019	133.66	1.3366		J
1,2-Diethyl-1,4-epoxybutane	59	128		31.110	25119042	124.56	1.2456	217.97	NJ
Unknown C10 Alkane (mw 142)	59	0		31.400	27862745	138.16	1.3816		J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.562	5523557	27.39	0.2739		J
Heptanenitrile	59	111	629-08-3	31.939	7327121	36.33	0.3633	73.32	NJ
4-Octanone	59	128	589-63-9	32.283	4008825	19.88	0.1988	34.79	NJ
2-Octanone	59	128	111-13-7	33.005	3289604	16.31	0.1631	28.55	NJ
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	59	140	19899-39-9	33.134	3018095	14.97	0.1497	23.94	NJ
Unknown hydrocarbon	59	0		33.683	18117252	89.84	0.8984		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	140		33.791	3562801	17.67	0.1767	28.27	J
1-Hexanol, 2-ethyl-	59	130	104-76-7	34.910	17576185	87.15	0.8715	150.17	NJ
Decane, 4-methyl-	59	156	2847-72-5	35.416	7468805	37.03	0.3703	53.18	NJ
Cyclohexane, (2-methylpropyl)-	59	140	1678-98-4	36.235	4874075	24.17	0.2417	38.67	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		36.525	2087849	10.35	0.1035		J
Octanenitrile	59	125	124-12-9	36.633	2924118	14.50	0.1450	25.98	NJ
Decane, 5-methyl-	59	156		36.837	1932798	9.58	0.0958	13.76	NJ
Unknown C11 Alkane (mw 156)	59	0		37.020	1834814	9.10	0.0910		J
Decane, 2-methyl-	59	156	6975-98-0	37.150	1156381	5.73	0.0573	8.23	NJ
1-Ethyl-2,2,6-trimethylcyclohexane	59	154	0-00-0	37.268	1726239	8.56	0.0856	12.45	NJ
Decane, 3-methyl-	59	156	13151-34-3	37.462	1480075	7.34	0.0734	10.54	NJ
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.753	3450852	17.11	0.1711	27.78	NJ
Unknown hydrocarbon	59	0		38.151	3967991	19.68	0.1968		J
Unknown hydrocarbon	59	0		39.109	3702504	18.36	0.1836		J
Unknown C12 Alkane (mw 170)	59	0		39.443	2457704	12.19	0.1219		J
Undecane, 5-methyl-	59	170	1632-70-8	39.884	1457889	7.23	0.0723	9.53	NJ
Unknown Alkyl Decahydronaphthalene	59	0		40.175	2803417	14.03	0.1403		J
Cyclohexane, pentyl-	59	154	4292-92-6	40.617	1683558	8.35	0.0835	12.14	NJ
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.907	3560523	17.66	0.1766	26.02	NJ
Undecane, 2-methyl-	59	170	7045-71-8	41.262	1898307	9.41	0.0941	12.40	NJ
Undecane, 3-methyl-	59	170	1002-43-3	41.564	729642	3.62	0.0362	4.77	NJ
5-Dodecene, (Z)-	59	168	7206-28-2	42.231	2081610	10.32	0.1032	13.76	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	26008699
Difluorobenzene (IS)	34	23638367
D5-Chlorobenzene (IS)	49	21616223
1-Bromo-4-Fluorobenzene (IS)	59	36300564

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

E00 507

HNF-4073
Rev. 0

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18122306.D

Page 4

HNF-4073
Rev. 0

Data File: /chem/hpdos1.i/18122301.b/18122307.D

Page 1

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

E00 511

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

3 12dichloro1122-tetrafluoroeth

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

4 Methanol

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

5 Vinyl Chloride

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Acetonitrile

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

12 Acetone

Date: 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040, C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanenitrile

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

20 1,1-Dichloroethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

27 1,2-Dichloroethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

28 1,1,1-Trichloroethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Butanenitrile

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

30 1-Butanol

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

31 Benzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

32 Carbon Tetrachloride

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

33 Cyclohexane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

36 Trichloroethene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

37 Heptane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

38 cis-1,3-Dichloropropene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

39 4-Methyl-2-Pentanone

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

40 Pyridine

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

41 trans-1,3-Dichloropropene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdosl.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

43 1,1,2-Trichloroethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Toluene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

45 1,2-Dibromoethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

46 Octane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

47 Bromoform

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

48 Tetrachloroethylene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

50 Chlorobenzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

51 Hexanenitrile

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

52 Ethylbenzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

HNF-4073

Column phase: DB-1

Column diameter: 0.32

Rev. 0

53 p/n-Xylene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

54 Cyclohexanone

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

55 Styrene

E00 557

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

56 1,1,2,2-Tetrachloroethane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

57 o-Xylene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

58 Nonane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

60 1-Ethyl-2-Methyl-Benzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

61 1,3,5-Trimethylbenzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

62 1,2,4-Trimethylbenzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

63 Decane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

64 1,3-Dichlorobenzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

65 1,4-Dichlorobenzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

66 1,2-Dichlorobenzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

67 Undecane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

68 1,2,4-Trichlorobenzene

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

69 Dodecane

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

E00 571

HNF-4073
REV. 0

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E00 572

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

71 Tridecane

E00 573

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

72 Tetradecane

E00 574

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115913	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	86	C3H6	42

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	9	C3H8	44
Propane	74-98-6	nbs75k.1	62268	7	C3H8	44
Propane	74-98-6	nbs75k.1	38	7	C3H8	44

E00 577

Data File: /chem/hpdos1.i/18122301.b/18122307.D

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.l	131	64	CH3NO2	61
Monoethanolamine	141-43-5	nbs75k.l	62369	7	C2H7NO	61
Monoethanolamine	141-43-5	nbs75k.l	133	4	C2H7NO	61

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.1	62260	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	90	C3H6	42
Propene	115-07-1	nbs75k.1	62258	83	C3H6	42

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	62265	7	C2H4O	44
Isobutane	75-28-5	nbs75k.1	62334	22	C4H10	58
Isobutane	75-28-5	nbs75k.1	62335	9	C4H10	58

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62304	72	C4H8	56

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62309	52	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	86	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	86	C4H8	56

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (E)-	624-64-6	nbs75k.1	62301	74	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butane, 2-methyl-	78-78-4	nbs75k.1	62518	86	CEH12	72
Butane, 2-methyl-	78-78-4	nbs75k.1	62517	72	CEH12	72
Butane, 2-methyl-	78-78-4	nbs75k.1	281	64	CEH12	72

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.1	230	90	CEH10	70
1-Pentene	109-67-1	WILEY138.1	116331	90	CEH10	70
1-Pentene	109-67-1	nbs75k.1	62464	76	CEH10	70

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	91	CEH10	70
Cyclopropane, 1,1-dimethyl-	1630-94-0	nbs75k.1	62468	87	CEH10	70
Cyclopropane, 1,1-dimethyl-	1630-94-0	nbs75k.1	235	81	CEH10	70

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (E)-	646-04-8	nbs75k.1	233	90	C5H10	70
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	94	C5H10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	91	C5H10	70

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (Z)-	627-20-3	nbs75k.1	224	78	CEH10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	62467	86	CEH10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	87	CEH10	70

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 4-methyl-	691-37-2	nbs75k.1	599	49	C6H12	84
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	43	C4H8	56
2-Butene	107-01-7	nbs75k.1	62303	43	C4H8	56

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentane, 4-methyl-	691-37-2	nbs75k.1	62518	86		84
Butane, 2-methyl-	78-78-4	nbs75k.1	62517	72	C5H12	72
Butane, 2-methyl-	78-78-4	nbs75k.1	281	64	C5H12	72

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Silanol, trimethyl-	1066-40-6	WILEY138.1	117352	37	C ₃ H ₁₀ OSi	90
SILANOL, TERT-BUTYLDIMETHYL-	0-00-0	WILEY138.1	6898	78	C ₆ H ₁₆ OSi	132
Silanol, trimethyl-	1066-40-6	nbs75k.1	62980	56	C ₃ H ₁₀ OSi	90

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2-methyl-	107-83-5	nbs75k.1	733	90	C6H14	86
Pentane, 2-methyl-	107-83-5	nbs75k.1	62864	90	C6H14	86
Pentane, 2-methyl-	107-83-5	WILEY138.1	117119	90	C6H14	86

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62486	90	C4H8O	72
Butanal	123-72-8	WILEY138.1	116378	90	C4H8O	72
Butanal	123-72-8	WILEY138.1	116385	80	C4H8O	72

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 3-methyl-	96-14-0	nbs75k.l	62868	91	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.l	62867	91	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.l	734	91	C6H14	86

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62755	95	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	50	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	50	C6H12	84
2-Hexene, (Z)-	7688-21-3	nbs75k.1	583	50	C6H12	84

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Pentadiene, 3-methyl-	1115-08-8	nbs75k.1	494	90	C6H10	82
Cyclopentene, 1-methyl-	693-89-0	nbs75k.1	62683	91	C6H10	82
Cyclopentene, 3-methyl-	1120-62-3	nbs75k.1	62678	90	C6H10	82

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	WILEY138.1	116887	91	C6H12	84
2-Hexene, (Z)-	7688-21-3	WILEY138.1	116886	87	C6H12	84
2-Hexene	592-43-8	WILEY138.1	116888	90	C6H12	84

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	598	52	C6H12	84
2,4-Hexadiene	592-46-1	nbs75k.1	62675	50	C6H10	82
Cyclopropane, 1-ethyl-2-methyl-, cis-	19781-68-1	nbs75k.1	588	49	C6H12	84

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C6 Alkane (mw 86)

Cyclopropane, 1,2-dimethyl-3-methylene-

Cyclopropane, (1-methylethenyl)-

1-Hexyne

CAS Number	Library	Entry	Quality	Formula	Weight
62338-02-7	nbs75k.1	501	74	C6H10	82
4663-22-3	nbs75k.1	62686	72	C6H10	82
693-02-7	nbs75k.1	469	72	C6H10	82

EOO 600

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C7 Alkene/Cycloalkane (mw 98)						
Cyclopropane, 1,1-dimethyl-2-methylene-	4372-94-5	nbs75k.1	495	55	C6H10	82
Cyclopropane, (1-methylethenyl)-	4663-22-3	nbs75k.1	490	55	C6H10	82
Cyclopropane, (1-methylethenyl)-	4663-22-3	WILEY138.1	116778	55	C6H10	82

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C7 Alkene/Cycloalkane (mw 98)

Pentane, 2,4-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
108-08-7	nbs75k.1	63424	46	C7H16	100
108-08-7	nbs75k.1	1594	46	C7H16	100
108-08-7	WILEY138.1	118121	46	C7H16	100

Pentane, 2,4-dimethyl-

Pentane, 2,4-dimethyl-

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile, 2-methylene-	1647-11-6	nbs75k.1	445	94	CSH7N	81
2-Pentenitrile	13284-42-9	nbs75k.1	447	52	CSH7N	81
2-Pentenitrile	13284-42-9	WILEY138.1	116729	50	CSH7N	81

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	86	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	72	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	72	C7H14	98

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown CB Alkane (mw 114)

1-Butanol, 3-methyl-, formate

1-Hexene, 4-methyl-

1-Butanol, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
110-45-2	WILEY138.1	119529	47	C6H12O2	116
3769-23-1	nbs75k.1	1338	43	C7H14	98
137-32-6	WILEY138.1	117274	43	C5H12O	88

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	93	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	91	C7H14	98

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	1337	93	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	95	C7H14	98
2-Heptene, (E)-	14686-13-6	WILEY138.1	898	95	C7H14	98

E00 607

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	WILEY138.1	898	95	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, methyl-	108-87-2	nbs75k.1	63236	95	C7H14	98
Cyclohexane, methyl-	108-87-2	nbs75k.1	63235	81	C7H14	98
Cyclohexane, methyl-	108-87-2	nbs75k.1	1326	81	C7H14	98

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, ethyl-	1640-89-7	nbs75k.1	1350	15	C7H14	98
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	70	C7H12	96
1,3-Butadiene, 2-methyl-	78-79-5	nbs75k.1	62409	46	C5H8	68

E00 610

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butenal, 2-ethyl-	20521-42-0	nbs75k.1	1092	74	C6H8O	96
1,4-Heptadiene	5675-22-9	nbs75k.1	1149	78	C7H12	96
2-Butenal, 2-ethyl-	20521-42-0	WILEY138.1	576	74	C6H8O	96

E00 611

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-040,C135; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	1367	59	C7H14	98
1-Heptanol	111-70-6	nbs75k.1	64362	59	C7H16O	116
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	63274	53	C7H14	98

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2667	47	C8H16	112
Cyclohexanecarboxaldehyde	2043-61-0	nbs75k.1	63981	49	C7H12O	112
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	47	C8H16	112

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	1141	96	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	96	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	63138	95	C7H12	96

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	WILEY138.1	117990	91	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63384	90	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	1556	90	C6H12O	100

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	74	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	81	C8H16	112
Cyclooctane	292-64-8	WILEY138.1	119121	76	C8H16	112

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	87	C ₈ H ₁₈	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119371	87	C ₈ H ₁₈	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	83	C ₈ H ₁₈	114

E00 617

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal	66-25-1	nbs75k.1	63410	50	C6H12O	100
Urea, 2-propenyl-	557-11-9	nbs75k.1	1442	38	C4H8N2O	100
Hexanal	66-25-1	nbs75k.1	63407	38	C6H12O	100

E00 618

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	91	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.	4850-28-6	nbs75k.1	2684	90	C8H16	112

E00 619

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptenal, (Z)	6728-31-0	nbs75k.1	2390	49		112
1,4-Hexadiene, 2,5-dimethyl-	927-97-9	WILEY138.1	2243	49	C6H14	110
Cyclopropane, 1,2-dimethyl-, trans-	2402-06-4	nbs75k.1	226	46	C5H10	70

E00 620

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	91	C8H16	112
5-Methyl-3-heptene	0-00-0	nbs75k.1	2641	90	C8H16	112
2-PENTENE, 3-ETHYL-4-METHYL-	0-00-0	WILEY138.1	2691	86	C8H16	112

E00 621

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	90	CEH16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	CEH16	112
2-Octene, (E)-	13389-42-9	WILEY138.1	2641	91	CEH16	112

EOO 622

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, 3-methyl-		nbs75k.1	64039	25	C8H16	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	97	C8H16	112
Cyclopentane, 1,2,3-trimethyl-	2815-57-8	nbs75k.1	2678	53	C8H16	112

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	87	C8H16	112
2-Octene	111-67-1	nbs75k.1	63998	90	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	93	C8H16	112

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	68	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	58	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	WILEY138.1	3101	58	C7H14O	114

E00 625

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

Pyrrolidine, 1-acetyl-

Pyrrolidine, 1-acetyl-

Furan, tetrahydro-2,2,5,5-tetramethyl-

CAS Number

Library

Entry

Quality

Formula

Weight

4030-18-6

nbs75k.1

2784

38

C6H11NO

113

4030-18-6

WILEY138.1

2804

38

C6H11NO

113

15045-43-9

nbs75k.1

5054

28

C6H16O

128

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64173	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64172	90	C7H14O	114

EOO 627

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119301	90	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	64164	78	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119299	78	C7H14O	114

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ethanol, 2-butoxy-	111-76-2	WILEY138.1	119790	33	C6H14O2	118
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121219	72	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	72	C8H18O	130

E00 629

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	nbs75k.1	4624	87	C9H18	126
1-Nonene	124-11-8	nbs75k.1	64957	78	C9H18	126
1-Heptene	592-76-7	nbs75k.1	1335	52	C7H14	98

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		nbs75k.l	63277	58		128
Thiazole, 4-methyl-	693-95-8	WILEY138.1	117830	58	C4H5NS	99
2(3H)-Furanone, 5-ethyldihydro-5-methyl-	2865-82-9	WILEY138.1	120813	53	C7H12O2	128

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkene/Cycloalkane (mw 140)

1-Hexyn-3-ol

Furan, 2-methoxy-

Furan, 2-methoxy-

CAS Number

Library

Entry

Quality

Formula

Weight

105-31-7

nbs75k.1

1263

59

C6H10O

98

25414-22-6

nbs75k.1

1208

59

C6H6O2

98

25414-22-6

WILEY138.1

756

59

C6H6O2

98

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		WILEY138.1	33981	45		128
2,2'-Bioxepane	74793-02-5	nbs75k.1	22401	59	C12H22O2	198
1-Hydroxycyclohexanecarboxylic acid	1123-28-0	nbs75k.1	8343	50	C7H12O3	144

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Instrument: hpdcsl.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Octen-2-one, (E)-	18402-82-9	nbs75k.1	4533	40	C6H14O	126
Unknown C10 Alkane (mw 142)			0	0		0
3-Octen-2-one, (E)-	18402-82-9	WILEY138.1	5296	38	C6H14O	126

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C9 Alkene/Cycloalkane (mw 126)

Hexanal, 2-ethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
123-05-7	nbs75k.1	5098	62	C8H16O	128
123-05-7	WILEY138.1	120843	62	C8H16O	128
123-05-7	WILEY138.1	120842	58	C8H16O	128

Hexanal, 2-ethyl-

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63909	64	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	64	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	118930	64	C7H13N	111

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65061	90	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	5058	90	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65060	90	C8H16O	128

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkane (mw 142)

Octane, 4-ethyl-

Undecane, 2,5-dimethyl-

Undecane, 3,6-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
15869-86-0	nbs75k.1	8095	72	C10H22	142
17301-22-3	nbs75k.1	19056	53	C13H28	184
17301-28-9	nbs75k.1	19000	50	C13H28	184

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	19899-39	WILEY138.1	9526	74	C10H20	140
2-Octene, 2,6-dimethyl-	4057-42-5	WILEY138.1	122507	70	C10H20	140
Cyclohexane, 1,2,3-trimethyl-	1678-97-3	nbs75k.1	64939	68	C9H18	126

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)

1-Buten-4-yl methacrycate

1,6-Heptadiene

Butanedinitrile, 2,3-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	9179	38	C8H12O2	140
3070-53-9	nbs75k.1	1115	28	C7H12	96
16411-13-5	nbs75k.1	2112	28	C6H8N2	108

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)

2-Decene, (Z)-

CAS Number	Library	Entry	Quality	Formula	Weight
20348-51-0	nbs75k.1	66058	80	C10H20	140
20348-51-0	WILEY138.1	9438	80	C10H20	140
Cyclopropane, 1-heptyl-2-methyl-	74663-91-5	nbs75k.1	11088	C11H22	154

Cyclopropane, 1-heptyl-2-methyl-

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	67323	87	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	15626	87	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	83	C11H24	156

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkene/Cycloalkane (mw 154)						
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66057	87	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	7565	81	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	WILEY138.1	9503	81	C10H20	140

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdcsl.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

Dodecane, 2,5-dimethyl-

Tridecane, 6-methyl-

2-Methyl-1-undecanol

CAS Number	Library	Entry	Quality	Formula	Weight
56292-65-0	nbs75k.l	22531	47	C14H30	198
13287-21-3	nbs75k.l	22532	43	C14H30	198
10522-26-6	nbs75k.l	19529	42	C12H26O	186

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 5-methyl-	13151-35-4	nbs75k.l	11605	74	C11H24	156
Decane, 5-methyl-	13151-35-4	nbs75k.l	67316	62	C11H24	156
Heptane, 4-ethyl-	2216-32-2	nbs75k.l	5148	50	C9H20	128

E00 645

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdc0s1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C11 Alkane (mw 156)

1-Hexene, 3,4,5-trimethyl-

2,4,4-Trimethyl-1-hexene

Octane, 3-ethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
56728-10-0	nbs75k.1	4629	50	C9H18	126
51174-12-0	nbs75k.1	4681	50	C9H18	126
5881-17-4	nbs75k.1	66213	45	C10H22	142

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.l	67320	83	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.l	67322	74	C11H24	156
Heptadecane, 2,6,10,14-tetramethyl-	18344-37-1	nbs75k.l	42200	64	C21H44	296

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Ethyl-2,2,6-trimethylcyclohexane	0-00-0	nbs75k.1	11030	91	C11H22	154
Cyclohexane, 1,1-dimethyl-2-propyl-	81983-71-3	nbs75k.1	11086	87	C11H22	154
5-Undecene, (E)-	764-97-6	nbs75k.1	67184	64	C11H22	154

EOO 648

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.l	67314	53	C11H24	156
Undecane, 2,9-dimethyl-	17301-26-7	nbs75k.l	18994	59	C13H28	184
Nonane, 3,7-dimethyl-	17302-32-8	nbs75k.l	11601	47	C11H24	156

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65955	98	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65957	98	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65956	98	C10H18	138

E00 650

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

3.beta.-Methyl-trans-hexahydrophthalide

Bicyclo[3.1.0]hexan-3-one, 4-methyl-1-(1

Cyclohexene, 1-pentyl-

CAS Number	Library	Entry	Quality	Formula	Weight
2205-25-6	nbs75k.1	10776	55	C9H14O2	154
471-15-8	nbs75k.1	10345	52	C10H16O	152
15232-85-6	nbs75k.1	10428	49	C11H20	152

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mu 154)
Cyclopropane, 1-heptyl-2-methyl-
4-Undecene, (E)-
2-Decene, 7-methyl-, (Z)-

CAS Number	Library	Entry	Quality	Formula	Weight
74663-91-5	nbs75k.1	11088	90	C11H22	154
693-62-9	nbs75k.1	11061	86	C11H22	154
74630-23-2	nbs75k.1	11053	76	C11H22	154

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkene/Cycloalkane (mw 154)						
5-Undecene	4941-53-1	WILEY138.1	124354	64	C11H22	154
Cyclohexane, 1,4-dimethyl-, trans-	2207-04-7	nbs75k.1	64008	58	C8H16	112
Cyclohexane, 1,4-dimethyl-, trans-	2207-04-7	nbs75k.1	64007	53	C8H16	112

E00 653

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match
Unknown C12 Alkene/Cycloalkane (mw 168)

Octane, 2-methyl-

Eicosane

Hydroxylamine, O-decyl-

CAS Number	Library	Entry	Quality	Formula	Weight
3221-61-2	nbs75k.1	5142	64	C9H20	128
112-95-8	nbs75k.1	72323	52	C20H42	282
29812-79-1	nbs75k.1	15973	50	C10H23NO	173

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkene/Cycloalkane (mw 154)						
Cyclohexane, 1-methyl-4-(1-methylethylid)	1124-27-2	nbs75k.1	65946	46	C10H18	138
Bicyclo[4.1.0]heptane, 3,7,7-trimethyl-	554-59-6	nbs75k.1	65942	46	C10H18	138
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	45	C11H20	152

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Octane, 6-ethyl-2-methyl-

1-Iodo-2-methylnonane

Dodecane, 2,6,11-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
62016-19-7	nbs75k.1	11609	72	C11H24	156
0-00-0	nbs75k.1	37255	72	C10H21I	268
31295-56-4	nbs75k.1	25998	64	C15H32	212

E00 656

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	91	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124046	91	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13981	91	C11H20	152

E00 657

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
4292-92-6	nbs75k.1	67185	87	C11H22	154
4292-92-6	nbs75k.1	11044	81	C11H22	154
29949-27-7	nbs75k.1	11054	81	C11H22	154

Cyclohexane, pentyl-

Cyclohexane, pentyl-

n-Amylcyclohexane

EOO 658

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040,C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	96	C11H20	152
TRANS-ANTI-1-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13878	96	C11H20	152
(Z)-6,6-Dimethylcyclooct-4-en-1-one	91531-64-5	WILEY138.1	13709	86	C10H16O	152

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135: 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C12 Alkane (mw 170)						
Decane, 3,8-dimethyl-	17312-55-9	nbs75k.1	68255	89	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	87	C12H26	170
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.1	15361	86	C12H26	170

EOO 660

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.1	15361	86	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.1	68257	83	C12H26	170
Dodecane, 3-methyl-	17312-57-1	nbs75k.1	69025	64	C13H28	184

EOO 661

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	59	C11H20	152
Pulegone	89-82-7	nbs75k.1	10406	58	C10H16O	152
Cyclohexanone, 5-methyl-2-(1-methylethyl)	15932-80-6	nbs75k.1	10356	58	C10H16O	152

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	nbs75k.1	14151	64	C12H22	166
cis,trans-1,10-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14138	64	C12H22	166
Naphthalene, decahydro-1,6-dimethyl-	1750-51-2	nbs75k.1	14174	55	C12H22	166

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	95	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	95	C13H28	184
Dodecane, 6-methyl-	6044-71-9	WILEY138.1	27736	95	C13H28	184

E00 664

Date : 06-NOV-1998 06:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-040.C135; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	94	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68867	94	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	87	C13H26	182

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-040.C135; 200 mL; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122307.D
 Injection Date : 06-NOV-1998 06:25 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106 VP006-040.C135
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.626	4.625	41999	0.80	0.0080	1.48	J
Chloromethane	23	50.49	5.003	5.001	14761	0.31	0.0031	1.37	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.218	5.227	23701	0.84	0.0084	1.10	J
Methanol	23	32.04	5.358	5.367	791031	22.26	0.2226	155.65	
Vinyl Chloride	23	62.50	5.498	5.497	5122	0.20	0.0020	0.73	J
Butane	23	58.12	5.907	5.916	5186827	435.88	4.3588	1679.93	E
Bromomethane	23	94.94	6.392				0.0026	0.61	U
Chloroethane	23	64.51	6.736				0.0027	0.94	U
Ethanol	23	46.01	6.930	6.907	1944333	55.86	0.5586	271.96	
Acetonitrile	23	41.05	7.393	7.402	166468	3.13	0.0313	17.06	
Acetone	23	58.08	7.878	7.865	3526122	32.94	0.3294	127.04	
Trichlorofluoromethane	23	137.37	8.254	8.274	106721	2.64	0.0264	4.31	
Pentane	23	72.15	8.922	8.931	3336739	41.19	0.4119	127.87	
1,1-Dichloroethene	23	96.94	9.471				0.0019	0.44	U
Methylene Chloride	23	84.93	9.654	9.652	15678	0.69	0.0069	1.83	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.149	10.148	23144	1.12	0.0112	1.34	J
Propanenitrile	23	55.08	10.903	10.869	405009	11.70	0.1170	47.57	
Propanol	23	60.10	10.881	10.880	476412	11.60	0.1160	43.23	
1,1-Dichloroethane	23	98.96	11.775	11.773	15409	0.34	0.0034	0.77	J
2-Butanone	23	72.11	12.421	12.409	327611	14.35	0.1435	44.57	
cis-1,2-Dichloroethene	23	96.94	13.293				0.0017	0.39	U
Hexane	23	86.18	13.659	13.668	1971803	46.21	0.4621	120.10	
Chloroform	23	119.38	13.831	13.819	25219	0.61	0.0061	1.15	J
Tetrahydrofuran	23	72.11	14.563	14.584	39014	2.14	0.0214	6.66	
1,2-Dichloroethane	34	98.96	15.231	15.229	10155	0.25	0.0025	0.57	J
1,1,1-Trichloroethane	34	133.40	15.737	15.746	16942	0.46	0.0046	0.77	J
Butanenitrile	34	69.11	15.726	15.714	1298106	13.77	0.1377	44.62	
1-Butanol	34	74.12	16.211	16.209	1336701	78.68	0.7868	237.79	
Benzene	34	78.11	16.620	16.629	233392	1.95	0.0195	5.59	
Carbon Tetrachloride	34	153.82	16.911	16.920	19358	0.51	0.0051	0.75	J
Cyclohexane	34	84.16	17.180	17.189	106703	2.63	0.0263	7.01	
1,2-Dichloropropane	34	112.99	18.192				0.0015	0.30	U
Trichloroethene	34	131.39	18.633	18.653	16823	0.56	0.0056	0.95	J

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18122307.D

Page 1

E00 666

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.128	19.149	3689223	104.74	1.0474	234.14	
cis-1,3-Dichloropropene	34	110.97	20.324	20.344	10779	0.29	0.0029	0.58	J
4-Methyl-2-Pentanone	34	100.16	20.334	20.322	228399	5.58	0.0558	12.47	
Pyridine	34	79.10	20.517	20.559	217161	8.10	0.0810	22.94	J
trans-1,3-Dichloropropene	34	110.97	21.389	21.399	10941	0.43	0.0043	0.87	J
Pentanenitrile	34	83.13	21.411	21.409	728089	21.87	0.2187	58.93	
1,1,2-Trichloroethane	34	133.40	21.820	21.851	59602	2.42	0.0242	4.06	
Toluene	49	92.14	22.466	22.486	914969	17.59	0.1759	42.77	
1,2-Dibromoethane	49	187.86	23.995	24.004	13914	0.72	0.0072	0.86	J
Octane	49	114.23	24.544	24.553	608314	24.75	0.2475	48.54	
Bromoform	49	175.00	28.194	28.225	14404	0.55	0.0055	0.70	J
Tetrachloroethylene	49	165.83	25.029	25.049	16274	0.90	0.0090	1.22	J
Chlorobenzene	49	112.56	26.633	26.653	56681	1.04	0.0104	2.06	J
Hexanenitrile	49	97.13	26.891	26.900	550204	17.59	0.1759	40.56	
Ethylbenzene	49	106.17	27.505	27.514	84041	0.90	0.0090	1.90	J
p/m-Xylene	49	106.17	27.936	27.934	49997	1.52	0.0152	3.21	J
Cyclohexanone	49	98.14	28.355	28.375	215092	13.98	0.1398	31.90	
Styrene	59	104.15	28.851	28.871	22324	0.55	0.0055	1.19	J
1,1,2,2-Tetrachloroethane	59	167.85	29.088	29.075	91548	3.03	0.0303	4.05	
o-Xylene	59	106.17	29.152	29.172	25469	0.79	0.0079	1.67	J
Nonane	59	128.26	29.604	29.614	1162154	19.74	0.1974	34.48	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.554	32.553	76469	0.99	0.0099	1.85	
1,3,5-Trimethylbenzene	59	120.19	32.770	32.790	70518	1.06	0.0106	1.97	
1,2,4-Trimethylbenzene	59	120.19	34.040	34.049	86257	1.31	0.0131	2.45	
Decane	59	142.28	34.288	34.286	2214359	59.94	0.5994	94.37	
1,3-Dichlorobenzene	59	147.00	34.546	34.555	60061	1.44	0.0144	2.20	
1,4-Dichlorobenzene	59	147.00	34.751	34.771	60364	1.50	0.0150	2.28	
1,2-Dichlorobenzene	59	147.00	35.881	35.890	72331	1.88	0.0188	2.87	
Undecane	59	156.31	38.605	38.614	1305438	168.50	1.6850	241.47	
1,2,4-Trichlorobenzene	59	181.45	42.115	42.135	93036	6.49	0.0649	8.01	
Dodecane	59	170.34	42.643	42.641	1780439	216.22	2.1622	284.33	
Hexachloro-1,3-butadiene	59	260.76	43.945	43.955	176053	19.75	0.1975	16.96	
Tridecane	59	184.36	46.411	46.409	773997	122.03	1.2203	148.27	
Tetradecane	59	198.34	50.018	50.027	25401	38.42	0.3842	43.39	
Bromochloromethane (IS)	23	129.38	13.605	13.604	2369381	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.180	17.178	8218670	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.525	26.534	6408856	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.336	30.356	4361437	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Carbon dioxide	23	44	124-38-9	3.904	2292092	14.06	0.1406	71.56	NJ
Propene	23	42	115-07-1	4.463	8253525	50.62	0.5062	269.96	NJ
Propane	23	44	74-98-6	4.517	6365869	39.04	0.3904	198.75	NJ
Methyl nitrite	23	61	624-91-9	4.808	614841	3.77	0.0377	13.85	NJ
Cyclopropane	23	42	75-19-4	5.055	707288	4.34	0.0434	23.13	NJ
Acetaldehyde	23	44	75-07-0	5.292	1131294	6.94	0.0694	35.32	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.723	15663127	96.06	0.9606	384.23	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1-Butene	23	56	106-98-9	6.132	1338294	8.21	0.0821	32.83	NJ
2-Butene, (E)-	23	56	624-64-6	6.466	2980794	18.28	0.1828	73.12	NJ
Butane, 2-methyl-	23	72	78-78-4	7.973	1023727	6.28	0.0628	19.53	NJ
1-Pentene	23	70	109-67-1	8.490	7631847	46.80	0.4680	149.77	NJ
1-Butene, 2-methyl-	23	70	563-46-2	8.737	1916949	11.76	0.1176	37.62	NJ
2-Pentene, (E)-	23	70	646-04-8	9.211	1938634	11.89	0.1189	38.05	NJ
2-Pentene, (Z)-	23	70	627-20-3	9.556	1280245	7.85	0.0785	25.12	NJ
1-Pentene, 4-methyl-	23	84	691-37-2	11.429	987280	6.05	0.0605	16.15	NJ
1-Pentane, 4-methyl-	23	84	691-37-2	11.429	987280	6.05	0.0605	16.15	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.537	1022802	6.27	0.0627	15.61	NJ
Pentane, 2-methyl-	23	86	107-83-5	12.086	1898338	11.64	0.1164	30.32	NJ
Butanal	23	72	123-72-8	12.215	1480270	9.08	0.0908	28.24	NJ
Pentane, 3-methyl-	23	86	96-14-0	12.818	468088	2.87	0.0287	7.48	NJ
1-Hexene	23	84	592-41-6	13.076	18636818	114.30	1.1430	304.79	NJ
2-Hexene, (E)-	23	84	4050-45-7	13.873	2778835	17.04	0.1704	45.45	NJ
1,4-Pentadiene, 3-methyl-	23	82	1115-08-8	14.314	1188826	7.29	0.0729	19.92	NJ
2-Hexene	23	84	592-43-8	14.411	1694917	10.39	0.1039	27.72	NJ
1-Pentene, 2-methyl-	23	84	763-29-1	14.734	822447	5.04	0.0504	13.45	NJ
Unknown C6 Alkane (mw 86)	34	0		15.875	426391	2.17	0.0217		J
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		16.457	1168821	5.94	0.0594		J
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		17.329	2965075	15.07	0.1507		J
Butanenitrile, 2-methylene-	34	81	1647-11-6	17.490	2768803	14.07	0.1407	38.92	NJ
3-Heptene, (E)-	34	98	14686-14-7	17.620	1944848	9.88	0.0988	22.59	NJ
Unknown C8 Alkane (mw 114)	34	0		17.857	2050567	10.42	0.1042		J
3-Heptene	34	98	592-78-9	18.998	43804169	222.64	2.2264	508.88	NJ
2-Heptene	34	98	592-77-8	19.375	47543587	241.64	2.4164	552.32	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.881	36502753	185.53	1.8553	424.06	NJ
Cyclohexane, methyl-	34	98	108-87-2	20.667	777841	3.95	0.0395	9.04	NJ
Cyclopentane, ethyl-	34	98	1640-89-7	21.216	924168	4.70	0.0470	10.74	NJ
2-Butenal, 2-ethenyl-	34	96	20521-42-0	21.657	15678477	79.69	0.7969	185.93	NJ
Cyclopentane, 1,2-dimethyl-, cis-	34	98	1192-18-3	21.851	1998403	10.16	0.1016	23.22	NJ
2-HEXENE, 3-ETHYL-	49	112	0-00-0	22.174	1904042	11.02	0.1102	22.05	NJ
2-Heptyne	49	96	1119-65-9	22.788	15688480	90.83	0.9083	211.93	NJ
2-Hexanone	49	100	591-78-6	22.884	5528026	32.00	0.3200	71.69	NJ
2-Octene, (E)-	49	112	13389-42-9	23.014	6950684	40.24	0.4024	80.48	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.218	28541181	165.24	1.6524	324.67	NJ
Hexanal	49	100	66-25-1	23.412	593597	3.44	0.0344	7.70	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.875	30909396	178.95	1.7895	357.89	NJ
4-Heptenal, (Z)	49	112	6728-31-0	24.241	2835276	16.41	0.1641	32.83	NJ
3-Heptene, 3-methyl-	49	112	7300-03-0	24.392	8004878	46.34	0.4634	92.69	NJ
2-Octene	49	112	111-67-1	24.682	3287311	19.03	0.1903	38.06	NJ
2-Heptene, 3-methyl-	49	112		24.962	6498913	37.62	0.3762	75.25	NJ
2-Octene, (Z)-	49	112	7642-04-8	25.210	3598540	20.83	0.2083	41.67	NJ
3-Hexanone, 5-methyl-	49	114	623-56-3	25.522	1869253	10.82	0.1082	21.26	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	49	0		27.708	2507383	14.52	0.1452		J
3-Heptanone	49	114	106-35-4	28.031	69189785	400.57	4.0057	787.08	NJ
2-Heptanone	49	114	110-43-0	28.149	21807367	126.25	1.2625	248.07	NJ
Ethanol, 2-butoxy-	49	118	111-76-2	28.365	6288931	36.41	0.3641	69.12	NJ
Cyclopropane, 1-methyl-2-pentyl-	59	126	41977-37-1	29.064	2615476	18.17	0.1817	32.30	NJ

HNF-4073
REV. 0

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E00 669

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	ng/m ³	ppbv	Flags
1,3-Diethyl-1,4-epoxybutane	59	128		30.906	12407908	86.20	0.8620	150.85	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0			31.024	16260419	112.96	1.1296	J
1,2-Diethyl-1,4-epoxybutane	59	128		31.110	13672403	94.98	0.9498	166.22	NJ
3-Octen-2-one, (E)-	59	126	18402-82-9	31.401	16586091	115.22	1.1522	204.84	J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0			31.562	3294997	22.89	0.2289	J
Heptanenitrile	59	111	629-08-3	31.939	2070856	14.39	0.1439	29.03	NJ
4-Octanone	59	128	589-63-9	32.284	1302100	9.05	0.0905	15.83	NJ
Unknown C10 Alkane (mw 142)	59	0			32.359	949590	6.60	0.0660	J
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	59	140	19899-39	33.134	2721372	18.91	0.1891	30.25	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0			33.673	6105424	42.41	0.4241	J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	140			33.791	2101474	14.60	0.1460	23.36 J
Decane, 4-methyl-	59	156	2847-72-5	35.417	4147085	28.81	0.2881	41.37	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0			36.235	2575504	17.89	0.1789	J
Unknown C9 Alkene/Cycloalkane (mw 154)	59	0			36.536	1240501	8.62	0.0862	J
Decane, 5-methyl-	59	156	13151-35-4	36.849	937403	6.51	0.0651	9.35	NJ
Unknown C11 Alkane (mw 156)	59	0			37.032	1030083	7.16	0.0716	J
Decane, 2-methyl-	59	156	6975-98-0	37.150	893379	6.21	0.0621	8.91	NJ
1-Ethyl-2,2,6-trimethylcyclohexane	59	154	0-00-0	37.269	1101376	7.65	0.0765	11.13	NJ
Decane, 3-methyl-	59	156	13151-34-3	37.462	799429	5.55	0.0555	7.97	NJ
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.753	1776191	12.34	0.1234	20.03	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0			37.990	709464	4.93	0.0493	J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	154			38.173	886844	6.16	0.0616	8.96 J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0			39.110	1449525	10.07	0.1007	J
Unknown C12 Alkene/Cycloalkane (mw 168)	59	0			39.443	1217251	8.46	0.0846	J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0			39.723	881588	6.12	0.0612	J
Unknown C12 Alkane (mw 170)	59	0			39.896	733957	5.10	0.0510	J
Unknown Alkyl Decahydronaphthalene	59	0			40.175	1545122	10.73	0.1073	J
Cyclohexane, pentyl-	59	154	4292-92-6	40.617	1231590	8.56	0.0856	12.44	NJ
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.908	2209791	15.35	0.1535	22.62	NJ
Unknown C12 Alkane (mw 170)	59	0			41.274	929898	6.46	0.0646	J
Decane, 2,9-dimethyl-	59	170	1002-17-1	41.274	929898	6.46	0.0646	8.51	NJ
Unknown Alkyl Decahydronaphthalene	59	0			43.039	628798	4.37	0.0437	J
Naphthalene, decahydro-2,6-dimethyl-	59	166	1618-22-0	43.158	705823	4.90	0.0490	6.62	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	19567021
Difluorobenzene (IS)	34	19084999
D5-Chlorobenzene (IS)	49	19173082
1-Bromo-4-Fluorobenzene (IS)	59	25910289

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

E00 670

HNF-4073
Rev. 0

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18122307.D

Page 4

EOO 671

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-040.C135; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122307.D

HNF-4073
Rev. 0

Sample Info : C-106 VP006-040.C135; 200 ml; 2X

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 9 OF 13

Document Information

Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS E00-674 THRU PAGE E01- 019 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

Data File: /chem/hpdos1.i/18122301.b/18122308.D

Page 1

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

E00 674

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Methanol

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

HNF-4073

Column phase: DB-1

Column diameter: 0.32

Rev. 0

7 Butane

E00 678

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

Date : 06-NDV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Acetonitrile

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

12 Acetone

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227: 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Pentane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

16 Methylene Chloride

E00 684

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanenitrile

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

21 2-Butanone

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2K

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Butanenitrile

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

30 1-Butanol

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

31 Benzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

33 Cyclohexane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 Heptane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

39 4-Methyl-2-Pentanone

Date : 06-NDV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

40 Pyridine

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

42 Pentanenitrile

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

43 1,1,2-Trichloroethane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Toluene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 Octane

E00 700

Date: 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

50 Chlorobenzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

51 Hexanenitrile

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

52 Ethylbenzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

53 p/n-Xylene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

54 Cyclohexanone

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

56 1,1,2,2-Tetrachloroethane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

57 o-Xylene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227: 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

58 Nonane

E00 708

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

60 1-Ethyl-2-Methyl-Benzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

61 1,3,5-Trimethylbenzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

62 1,2,4-Trimethylbenzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

63 Decane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

64 1,3-Dichlorobenzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpds01.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

65 1,4-Dichlorobenzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

66 1,2-Dichlorobenzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

67 Undecane

Date: 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

68 1,2,4-Trichlorobenzene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

69 Dodecane

Date: 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227: 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

71 Tridecane

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

72 Tetradecane

ECO 721

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115913	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrous Oxide	10024-97-2	nbs75k.1	62271	7	N2O	44
Nitrous Oxide	10024-97-2	nbs75k.1	62270	7	N2O	44
Nitrous Oxide	10024-97-2	nbs75k.1	39	7	N2O	44

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	83	C3H6	42

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	64	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

E00 7235

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.1	131	83	CH3NO2	61
Monoethanolamine	141-43-5	nbs75k.1	62369	7	C2H7NO	61
Monoethanolamine	141-43-5	nbs75k.1	133	4	C2H7NO	61

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.1	62260	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	90	C3H6	42
Cyclopropane	75-19-4	WILEY138.1	115908	90	C3H6	42

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	62265	7	C2H4O	44
Isobutane	75-28-5	nbs75k.1	62335	37	C4H10	58
Isobutane	75-28-5	nbs75k.1	62334	9	C4H10	58

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	78	80	C4H8	56

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62309	46	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	80	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	80	C4H8	56

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (E)-	624-64-6	nbs75k.l	62301	74	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.l	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.l	62305	87	C4H8	56

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C5 Alkane (mw 72)

3-Buten-1-ol

3-Buten-1-ol

3-Buten-1-ol

CAS Number

Library

Entry

Quality

Formula

Weight

627-27-0

nbs75k.1

62484

47

C4H8O

72

627-27-0

nbs75k.1

62483

38

C4H8O

72

627-27-0

WILEY138.1

116415

38

C4H8O

72

E00 732

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	91	CEH10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62458	87	CEH10	70
Cyclopropane, 1,1-dimethyl-	1630-94-0	nbs75k.1	62468	87	CEH10	70

E00 733

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227: 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (E)-	646-04-8	nbs75k.1	233	87	CEH10	70
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	93	CEH10	70
2-Pentene, (Z)-	627-20-3	nbs75k.1	62456	90	CEH10	70

EOO 734

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (Z)-	627-20-3	WILEY138.1	116335	64	CEH10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	232	68	CEH10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	74	CEH10	70

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.l	230	87	CEH10	70
1-Pentene	109-67-1	WILEY138.l	116331	87	CEH10	70
Cyclopropane, ethyl-	1191-96-4	nbs75k.l	227	96	CEH10	70

E00 736

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 4-methyl-	691-37-2	WILEY138.1	116901	40	C6H12	84
2-Butene, (E)-	624-64-6	nbs75k.1	62301	47	C4H8	56
2-Butene	107-01-7	nbs75k.1	62303	47	C4H8	56

ECO 737

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Silanol, trimethyl-	1066-40-6	nbs75k.1	62980	46	C3H10OSi	90
SILANOL, TERT-BUTYLDIMETHYL-	0-00-0	WILEY138.1	6898	72	C6H16OSi	132
Silanol, trimethyl-	1066-40-6	WILEY138.1	324	46	C3H10OSi	90

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2-methyl-	107-83-5	nbs75k.l	733	90	C6H14	86
Pentane, 2-methyl-	107-83-5	WILEY138.l	106	87	C6H14	86
Pentane, 2-methyl-	107-83-5	nbs75k.l	62865	86	C6H14	86

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	WILEY138.1	116384	80	C4H8O	72
Butanal	123-72-8	nbs75k.1	62486	49	C4H8O	72
Butanal	123-72-8	WILEY138.1	116378	49	C4H8O	72

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 3-methyl-	96-14-0	nbs75k.1	62867	90	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.1	62868	90	C6H14	86
Pentane, 3-methyl-	96-14-0	nbs75k.1	734	90	C6H14	86

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84
1-Hexene	592-41-6	nbs75k.1	62755	87	C6H12	84

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Hexadiene, (Z)-	7318-67-4	nbs75k.1	486	93	C6H10	82
1,3-Pentadiene, 2-methyl-	1118-58-7	nbs75k.1	482	87	C6H10	82
1,4-Hexadiene	592-45-0	nbs75k.1	471	81	C6H10	82

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	50	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	50	C6H12	84
2-Hexene, (E)-	4050-45-7	WILEY138.1	116890	50	C6H12	84

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Pentadiene, 3-methyl-	1115-08-8	nbs75k.1	494	90	C6H10	82
1,4-Pentadiene, 3-methyl-	1115-08-8	nbs75k.1	62689	80	C6H10	82
Cyclopentene, 4-methyl-	1759-81-5	nbs75k.1	473	78	C6H10	82

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	WILEY138.1	116888	91	C6H12	84
2-Hexene	592-43-8	WILEY138.1	116887	91	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	90	C6H12	84

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	62768	81	C6H12	84
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	598	80	C6H12	84
1-Pentene, 2-methyl-	763-29-1	WILEY138.1	116894	80	C6H12	84

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, methyl-	96-37-7	nbs75k.1	594	87	CEH12	84
Cyclopentane, methyl-	96-37-7	nbs75k.1	62763	86	CEH12	84
1H-Tetrazole, 5-methyl-	4076-36-2	nbs75k.1	529	72	C2H4N4	84

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	62902	78	C4H8O2	88
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	62903	45	C4H8O2	88
2-Propanol, 1-propoxy-	1569-01-3	nbs75k.1	3556	42	C6H14O2	118

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdosl.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1,2-dimethyl-3-methylene-,	5070-00-8	nbs75k.1	491	78	C6H10	82
1-Butyne, 3-methyl-	598-23-2	nbs75k.1	62413	64	C6H8	68
1-Pentyne, 3-methyl-	922-59-8	nbs75k.1	500	80	C6H10	82

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C7 Alkene/Cycloalkane (mw 98)

Cyclopropane, (1-methylethenyl)-

Cyclopropane, (1-methylethenyl)-

Cyclopropane, 1,1'-(1,2-ethanediyl)bis-

CAS Number	Library	Entry	Quality	Formula	Weight
4663-22-3	nbs75k.1	490	55	C6H10	82
4663-22-3	WILEY138.1	116778	55	C6H10	82
37520-11-9	nbs75k.1	2394	50	C6H14	110

E00 751

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexene, 2-methyl-, (Z)-	15840-60-5	nbs75k.1	1328	94	C7H14	98
3-Hexene, 2-methyl-, (E)-	692-24-0	nbs75k.1	1320	90	C7H14	98
2-Hexene, 2-methyl-	2738-19-4	nbs75k.1	63229	83	C7H14	98

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2,4-dimethyl-	108-08-7	nbs75k.1	1594	46	C7H16	100
Pentane, 2,4-dimethyl-	108-08-7	WILEY138.1	118121	46	C7H16	100
Pentane, 2,4-dimethyl-	108-08-7	nbs75k.1	63424	43	C7H16	100

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile, 2-methylene-	1647-11-6	nbs75k.1	445	94	C5H7N	81
2-Pentenitrile	13284-42-9	nbs75k.1	447	62	C5H7N	81
2-Pentenitrile	13284-42-9	WILEY138.1	116729	53	C5H7N	81

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	50	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	78	C7H14	98
3-Heptene	592-78-9	WILEY138.1	901	78	C7H14	98

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227: 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C9 Alkane (mw 128)

1-Heptene, 4-methyl-

1-Butanol, 2-methyl-

Hexane, 3-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
13151-05-8	nbs75k.1	2675	50	C8H16	112
137-32-6	nbs75k.1	62949	43	C8H12O	88
589-34-4	nbs75k.1	63421	43	C7H16	100

EOO 756

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0Library Search Compound Match
Unknown C7 Alkene/Cycloalkane (mw 98)Cyclohexene
1,4-Hexadiene
1,4-Hexadiene

CAS Number	Library	Entry	Quality	Formula	Weight
110-83-8	WILEY138.1	116786	38	C6H10	82
592-45-0	nbs75k.1	471	35	C6H10	82
592-45-0	WILEY138.1	116766	35	C6H10	82

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C7 Alkene/Cycloalkane (mw 98)						
2H-Pyran-2-one, tetrahydro-5,6-dimethyl-	24405-16-1	nbs75k.1	4947	50	C7H12O2	128
2H-Pyran-2-one, tetrahydro-5,6-dimethyl-	24405-16-1	WILEY138.1	5859	50	C7H12O2	128
Cyclopentane, 1,1-dimethyl-	1638-26-2	WILEY138.1	117816	47	C7H14	98

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	WILEY138.1	117780	95	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	94	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117782	94	C7H14	98

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,5-Heptadiene, (Z)-	7736-34-7	nbs75k.1	1109	90	C7H12	96
1,5-Heptadiene, (Z)-	7736-34-7	WILEY138.1	610	90	C7H12	96
1,5-Hexadiene, 3-methyl-	1541-33-9	nbs75k.1	1148	72	C7H12	96

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.l	1339	93	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.l	1368	92	C7H14	98
3-Heptene	592-78-9	nbs75k.l	63247	91	C7H14	98

E00 761

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	91	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	91	C7H14	98
3-Heptene	592-78-9	nbs75k.1	1339	91	C7H14	98

EOO 762

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	94	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	94	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	94	C7H14	98

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	93	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, methyl-	108-87-2	nbs75k.1	63236	89	C7H14	98
2-Pentene, 2,3-dimethyl-	10574-37-5	nbs75k.1	1323	46	C7H14	98
Cyclohexane, methyl-	108-87-2	nbs75k.1	1326	46	C7H14	98

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C7 Alkene/Cycloalkane (mw 98)
1,3-Pentadiene, (Z)-
1,3-Butadiene, 2-methyl-
1,5,7-Octatrien-3-ol, 2,6-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
1574-41-0	nbs75k.1	62401	53	CEH8	68
78-79-5	nbs75k.1	62409	53	CEH8	68
29414-56-0	nbs75k.1	10373	53	C10H16O	152

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

**HNF-4073
Rev. 0**

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Heptadiene	5675-22-9	nbs75k.1	1149	91	C7H12	96
Cyclohexene, 1-methyl-	591-49-1	nbs75k.1	63132	72	C7H12	96
Cyclohexene, 1-methyl-	591-49-1	WILEY138.1	644	72	C7H12	96

ECO 767

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	63274	72	C7H14	98
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	1367	72	C7H14	98
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	WILEY138.1	938	72	C7H14	98

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2667	59	C8H16	112
19780-66-6	nbs75k.1	63999	64	C8H16	112
7300-03-0	nbs75k.1	64039	59	C8H16	112

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	95	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	93	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	93	C7H12	96

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	1556	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117990	91	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63386	90	C6H12O	100

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64022	72	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119059	83	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	81	C8H16	112

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Heptane, 3-methyl-

589-81-1

nbs75k.1

3099

90

C6H18

114

Heptane, 3-methyl-

589-81-1

WILEY138.1

119371

90

C6H18

114

Heptane, 3-methyl-

589-81-1

WILEY138.1

3192

83

C6H18

114

E00 773

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	91	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.	4850-28-6	nbs75k.1	2684	86	C8H16	112

EOO 774

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	72	C8H16	112
2-PENTENE, 3-ETHYL-2-METHYL-	0-00-0	WILEY138.1	2690	56	C8H16	112
3-HEXENE, 2,3-DIMETHYL-	0-00-0	WILEY138.1	2679	56	C8H16	112

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C8 Alkene/Cycloalkane (mw 112)

Cyclobutaneacetonitrile, 1-methyl-2-(1-m

Cyclopentane, 2-propenyl-

Cyclopentane, 2-propenyl-

CAS Number	Library	Entry	Quality	Formula	Weight
55760-15-1	WILEY138.1	12331	50	C10H15N	149
3524-75-2	nbs75k.1	2360	49	C8H14	110
3524-75-2	nbs75k.1	63883	49	C8H14	110

Date : 06-NOV-99 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	86	CEH16	112
2-PENTENE, 3-ETHYL-4-METHYL-	0-00-0	WILEY138.1	2691	80	CEH16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	80	CEH16	112

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	90	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	91	C8H16	112

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C8H16	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	87	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64033	87	C8H16	112

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	80	C8H16	112
2-Octene, (E)-	111-67-1	nbs75k.1	2659	87	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	93	C8H16	112

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	64	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	WILEY138.1	119328	62	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	58	C7H14O	114

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C8 Alkane (mw 114)

CYCLOBUTANE, BUTYL-

1-Hexene

2H-Pyran-2-one, tetrahydro-3,6-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2697	86	C8H16	112
592-41-6	nbs75k.1	62755	64	C6H12	84
3720-22-7	nbs75k.1	4916	59	C7H12O2	128

E00 782

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkane (mw 128)

Heptane, 2,6-dimethyl-

Heptane, 2,6-dimethyl-

Heptane, 2,6-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
1072-05-5	nbs75k.1	65137	64	C9H20	128
1072-05-5	nbs75k.1	5156	64	C9H20	128
1072-05-5	WILEY138.1	120922	64	C9H20	128

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	nbs75k.1	5062	9	C8H16O	128
Unknown C9 Alkene/Cycloalkane (mw 126)			0	0		0
Pyrrolidine, 1-acetyl-	4030-18-6	nbs75k.1	2784	25	C6H11NO	113

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64173	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64172	90	C7H14O	114

E00 735

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119304	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119301	86	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	64165	78	C7H14O	114

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	64	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121219	64	C8H18O	130
n-Butyl ether	142-96-1	nbs75k.1	65307	58	C8H18O	130

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64384	90	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	3383	83	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64382	83	C7H16O	116

E00 788

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C9 Alkene/Cycloalkane (mw 126)
1,6-Heptadiene
Butanedinitrile, 2,3-dimethyl-
2-Butyne

CAS Number	Library	Entry	Quality	Formula	Weight
3070-53-9	nbs75k.1	1115	40	C7H12	96
16411-13-5	nbs75k.1	2112	9	C6H8N2	108
503-17-3	nbs75k.1	62291	4	C4H6	54

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	nbs75k.1	4624	68	C9H18	126
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	WILEY138.1	120623	68	C9H18	126
1-Nonanol	143-08-8	nbs75k.1	66368	59	C9H20O	144

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	83321-16-8	nbs75k.1	4173	39	C ₈ H ₁₂ O	124
2-Cyclopenten-1-one, 3,4,5-trimethyl-	55683-21-1	nbs75k.1	4188	64	C ₈ H ₁₂ O	124
3,5-Heptadien-2-one, 6-methyl-, (E)-	16647-04-4	nbs75k.1	64793	64	C ₈ H ₁₂ O	124

ECO 791

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: BB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane	0-00-0	WILEY138.1	478	47		128
1-Hydroxycyclohexanecarboxylic acid	1123-28-0	nbs75k.1	8343	56	C7H12O3	144
1-HYDROXYCYCLOHEXANECARBOXYLIC ACID	1123-28-0	WILEY138.1	10615	56	C7H12O3	144

E00 792

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
1-Hexyn-3-ol	105-31-7	nbs75k.1	1263	72	C6H10O	98
Furan, 2-methoxy-	25414-22-6	nbs75k.1	1208	59	C5H6O2	98
Furan, 2-methoxy-	25414-22-6	WILEY138.1	756	59	C5H6O2	98

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane	1123-28-0	nbs75k.1	8343	64		128
1-HYDROXYCYCLOHEXANECARBOXYLIC ACID	1123-28-0	WILEY138.1	10615	64	C7H12O3	144
Phenol-d5	0-00-0	WILEY138.1	478	53	C6HD5O	94

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkane (mw 142)

2(5H)-FURANONE, 4,5,5-TRIMETHYL-

Oxazole, trimethyl-

1,3,2-Dioxaborolane-4,5-dimethanol, 2-et

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	5202	50	C7H10O2	126
20662-84-4	WILEY138.1	2343	50	C6H9NO	111
74841-61-5	nbs75k.1	32616	28	C10H17BO6	244

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	65087	50	C8H16O	128
Hexanal, 2-ethyl-	123-05-7	WILEY138.1	120841	50	C8H16O	128
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	65086	49	C8H16O	128

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63907	72	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	2435	70	C7H13N	111
Heptanenitrile	629-08-3	WILEY138.1	118929	70	C7H13N	111

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	5058	87	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65062	80	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	65061	80	C8H16O	128

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-ethyl-	74764-46-8	nbs75k.1	4663	53	C9H18	126
Cyclohexane, 1-ethyl-4-methyl-, cis-	4926-78-7	nbs75k.1	64933	40	C9H18	126
2-Hexenal, 2-ethyl-	645-62-5	nbs75k.1	64926	36	C8H14O	126

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C10 Alkane (mw 142)

Histamine Dihydrochloride

1H-Pyrazole, 1-methyl-

5-Heptenal, 2,6-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
51-45-6	nbs75k.1	63898	27	C9H9N3	111
930-36-9	nbs75k.1	62662	27	C4H6N2	82
106-72-9	nbs75k.1	7515	25	C9H16O	140

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octanone	111-13-7	WILEY138.1	120848	80	C8H16O	128
2-Octanone	111-13-7	WILEY138.1	120853	78	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	65044	56	C8H16O	128

E00 801

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	13427-43-5	nbs75k.1	7580	76		126
1,1,2,3-TETRAMETHYLCYCLOHEXANE A	6783-92-2	WILEY138.1	9524	76	C10H20	140
4-Octene, 2,6-dimethyl-, [S-(Z)]-	62960-77-4	WILEY138.1	9468	68	C10H20	140

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
1,2-Nonadiene	22433-33-6	nbs75k.1	4223	33	C ₉ H ₁₆	124
1,2-Nonadiene	22433-33-6	WILEY138.1	120434	33	C ₉ H ₁₆	124
Butanedinitrile, 2,3-dimethyl-	16411-13-5	nbs75k.1	2112	28	C ₈ H ₈ N ₂	108

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)
1-Octene, 3,7-dimethyl-
CYCLOBUTANE, ISOPROPYL-
2-Nonenal, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
4984-01-4	nbs75k.1	66070	62	C10H20	140
0-00-0	WILEY138.1	934	72	C7H14	98
18829-56-6	nbs75k.1	66051	64	C9H16O	140

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdcsl.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
Cyclohexane, 1,3-dimethyl-, trans-	2207-03-6	WILEY138.1	119113	68	C8H16	112
Cyclohexane, 1-methyl-4-(1-methylethyl)-	1678-82-6	nbs75k.1	66080	58	C10H20	140
3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	nbs75k.1	7530	58	C10H20	140

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227: 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)
cis-1-Butyl-2-methylcyclopropane
trans-1-Butyl-2-methylcyclopropane
Oxepane, 2,2,3-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
38851-69-3	nbs75k.1	2683	38	C8H16	112
38851-70-6	nbs75k.1	2690	38	C8H16	112
23120-43-6	nbs75k.1	1518	27	C6H12O	100

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
Cyclohexane, (1,2-dimethylbutyl)-
Cyclohexane, (1,2-dimethylpropyl)-
4-Ethylcyclohexanol

CAS Number	Library	Entry	Quality	Formula	Weight
61142-37-8	nbs75k.1	14741	43	C12H24	168
51284-29-8	nbs75k.1	11049	38	C11H22	154
4534-74-1	nbs75k.1	5118	35	C8H16O	128

E00 807

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	91	C11H24	156
Nonane, 2,6-dimethyl-	17302-28-2	nbs75k.1	11598	90	C11H24	156
Nonane, 2,6-dimethyl-	17302-28-2	WILEY138.1	15630	90	C11H24	156

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon (mw 152)						
.BETA.-D-THREOFURANOSE-1,2-O-ISOPROPYLID	0-00-0	WILEY138.1	16641	25	C7H12O4	160
Oxirane, (propoxymethyl)-	3126-95-2	nbs75k.1	64311	22	C6H12O2	116
Oxirane, (propoxymethyl)-	3126-95-2	WILEY138.1	119542	22	C6H12O2	116

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	7565	81	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	WILEY138.1	9503	81	C10H20	140
Cyclohexane, butyl-	1678-93-9	WILEY138.1	122508	74	C10H20	140

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkene/Cycloalkane (mw 154)						
Decane, 2,5,6-trimethyl-	62108-23-0	nbs75k.1	19019	43	C13H28	184
Heptane, 2,3,6-trimethyl-	4032-93-3	nbs75k.1	8096	43	C10H22	142
2-Methyl-1-undecanol	10522-26-6	nbs75k.1	19529	43	C12H26O	186

Date : 06-NOV-98 07:49

Client ID: 200 ml.

Sample Info: C-106 VP006-032.C227: 200 ml; 2K

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 5-methyl-	13151-35-4	nbs75k.1	11605	80	C11H24	156
Decane, 5-methyl-	13151-35-4	WILEY138.1	15627	80	C11H24	156
Decane, 5-methyl-	13151-35-4	nbs75k.1	67316	64	C11H24	156

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Decane, 4-methyl-

Decane, 4-methyl-

Decane, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
2847-72-5	nbs75k.1	11615	59	C11H24	156
2847-72-5	nbs75k.1	67323	53	C11H24	156
2847-72-5	WILEY138.1	15626	53	C11H24	156

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67320	87	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.1	67321	78	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.1	67322	72	C11H24	156

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Ethyl-2,2,6-trimethylcyclohexane	0-00-0	nbs75k.1	11030	91	C11H22	154
Cyclohexane, 1,1-dimethyl-2-propyl-	81983-71-3	nbs75k.1	11086	91	C11H22	154
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	0-00-0	WILEY138.1	14851	91	C11H22	154

EOO 815

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	93	C11H24	156
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	91	C11H24	156
Octane, 5-ethyl-2-methyl-	62016-18-6	nbs75k.1	11608	58	C11H24	156

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65957	98	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65956	98	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65955	98	C10H18	138

E00 817

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon (mw 152)						
1-Hexadecyne	629-74-3	nbs75k.1	28279	64	C16H30	222
Bicyclo[3.1.0]hexan-3-one, 4-methyl-1-(1	471-15-8	nbs75k.1	10345	58	C10H16O	152
Cyclohexane, ethylidene-	1003-64-1	nbs75k.1	63880	49	C8H14	110

E00 818

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdosl.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1,2-dibutyl-	41977-32-6	WILEY138.1	14832	80	C11H22	154
Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8	nbs75k.1	14774	80	C12H24	168
Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8	WILEY138.1	20750	80	C12H24	168

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
Phosphonic acid, dioctadecyl ester
Phosphonic acid, dioctadecyl ester
5-Undecene

CAS Number	Library	Entry	Quality	Formula	Weight
19047-85-9	nbs75k.1	60683	58	C36H75O3P	587
19047-85-9	WILEY138.1	112020	58	C36H75O3P	587
4941-53-1	WILEY138.1	124354	53	C11H22	154

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	83	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126018	83	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126019	64	C12H26	170

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
Phosphonic acid, dioctadecyl ester
Phosphonic acid, dioctadecyl ester
5-Undecene

CAS Number	Library	Entry	Quality	Formula	Weight
19047-85-9	nbs75k.1	60683	58	C36H75O3P	587
19047-85-9	WILEY138.1	112020	58	C36H75O3P	587
4941-53-1	WILEY138.1	124354	53	C11H22	154

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	83	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126018	83	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126019	64	C12H26	170

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkene/Cycloalkane (mw 154)						
Pulegone	69-82-7	WILEY138.1	123989	55	C10H16O	152
3-Dodecyne	6790-27-8	nbs75k.1	68019	52	C12H22	166
Bicyclo[3.1.0]hexan-2-one, 4-methyl-1-(1	2506-61-8	nbs75k.1	10348	50	C10H16O	152

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	58	C12H26	170
Undecane, 4-methyl-	2980-69-0	nbs75k.1	15354	64	C12H26	170
Octane, 6-ethyl-2-methyl-	62016-19-7	nbs75k.1	11609	64	C11H24	156

EOO 8.25

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	91	C11H20	152
2-METHYLDECALIN (PROBABLY TRANS)	2958-76-1	WILEY138.1	13881	91	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	91	C11H20	152

Date : 06-NOV-98 07:49

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	87	C11H22	154
Cyclohexane, pentyl-	4292-92-6	WILEY138.1	14841	87	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	74	C11H22	154

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2K

Instrument: hpdos1.1

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	95	C11H20	152
TRANS-ANTI-1-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13878	95	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	87	C11H20	152

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227: 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15354	59		170
Tridecane, 4-methyl-	26730-12-1	nbs75k.1	22537	56	C14H30	198
Heptane, 3,3,4-trimethyl-	20278-87-9	nbs75k.1	8083	53	C10H22	142

E00 829

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Decane, 2,9-dimethyl-
Undecane, 2-methyl-
Undecane, 2-methyl-

CAS Number

Library

Entry

Quality

Formula

Weight

1002-17-1

nbs75k.1

15361

86

C12H26

170

7045-71-8

nbs75k.1

15356

94

C12H26

170

7045-71-8

WILEY138.1

21649

94

C12H26

170

E00 830

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	83	C12H26	170
Decane, 6-ethyl-2-methyl-	62108-21-8	nbs75k.1	19010	64	C13H28	184
Nonane, 3-methyl-5-propyl-	31081-18-2	nbs75k.1	19054	53	C13H28	184

EOO 831

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14152	53	C12H22	166
Pulegone	69-82-7	nbs75k.1	10406	49	C10H16O	152
2(1H)-Naphthalenone, octahydro-8a-methyl	1197-95-1	nbs75k.1	14115	49	C11H18O	166

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	nbs75k.l	14151	91	C12H22	166
Naphthalene, decahydro-2,3-dimethyl-	1008-80-6	nbs75k.l	14168	47	C12H22	166
Naphthalene, decahydro-1,6-dimethyl-	1750-51-2	nbs75k.l	14174	46	C12H22	166

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	95	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	97	C13H28	184
Dodecane, 6-methyl-	6044-71-9	WILEY138.1	27736	97	C13H28	184

Date : 06-NOV-98 07:49

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
7-Tetradecyne	35216-11-6	nbs75k.1	21426	49	C14H26	194
Bicyclo[2.2.1]heptane, 2,2,3-trimethyl-,	20536-41-8	nbs75k.1	7066	46	C10H18	138
Bicyclo[2.2.1]heptane, 2,2,3-trimethyl-,	20536-40-7	nbs75k.1	7063	46	C10H18	138

E00 835

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-032.C227; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122308.D
 Injection Date : 06-NOV-98 07:49 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106 VP006-032.C227
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.626	4.626	19808	0.45	0.0045	0.84	J
Chloromethane	23	50.49	5.003	5.003	6303	0.16	0.0016	0.71	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.218				0.0065	0.85	U
Methanol	23	32.04	5.358	5.358	994277	33.83	0.3383	236.50	
Vinyl Chloride	23	62.50	5.498				0.0008	0.29	U
Butane	23	58.12	5.907	5.918	7735420	785.83	7.8583	3028.66	E
Bromomethane	23	94.94	6.392				0.0026	0.61	U
Chloroethane	23	64.51	6.736				0.0027	0.94	U
Ethanol	23	46.01	6.930	6.908	2470433	85.80	0.8580	417.73	
Acetonitrile	23	41.05	7.393	7.404	255995	5.81	0.0581	31.71	
Acetone	23	58.08	7.878	7.867	4632623	52.32	0.5232	201.77	
Trichlorofluoromethane	23	137.37	8.254	8.276	118293	3.54	0.0354	5.77	
Pentane	23	72.15	8.922	8.933	4464075	66.61	0.6661	206.80	
1,1-Dichloroethene	23	96.94	9.471				0.0019	0.44	U
Methylene Chloride	23	84.93	9.654	9.665	9197	0.49	0.0049	1.30	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.149				0.0020	0.24	U
Propanenitrile	23	55.08	10.903	10.871	519655	18.14	0.1814	73.78	
Propanol	23	60.10	10.881	10.892	342198	10.07	0.1007	37.53	
1,1-Dichloroethane	23	98.96	11.775				0.0010	0.23	U
2-Butanone	23	72.11	12.421	12.410	370373	19.61	0.1961	60.91	
cis-1,2-Dichloroethene	23	96.94	13.293				0.0017	0.39	U
Hexane	23	86.18	13.659	13.670	2722391	77.12	0.7712	200.46	
Chloroform	23	119.38	13.831				0.0013	0.24	U
Tetrahydrofuran	23	72.11	14.563	14.574	46846	3.11	0.0311	9.66	
1,2-Dichloroethane	34	98.96	15.231				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.737				0.0016	0.27	U
Butanenitrile	34	69.11	15.726	15.715	1601114	19.66	0.1966	63.71	
1-Butanol	34	74.12	16.211	16.211	1492104	101.69	1.0169	307.31	
Benzene	34	78.11	16.620	16.620	292856	2.83	0.0283	8.13	
Carbon Tetrachloride	34	153.82	16.911				0.0017	0.25	U
Cyclohexane	34	84.16	17.180	17.201	136995	3.91	0.0391	10.42	
1,2-Dichloropropane	34	112.99	18.192				0.0015	0.30	U
Trichloroethene	34	131.39	18.633				0.0012	0.20	U

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18122308.D

Page 1

E00 836

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.128	19.161	4073528	133.89	1.3389	299.32	
cis-1,3-Dichloropropene	34	110.97	20.324				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.334	20.324	229005	6.47	0.0647	14.47	
Pyridine	34	79.10	20.517	20.582	189829	8.20	0.0820	23.21	J
trans-1,3-Dichloropropene	34	110.97	21.389				0.0009	0.18	U
Pentanenitrile	34	83.13	21.411	21.400	873061	30.36	0.3036	81.82	
1,1,2-Trichloroethane	34	133.40	21.820	21.863	48181	2.26	0.0226	3.80	
Toluene	49	92.14	22.466	22.488	1197669	25.70	0.2570	62.47	
1,2-Dibromomethane	49	187.86	23.995				0.0026	0.31	U
Octane	49	114.23	24.544	24.566	792379	35.98	0.3598	70.55	
Bromoform	49	175.00	28.194				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.029				0.0021	0.28	U
Chlorobenzene	49	112.56	26.633	26.687	44432	0.91	0.0091	1.80	J
Hexanenitrile	49	97.13	26.891	26.902	725777	25.89	0.2589	59.71	
Ethylbenzene	49	106.17	27.505	27.516	60182	0.72	0.0072	1.52	J
p/m-Xylene	49	106.17	27.936	27.925	31045	1.05	0.0105	2.23	J
Cyclohexanone	49	98.14	28.355	28.366	233451	16.93	0.1693	38.64	
Styrene	59	104.15	28.851				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.088	29.066	99362	3.53	0.0353	4.71	
o-Xylene	59	106.17	29.152	29.163	10166	0.34	0.0034	0.71	J
Nonane	59	128.26	29.604	29.615	1468704	26.75	0.2675	46.71	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.554	32.565	23540	0.33	0.0033	0.61	J
1,3,5-Trimethylbenzene	59	120.19	32.770	32.791	18603	0.30	0.0030	0.56	J
1,2,4-Trimethylbenzene	59	120.19	34.040	34.062	30720	0.50	0.0050	0.93	J
Decane	59	142.28	34.288	34.288	3312772	96.14	0.9614	151.36	
1,3-Dichlorobenzene	59	147.00	34.546	34.557	15227	0.39	0.0039	0.60	J
1,4-Dichlorobenzene	59	147.00	34.751	34.761	17680	0.47	0.0047	0.72	J
1,2-Dichlorobenzene	59	147.00	35.881	35.892	19477	0.54	0.0054	0.83	J
Undecane	59	156.31	38.605	38.627	1750435	242.23	2.4223	347.13	
1,2,4-Trichlorobenzene	59	181.45	42.115	42.126	53068	3.97	0.0397	4.90	
Dodecane	59	170.34	42.643	42.642	2416274	314.60	3.1460	413.70	E
Hexachloro-1,3-butadiene	59	260.76	43.945	43.956	78386	9.43	0.0943	8.10	
Tridecane	59	184.36	46.411	46.400	1760467	297.58	2.9758	361.57	E
Tetradecane	59	198.34	50.018	50.018	6049	9.81	0.0981	11.08	
Bromochloromethane (IS)	23	129.38	13.605	13.605	1960002	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.180	17.180	7098804	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.525	26.536	5743407	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.336	30.358	4068086	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Carbon dioxide	23	44	124-38-9	3.904	2208343	11.97	0.1197	60.91	NJ
Nitrous Oxide	23	44	10024-97-2	3.961	2848233	15.43	0.1543	78.57	NJ
Propene	23	42	115-07-1	4.464	14699692	79.65	0.7965	424.78	NJ
Propane	23	44	74-98-6	4.518	9913380	53.71	0.5371	273.45	NJ
Methyl nitrite	23	61	624-91-9	4.809	1097604	5.95	0.0595	21.84	NJ
Cyclopropane	23	42	75-19-4	5.057	1205981	6.53	0.0653	34.85	NJ
Acetaldehyde	23	44	75-07-0	5.283	1480058	8.02	0.0802	40.83	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	5.724	22676232	122.87	1.2287	491.47	NJ
1-Butene	23	56	106-98-9	6.133	2198063	11.91	0.1191	47.64	NJ
2-Butene, (E)-	23	56	624-64-6	6.467	4980921	26.99	0.2699	107.95	NJ
Unknown C5 Alkane (mw 72)	23	0		7.985	2086661	11.31	0.1131		J
1-Butene, 2-methyl-	23	70	563-46-2	8.739	3013447	16.33	0.1633	52.25	NJ
2-Pentene, (E)-	23	70	646-04-8	9.213	3071309	16.64	0.1664	53.25	NJ
2-Pentene, (Z)-	23	70	627-20-3	9.557	2400645	13.01	0.1301	41.62	NJ
1-Pentene	23	70	109-67-1	9.740	3201649	17.35	0.1735	55.51	NJ
1-Pentene, 4-methyl-	23	84	691-37-2	11.441	1552260	8.41	0.0841	22.43	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.538	1417029	7.68	0.0768	19.11	NJ
Pentane, 2-methyl-	23	86	107-83-5	12.076	2674178	14.49	0.1449	37.74	NJ
Butanal	23	72	123-72-8	12.216	1804560	9.78	0.0978	30.42	NJ
Pentane, 3-methyl-	23	86	96-14-0	12.819	722464	3.91	0.0391	10.20	NJ
1-Hexene	23	84	592-41-6	13.078	24561667	133.08	1.3308	354.89	NJ
1,4-Hexadiene, (Z)-	23	82	7318-67-4	13.379	448832	2.43	0.0243	6.64	NJ
2-Hexene, (E)-	23	84	4050-45-7	13.874	3026254	16.40	0.1640	43.73	NJ
1,4-Pentadiene, 3-methyl-	23	82	1115-08-8	14.327	1614120	8.75	0.0875	23.89	NJ
2-Hexene	23	84	592-43-8	14.413	2365241	12.82	0.1282	34.17	NJ
1-Pentene, 2-methyl-	23	84	763-29-1	14.736	1325100	7.18	0.0718	19.15	NJ
Cyclopentane, methyl-	23	84	96-37-7	15.285	622841	3.37	0.0337	9.00	NJ
1,3-Dioxolane, 2-methyl-	34	88	497-26-7	15.446	284778	1.62	0.0162	4.13	NJ
Cyclopropane, 1,2-dimethyl-3-methylene-,	34	82	5070-00-8	15.877	591076	3.37	0.0337	9.21	NJ
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		16.458	1625134	9.27	0.0927		J
3-Hexene, 2-methyl-, (Z)-	34	98	15840-60-5	16.878	810497	4.62	0.0462	10.57	NJ
Pentane, 2,4-dimethyl-	34	100	108-08-7	17.330	2941726	16.78	0.1678	37.58	NJ
Butanenitrile, 2-methylene-	34	81	1647-11-6	17.492	2292042	13.07	0.1307	36.15	NJ
3-Heptene, (E)-	34	98	14686-14-7	17.621	2863987	16.34	0.1634	37.34	NJ
Unknown C9 Alkane (mw 128)	34	0		17.858	2659625	15.17	0.1517		J
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		18.052	1291098	7.36	0.0736		J
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		18.386	1062366	6.06	0.0606		J
1-Heptene	34	98	592-76-7	18.526	13009100	74.20	0.7420	169.60	NJ
1,5-Heptadiene, (Z)-	34	96	7736-34-7	18.676	1163515	6.64	0.0664	15.48	NJ
3-Heptene	34	98	592-78-9	19.010	51743147	295.13	2.9513	674.58	NJ
(Z)-3-Heptene	34	98	7642-10-6	19.204	31006663	176.85	1.7685	404.24	NJ
2-Heptene	34	98	592-77-8	19.387	55488257	316.49	3.1649	723.41	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.882	41509512	236.76	2.3676	541.16	NJ
Cyclohexane, methyl-	34	98	108-87-2	20.657	1130671	6.45	0.0645	14.74	NJ
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		21.217	1202046	6.86	0.0686		J
1,4-Heptadiene	34	96	5675-22-9	21.659	18422620	105.08	1.0508	245.18	NJ
Cyclopentane, 1,2-dimethyl-, cis-	34	98	1192-18-3	21.852	2502678	14.27	0.1427	32.63	NJ
2-HEXENE, 3-ETHYL-	49	112	0-00-0	22.165	2747613	17.35	0.1735	34.70	NJ
2-Heptyne	49	96	1119-65-9	22.789	18753161	118.41	1.1841	276.29	NJ
2-Hexanone	49	100	591-78-6	22.886	5946765	37.55	0.3755	84.11	NJ
2-Octene, (E)-	49	112	13389-42-9	23.015	8799584	55.56	0.5556	111.12	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.220	32529005	205.39	2.0539	403.58	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.887	35171736	222.08	2.2208	444.16	NJ
3-HEXENE, 3-ETHYL-	49	112	0-00-0	24.038	3303650	20.86	0.2086	41.72	NJ
Unknown C8 Alkene/Cycloalkane (mw 112)	49	0		24.232	3296555	20.82	0.2082		J
3-Heptene, 3-methyl-	49	112	7300-03-0	24.383	10180718	64.28	0.6428	128.57	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2-Octene	49	112	111-67-1	24.684	4370569	27.60	0.2760	55.19	NJ
2-HEPTENE, 3-METHYL-	49	112	0-00-0	24.953	9175781	57.94	0.5794	115.88	NJ
2-Octene, (2)-	49	112	7642-04-8	25.201	5139960	32.45	0.3245	64.91	NJ
3-Hexanone, 5-methyl-	49	114	623-56-3	25.524	2549005	16.09	0.1609	31.63	NJ
Unknown C8 Alkane (mw 114)	49	0		25.944	1012903	6.40	0.0640		J
Unknown C9 Alkane (mw 128)	49	0		26.159	1240137	7.83	0.0783		J
Furan, tetrahydro-2,2,5,5-tetramethyl-	49	128	15045-43-9	27.709	3745360	23.65	0.2365	41.39	J
3-Heptanone	49	114	106-35-4	28.043	79253140	500.42	5.0042	983.28	NJ
2-Heptanone	49	114	110-43-0	28.172	20000928	126.29	1.2629	248.15	NJ
Butane, 1,1'-oxybis-	49	130	142-96-1	28.366	6423453	40.56	0.4056	69.89	NJ
3-Heptanol	59	116	589-82-2	28.668	2420277	16.54	0.1654	31.93	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		28.872	547083	3.74	0.0374		J
Cyclopropane, 1-methyl-2-pentyl-	59	126	41977-37-1	29.066	3112553	21.27	0.2127	37.81	NJ
Cyclopent-2-ene-1-one, 2,3,4-trimethyl-	59	124	83321-16-8	29.432	732631	5.01	0.0501	9.04	NJ
1,3-Diethyl-1,4-epoxybutane	59	128	0-00-0	30.907	16861094	115.20	1.1520	201.60	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		31.036	22693141	155.04	1.5504		J
1,2-Diethyl-1,4-epoxybutane	59	128	1123-28-0	31.112	17383016	118.76	1.1876	207.84	NJ
Unknown C10 Alkane (mw 142)	59	0		31.402	21944320	149.93	1.4993		J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.575	4084034	27.90	0.2790		J
Heptanenitrile	59	111	629-08-3	31.941	5414024	36.99	0.3699	74.65	NJ
4-Octanone	59	128	589-63-9	32.296	3222599	22.02	0.2202	38.53	NJ
3-Heptene, 3-ethyl-	59	126	74764-46-8	32.511	802772	5.48	0.0548	9.75	NJ
Unknown C10 Alkane (mw 142)	59	0		32.716	1181834	8.07	0.0807		J
2-Octanone	59	128	111-13-7	33.006	2115263	14.45	0.1445	25.29	NJ
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	59	126	13427-43-5	33.136	2858695	19.53	0.1953	34.72	NJ
Unknown hydrocarbon	59	0		33.674	15752197	107.62	1.0762		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		33.792	3350457	22.89	0.2289		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		34.019	2698634	18.44	0.1844		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		35.095	579134	3.96	0.0396		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		35.246	530762	3.63	0.0363		J
Decane, 4-methyl-	59	156	2847-72-5	35.418	7195668	49.16	0.4916	70.59	NJ
Unknown hydrocarbon (mw 152)	59	0		35.956	1710615	11.69	0.1169		J
Cyclohexane, (2-methylpropyl)-	59	140	1678-98-4	36.247	5028148	34.35	0.3435	54.97	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		36.527	1955963	13.36	0.1336		J
Decane, 5-methyl-	59	156	13151-35-4	36.850	1500822	10.25	0.1025	14.72	NJ
Unknown C11 Alkane (mw 156)	59	0		37.022	1471920	10.06	0.1006		J
Decane, 2-methyl-	59	156	6975-98-0	37.152	1262682	8.63	0.0863	12.39	NJ
1-Ethyl-2,2,6-trimethylcyclohexane	59	154	0-00-0	37.270	1553397	10.61	0.1061	15.44	NJ
Decane, 3-methyl-	59	156	13151-34-3	37.464	1145667	7.83	0.0783	11.24	NJ
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.755	2947092	20.14	0.2014	32.68	NJ
Unknown hydrocarbon (mw 152)	59	0		37.991	1138357	7.78	0.0778		J
Cyclopropane, 1,2-dibutyl-	59	154	41977-32-6	38.174	1322471	9.04	0.0904	13.14	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		39.111	2199764	15.03	0.1503		J
Undecane, 5-methyl-	59	170	1632-70-8	39.445	1937727	13.24	0.1324	17.44	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		39.736	1480992	10.12	0.1012		J
Undecane, 5-methyl-	59	170	1632-70-8	39.886	1186213	8.10	0.0810	10.68	NJ
Unknown Alkyl Decahydronaphthalene	59	0		40.177	2486156	16.99	0.1699		J
Cyclohexane, pentyl-	59	154	4292-92-6	40.618	1424897	9.74	0.0974	14.16	NJ
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.909	3210455	21.93	0.2193	32.32	NJ

HNF-4073
REV. 0

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E00 840

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Undecane, 2-methyl-	59	170	7045-71-8	41.114	561983	3.84	0.0384	5.06	NJ
Decane, 2,9-dimethyl-	59	170	1002-17-1	41.275	1458174	9.96	0.0996	13.13	NJ
Undecane, 3-methyl-	59	170	1002-43-3	41.566	594929	4.06	0.0406	5.36	NJ
Naphthalene, decahydro-1,5-dimethyl-	59	166	66552-62-3	43.041	821880	5.62	0.0562	7.58	NJ
Naphthalene, decahydro-2,6-dimethyl-	59	166	1618-22-0	43.149	630756	4.31	0.0431	5.82	NJ
Undecane, 2,6-dimethyl-	59	184	17301-23-4	43.267	4361638	29.80	0.2980	36.28	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
*****	*****	*****
Bromochloromethane (IS)	23	22147230
Difluorobenzene (IS)	34	17006424
D5-Chlorobenzene (IS)	49	17579394
1-Bromo-4-Fluorobenzene (IS)	59	26345907

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

01/28/99 10:09

18122308.D

Page 5

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-032.C227; 200 ml; 2X

HP MS 18122308.D

Chromatogram plot showing Y-axis (x10⁻⁷) vs Time (Min). The plot displays numerous peaks, with major peaks labeled: Undecane, Unknown C13 Alkane (mw 184), Dodecane, and Tridecane. The x-axis ranges from 36 to 70 minutes, and the y-axis ranges from 0 to 1.1 x 10⁻⁷.

E00 843-B

Data File: /chem/hpdos1.i/18122301.b/18122309.D

Page 1

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

ECO 844

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Dichlorodifluoromethane

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 3

Column phase: DB-1

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

4 Methanol

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

18122309.D

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 6

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

ECO 849

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Acetonitrile

Data File: /chem/hpdos1.i/18122301.b/18122309.D
 Date : 06-NOV-98 09:18
 Client ID: 200 ml
 Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 8

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
 Rev. 0

Column phase: DB-1

12 Acetone

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227: 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

18 Propanenitrile

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

L00 859

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

25 Chloroform

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Page 19

Column phase: DB-1

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

29 Butanenitrile

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.1

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

30 1-Butanol

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

E00 864

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 22

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

33 Cyclohexane

E00 865

HNF-4073
REV. 0

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E00 866

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 23

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 Heptane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

39 4-Methyl-2-Pentanone

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

40 Pyridine

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 26

Column phase: DB-1

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

41 trans-1,3-Dichloropropene

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

43 1,1,2-Trichloroethane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

44 Toluene

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

46 Octane

E00 874

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 31

Column phase: DB-1

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

48 Tetrachloroethylene

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

50 Chlorobenzene

Data File: /chem/hpdos1.i/18122301.b/18122309.D
 Date : 06-NOV-98 09:18
 Client ID: 200 ml
 Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 33

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

51 Hexanenitrile

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

52 Ethylbenzene

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

53 p/m-Xylene

Data File: /chem/hpdos1.i/18122301.b/18122309.D

Page 36

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

54 Cyclohexanone

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

56 1,1,2,2-Tetrachloroethane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

57 o-Xylene

E00 882

Data File: /chem/hpdos1.i/18122301.b/18122309.D
 Date : 06-NOV-98 09:18
 Client ID: 200 ml
 Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

58 Nonane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

60 1-Ethyl-2-Methyl-Benzene

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

61 1,3,5-Trimethylbenzene

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

62 1,2,4-Trimethylbenzene

Data File: /chem/hpdcsl.i/18122301.b/18122309.D
 Date : 06-NOV-98 09:18
 Client ID: 200 ml
 Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Page 43

Instrument: hpdcsl.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

63 Decane

E00 887

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

67 Undecane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

68 1,2,4-Trichlorobenzene

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

69 Dodecane

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 47

Column phase: DB-1

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Page 48

Column phase: DB-1

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

71 Tridecane

Data File: /chem/hpdos1.i/18122301.b/18122309.D
 Date : 06-NOV-98 09:18
 Client ID: 200 ml
 Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Page 49

Column phase: BB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

72 Tetradecane

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115913	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrous Oxide	10024-97-2	nbs75k.1	62271	7	N2O	44
Nitrous Oxide	10024-97-2	nbs75k.1	62270	7	N2O	44
Nitrous Oxide	10024-97-2	nbs75k.1	39	7	N2O	44

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	86	C3H6	42

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	64	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

E00 897

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.1	131	74	CH3NO2	61
Monoethanolamine	141-43-5	nbs75k.1	62369	7	C2H7NO	61
Monoethanolamine	141-43-5	nbs75k.1	133	4	C2H7NO	61

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.1	62260	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	90	C3H6	42
Propene	115-07-1	nbs75k.1	62258	83	C3H6	42

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	36	7	C2H4O	44
Isobutane	75-28-5	nbs75k.1	62334	43	C4H10	58
Propane, 2-methyl-	75-28-5	WILEY138.1	116082	43	C4H10	58

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.l	62305	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.l	116022	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.l	78	80	C4H8	56

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62309	52	C4H8	56
2-Butene, (E)-	624-64-6	nbs75k.1	62301	83	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (E)-	624-64-6	nbs75k.1	62301	74	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C5 Alkane (mw 72)

Propane, 2-methyl-2-nitro-

Diazene, bis(1,1-dimethylethyl)-

Propane, 2-methyl-2-nitro-

CAS Number	Library	Entry	Quality	Formula	Weight
594-70-7	nbs75k.1	1808	37	C4H9NO2	103
927-83-3	nbs75k.1	7979	37	C8H18N2	142
594-70-7	WILEY138.1	118377	37	C4H9NO2	103

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 61

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	91	CEH10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	62467	86	CEH10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	WILEY138.1	116343	86	CEH10	70

E00 905

HNF-4073
REV. 0

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E00 906

Date : 06-NDV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (E)-	646-04-8	WILEY138.1	116337	90	C5H10	70
2-Pentene, (Z)-	627-20-3	nbs75k.1	62456	91	C5H10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	91	C5H10	70

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (Z)-	627-20-3	WILEY138.1	116335	46	C5H10	70
Oxirane, 2-(1,1-dimethylethyl)-3-methyl-	53897-30-6	WILEY138.1	3160	56	C7H14O	114
2-Pentene, (Z)-	627-20-3	nbs75k.1	62456	52	C5H10	70

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.1	230	87	CSH10	70
Cyclopropane, ethyl-	1191-96-4	nbs75k.1	227	90	CSH10	70
1-Pentene	109-67-1	WILEY138.1	116331	87	CSH10	70

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 4-methyl-	691-37-2	nbs75k.1	599	52	C6H12	84
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	49	C4H8	56
2-Butene, (E)-	624-64-6	nbs75k.1	62302	47	C4H8	56

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Silanol, trimethyl-	1066-40-6	nbs75k.1	907	64	C3H10OSi	90
Silanol, trimethyl-	1066-40-6	WILEY138.1	117352	64	C3H10OSi	90
Butanoic acid, trimethylsilyl ester	16844-99-8	nbs75k.1	12325	56	C7H16O2Si	160

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Page 67

Column phase: DB-1

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2-methyl-	107-83-5	nbs75k.1	62863	87	C6H14	86
Pentane, 2-methyl-	107-83-5	WILEY138.1	117115	87	C6H14	86
Pentane, 2-methyl-	107-83-5	nbs75k.1	62865	86	C6H14	86

E00 912

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62486	87	C4H8O	72
Butanal	123-72-8	WILEY138.1	116378	87	C4H8O	72
Butanal	123-72-8	WILEY138.1	116385	72	C4H8O	72

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 3-methyl-	96-14-0	nbs75k.l	62867	86	C6H14	86
Butane, 2,2,3-trimethyl-	464-06-2	nbs75k.l	63436	78	C7H16	100
Hexane, 3,4-dimethyl-	583-48-2	nbs75k.l	64210	78	C8H18	114

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84
1-Hexene	592-41-6	nbs75k.1	62755	87	C6H12	84

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Hexadiene, (Z)-	7318-67-4	nbs75k.1	486	87	C6H10	82
1,4-Hexadiene	592-45-0	nbs75k.1	471	90	C6H10	82
2,4-Hexadiene	592-46-1	nbs75k.1	62675	90	C6H10	82

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	50	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	50	C6H12	84
2-Hexene, (E)-	4050-45-7	WILEY138.1	116890	50	C6H12	84

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Pentadiene, 3-methyl-	1115-08-8	nbs75k.l	494	96	C6H10	82
Cyclopropane, 1,2-dimethyl-3-methylene-,	4866-55-1	nbs75k.l	505	90	C6H10	82
Cyclopentene, 1-methyl-	693-89-0	nbs75k.l	484	80	C6H10	82

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	WILEY138.1	116888	91	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	90	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	90	C6H12	84

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	598	64	C6H12	84
1-Pentene, 2-methyl-	763-29-1	WILEY138.1	116894	64	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	62	C6H12	84

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, methyl-	96-37-7	nbs75k.1	594	91	C6H12	84
Cyclopentane, 1,1-dimethyl-	1638-26-2	nbs75k.1	1333	72	C7H14	98
1H-Tetrazole, 5-methyl-	4076-36-2	nbs75k.1	529	72	C2H4N4	84

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.l	62902	78	C4H8O2	88
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.l	62903	72	C4H8O2	88
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.l	803	56	C4H8O2	88

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1,2-dimethyl-3-methylene-	62338-02-7	nbs75k.1	501	90	C6H10	82
Cyclopropane, 1,2-dimethyl-3-methylene-	4866-55-1	nbs75k.1	505	80	C6H10	82
Cyclopentene, 4-methyl-	1759-81-5	nbs75k.1	473	64	C6H10	82

E00 923

Date : 06-NOV-98 09:18

Client ID: 200-ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C7 Alkene/Cycloalkane (mw 98)						
Cyclopropane, (1-methylethenyl)-	4663-22-3	nbs75k.1	490	55	C6H10	82
Cyclopropane, (1-methylethenyl)-	4663-22-3	WILEY138.1	116778	55	C6H10	82
Cyclopropane, 1,1'-(1,2-ethenediyl)bis-	37520-11-9	nbs75k.1	2394	50	C6H14	110

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C7 Alkene/Cycloalkane (mw 98)						
Cyclopropane, (1-methylethenyl)-	4663-22-3	nbs75k.1	490	55	C6H10	82
Cyclopropane, (1-methylethenyl)-	4663-22-3	WILEY138.1	116778	55	C6H10	82
Cyclopropane, 1,1'-(1,2-ethanediyl)bis-	37520-11-9	nbs75k.1	2394	50	C6H14	110

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexene, 2-methyl-, (E)-	692-24-0	nbs75k.l	1320	94	C7H14	98
3-Methyl-3-hexene, cat	3404-65-7	nbs75k.l	1331	93	C7H14	98
Cyclopropane, 1,1-diethyl-	1003-19-6	nbs75k.l	1349	91	C7H14	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2,4-dimethyl-	108-08-7	nbs75k.1	1594	43	C7H16	100
Pentane, 2,4-dimethyl-	108-08-7	nbs75k.1	63424	43	C7H16	100
Pentane, 2,4-dimethyl-	108-08-7	WILEY138.1	118121	43	C7H16	100

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile, 2-methylene-	1647-11-6	nbs75k.1	445	96	C5H7N	81
2-Pentenitrile	13284-42-9	nbs75k.1	447	58	C5H7N	81
2-Pentenitrile	13284-42-9	WILEY138.1	116729	58	C5H7N	81

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	72	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	90	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	74	C7H14	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: BB-1

Operator: Alex

Column diameter: 0,32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C9 Alkane (mw 128)

Hexane, 3-methyl-

1-Butanol, 3-methyl-, formate

1-Hexene, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
589-34-4	nbs75k.1	63422	50	C7H16	100
110-45-2	WILEY138.1	119529	47	C6H12O2	116
3769-23-1	nbs75k.1	1338	43	C7H14	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227: 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C7 Alkene/Cycloalkane (mw 98)

1-Hexene, 4-methyl-

Cyclohexene

3-Heptene

CAS Number	Library	Entry	Quality	Formula	Weight
3769-23-1	nbs75k.1	63246	43	C7H14	98
110-83-8	nbs75k.1	504	35	C6H10	82
592-78-9	WILEY138.1	901	35	C7H14	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C7 Alkene/Cycloalkane (mw 98)						
Cyclopropane, (1-methylethyl)-	3638-35-5	nbs75k.1	592	50	C6H12	84
1-Hexene, 2-methyl-	6094-02-6	nbs75k.1	63261	49	C7H14	98
1-Hexene, 2-methyl-	6094-02-6	WILEY138.1	902	49	C7H14	98

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Page 87

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	WILEY138.1	117780	94	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	91	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117782	91	C7H14	98

E00 933

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,5-Heptadiene, (Z)-	7736-34-7	nbs75k.1	1109	64	C7H12	96
1,5-Heptadiene	1541-23-7	nbs75k.1	1124	59	C7H12	96
1,5-Heptadiene, (E)-	7736-22-3	nbs75k.1	1137	49	C7H12	96

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	93	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	87	C7H14	98
3-Heptene	592-78-9	WILEY138.1	901	87	C7H14	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	91	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	91	C7H14	98
3-Heptene	592-78-9	nbs75k.1	1339	91	C7H14	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	1337	93	C7H14	98
2-Heptene, (E)-	14686-13-6	WILEY138.1	898	94	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	93	C7H14	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	93	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	95	C7H14	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Cyclohexane, methyl-
Cyclohexane, methyl-
2-Pentene, 2,3-dimethyl-

CAS Number

Library

Entry

Quality

Formula

Weight

108-87-2

nbs75k.1

63235

70

C7H14

98

108-87-2

nbs75k.1

63236

68

C7H14

98

10574-37-5

nbs75k.1

1323

64

C7H14

98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C7 Alkene/Cycloalkane (mw 98)
3,4-Heptadiene
1,4-Heptadiene
2-Hexyn-1-ol

CAS Number	Library	Entry	Quality	Formula	Weight
2454-31-1	WILEY138.1	615	91	C7H12	96
5675-22-9	nbs75k.1	1149	62	C7H12	96
764-60-3	nbs75k.1	1290	58	C6H10O	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Heptadiene	5675-22-9	nbs75k.1	63132	72	C7H12	96
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	72	C7H12	96
Cyclohexene, 1-methyl-	591-49-1	WILEY138.1	644	72	C7H12	96

E00 941

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, 1,2-dimethyl-, cis	1192-18-3	nbs75k.1	2686	59		98
1-Heptene, 3-methyl-	4810-09-7	WILEY138.1	2647	59	C8H16	112
Oxirane, 2-(1,1-dimethylethyl)-3-ethyl-,	36099-44-2	nbs75k.1	5072	42	C8H16O	128

E00 942

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
2-HEXENE, 3-ETHYL-	nbs75k.1	2711	59	C8H16	112
1-Pentene, 3-ethyl-2-methyl-	nbs75k.1	63999	52	C8H16	112
Cyclohexanecarboxaldehyde	2043-61-0	nbs75k.1	52	C7H12O	112

E00 943

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2K; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	95	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	93	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	93	C7H12	96

E00 944

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	1556	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117990	91	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63386	90	C6H12O	100

E00 945

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	72	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	83	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119060	83	C8H16	112

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	91	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	91	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	83	C8H18	114

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	91	C8H16	112
2-Butene, 2-methyl-	513-35-9	nbs75k.1	62462	86	C5H10	70

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	86	C8H16	112
3-Hexene, 2,2-dimethyl-, (E)-	690-93-7	nbs75k.1	64055	64	C8H16	112
3-Hexene, 2,2-dimethyl-, (E)-	690-93-7	WILEY138.1	119079	64	C8H16	112

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C8 Alkene/Cycloalkane (mw 112)
1,4-Hexadiene, 2,5-dimethyl-
1,4-Hexadiene, 2,5-dimethyl-
1,6-Octadiene, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
927-97-9	nbs75k.1	2390	53	C8H14	110
927-97-9	WILEY138.1	2243	53	C8H14	110
19036-81-8	nbs75k.1	2361	50	C8H14	110

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	87	C8H16	112
5-Methyl-3-heptene	0-00-0	nbs75k.1	2641	86	C8H16	112
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	80	C8H16	112

Data File: /chem/hpdos1.i/18122301.b/18122309.D
Date : 06-NOV-98 09:18
Client ID: 200 ml
Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Page 106

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	90	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	C8H16	112
2-Octene, (E)-	13389-42-9	WILEY138.1	2641	91	C8H16	112

E00 952

Data File: /chem/hpdos1.i/18122301.b/18122309.D

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

2-HEPTENE, 3-METHYL-

0-00-0

WILEY138.1

2651

95

C8H16

112

1-Pentene, 3-ethyl-4-methyl-

61847-80-1

nbs75k.1

2732

87

C8H16

112

Heptane, 3-methylene-

1632-16-2

nbs75k.1

64031

72

C8H16

112

E00 953

~~006-063~~BMT
2/24/99

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	87	C8H16	112
2-Octene	111-67-1	nbs75k.1	2659	87	C8H16	112
N-OCTAN-3-ENE	0-00-0	WILEY138.1	119057	87	C8H16	112

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	68	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	58	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	WILEY138.1	3101	58	C7H14O	114

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C8 Alkane (mw 114)

CYCLOBUTANE, BUTYL-

Cyclobutane, 1,2-diethyl-, cis-

Cyclobutane, 1,2-diethyl-, trans-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2697	86	C8H16	112
61141-50-2	nbs75k.1	2733	59	C8H16	112
19341-98-1	WILEY138.1	2699	59	C8H16	112

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkane (mw 128)

Heptane, 2,6-dimethyl-

Heptane, 2,6-dimethyl-

Heptane, 2,6-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
1072-05-5	nbs75k.1	65137	64	C9H20	128
1072-05-5	WILEY138.1	120921	64	C9H20	128
1072-05-5	WILEY138.1	120922	64	C9H20	128

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	nbs75k.1	5054	36	C6H16O	128
Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	WILEY138.1	120898	36	C6H16O	128
Azetidine, 1-acetyl-2-methyl-	50837-77-9	nbs75k.1	2771	28	C6H11NO	113

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	64173	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64172	90	C7H14O	114

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	nbs75k.1	64165	86	C7H14O	114
2-Hexanone, 5-methyl-	110-12-3	WILEY138.1	119324	86	C7H14O	114
2-Hexanone, 5-methyl-	110-12-3	nbs75k.1	64147	78	C7H14O	114

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2K; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121219	64	C6H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	64	C6H18O	130
n-Butyl ether	142-96-1	nbs75k.1	65307	49	C6H18O	130

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.l	64382	83	C7H16O	116
3-Heptanol	589-82-2	nbs75k.l	64384	83	C7H16O	116
3-Hexanol, 5-methyl-	623-55-2	nbs75k.l	64371	74	C7H16O	116

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	nbs75k.1	4624	90	C9H18	126
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	WILEY138.1	120623	90	C9H18	126
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	WILEY138.1	5444	90	C9H18	126

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Furan, 2,5-diethyltetrahydro-	41239-48-9	nbs75k.1	5105	72	C8H16O	128
Furan, 2,5-diethyltetrahydro-	41239-48-9	WILEY138.1	6013	72	C8H16O	128
1-Ethylcyclohexanol	1940-18-7	WILEY138.1	6017	53	C8H16O	128

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexyn-3-ol	105-31-7	nbs75k.l	1263	72	C6H10O	98
trans-4,4-Dimethyl-2-hexene	19550-83-5	nbs75k.l	2688	64	C8H16	112
3-Penten-2-one, 4-methyl-	141-79-7	nbs75k.l	63217	59	C6H10O	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

1,3-Diethyl-1,4-epoxybutane
2,2'-Bioxepane
Glycocyanidine

CAS Number

Library

Entry

Quality

Formula

Weight

74793-02-5

nbs75k.l

22423

64

128

503-86-6

nbs75k.l

22401

64

C12H22O2

198

503-86-6

nbs75k.l

1373

64

C5H5N3O

99

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	5098	55	CBH16O	128
Hexanal, 2-ethyl-	123-05-7	WILEY138.1	120843	55	CBH16O	128
1-Octyn-3-ol, 4-ethyl-	5877-42-9	nbs75k.1	67148	47	C10H18O	154

E00 967

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkane (mw 142)

2(5H)-FURANONE, 4,5,5-TRIMETHYL-

3-Octen-2-one, (E)-

1,3,2-Dioxaborolane-4,5-dimethanol, 2-et

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	5202	50	C7H10O2	126
18402-82-9	nbs75k.1	4533	28	C6H14O	126
74841-61-5	nbs75k.1	32616	28	C10H17BO6	244

E00 968

Data File: /chem/hpdos1.i/18122301.b/18122309.D

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63907	72	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	64	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63909	64	C7H13N	111

Data File: /chem/hpdos1.i/18122301.b/18122309.D

Page 124

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65060	87	C8H16O	128
4-Octanone	589-63-9	WILEY138.1	5942	87	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	5058	83	C8H16O	128

E00 969-B

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octane, 4-ethyl-	15869-86-0	nbs75k.1	8095	50	C10H22	142
Nonane, 2,5-dimethyl-	17302-27-1	nbs75k.1	11616	47	C11H24	156
Undecane, 5,6-dimethyl-	17615-91-7	nbs75k.1	19004	38	C13H28	184

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexenal, 2-ethyl-	645-62-5	nbs75k.l	64926	53	C8H14O	126
2-Hexenal, 2-ethyl-	645-62-5	nbs75k.l	64925	40	C8H14O	126
Cyclohexane, 1-ethyl-4-methyl-, trans-	6236-88-0	nbs75k.l	64954	37	C9H18	126

E00 971

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C10 Alkane (mw 142)

Nonane, 2-methyl-

cis-3-Hexenyl 2-methylbutanoate

1H-Pyrazole, 1-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
871-83-0	nbs75k.1	66220	38	C10H22	142
0-00-0	nbs75k.1	18865	37	C11H20O2	184
930-36-9	nbs75k.1	62662	27	C4H6N2	82

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octanone	111-13-7	nbs75k.1	65046	83	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	65043	80	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	5038	80	C8H16O	128

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2	nbs75k.1	7580	76	C10H20	140
1,1,2,3-TETRAMETHYLCYCLOHEXANE A	6783-92-2	WILEY138.1	9524	76	C10H20	140
CYCLOHEXANE, 1,1,4,4-TETRAMETHYL-	0-00-0	WILEY138.1	9532	53	C10H20	140

EOO 974

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
1H-Pyrazole, 4,5-dihydro-1,5-dimethyl-	5775-96-2	nbs75k.l	1226	27	C5H10N2	98
2-Pentene, 4,4-dimethyl-, (E)-	690-08-4	nbs75k.l	63250	22	C7H14	98
1H-Pyrazole, 4,5-dihydro-4,5-dimethyl-	28019-94-5	nbs75k.l	1232	22	C5H10N2	98

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkane (mw 128)						
Butanedinitrile, 2,3-dimethyl-	16411-13-5	nbs75k.1	2112	28	C6H8N2	108
Butanedinitrile, 2,3-dimethyl-	16411-13-5	WILEY138.1	1881	28	C6H8N2	108
2,7-Octadiene, 4-methyl-	0-00-0	nbs75k.1	4209	9	C9H16	124

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1-ethyl-2-heptyl-	74663-86-8	nbs75k.1	14774	78	C12H24	168
Cyclopropane, 1-methyl-2-octyl-	37617-26-8	nbs75k.1	14744	78	C12H24	168
CYCLOPROPANE, 1-METHYL-2-OCTYL-, CIS/TRA	37617-26-8	WILEY138.1	20749	78	C12H24	168

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 1,4-dimethyl-	589-90-2	nbs75k.1	64013	87	C8H16	112
Cyclohexane, 1,4-dimethyl-	589-90-2	WILEY138.1	2730	87	C8H16	112
3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	nbs75k.1	7530	68	C10H20	140

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65294	83	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121197	80	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	5518	78	C ₈ H ₁₈ O	130

E00 979

HNF-4073
REV. 0

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E00 980

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nonane, 2,6-dimethyl-	17302-28-2	nbs75k.1	11598	90	C11H24	156
Nonane, 2,6-dimethyl-	17302-28-2	WILEY138.1	15630	90	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	83	C11H24	156

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentanol, 5-methoxy-2-methyl-	55724-04-4	nbs75k.1	5814	27	C7H16O2	132
2-Pentanol, 5-methoxy-2-methyl-	55724-04-4	WILEY138.1	6924	27	C7H16O2	132
Octane, 2,4,6-trimethyl-	62016-37-9	nbs75k.1	11606	22	C11H24	156

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032,C227; 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	66067	80	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	7565	74	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	WILEY138.1	9503	74	C10H20	140

E00 983

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdcsl.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
Dodecane, 2,5-dimethyl-
Dodecane, 2,5-dimethyl-
Heptane, 3-ethyl-2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
56292-65-0	nbs75k.l	22531	47	C14H30	198
56292-65-0	WILEY138.l	34140	47	C14H30	198
14676-29-0	nbs75k.l	8080	40	C10H22	142

E00 984

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227: 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	WILEY138.1	5025	72	C8H15N	125
Octanenitrile	124-12-9	nbs75k.1	4352	59	C8H15N	125
2-Hexenoic acid, 3-hexenyl ester, (E,Z)-	53398-87-1	nbs75k.1	21872	43	C12H20O2	196

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdosl.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkane (mw 156)						
Decane	124-18-5	nbs75k.l	66205	53	C10H22	142
Decane	124-18-5	WILEY138.l	10235	53	C10H22	142
Hexane, 2,2,3,3-tetramethyl-	13475-81-5	nbs75k.l	8106	50	C10H22	142

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	WILEY138.1	124560	64	C11H24	156
Nonane, 4-methyl-5-propyl-	62185-55-1	nbs75k.1	19021	59	C13H28	184
Nonane, 4-methyl-5-propyl-	62185-55-1	WILEY138.1	27799	59	C13H28	184

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.l	67322	90	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.l	67321	87	C11H24	156
Heptadecane, 2,6-dimethyl-	54105-67-8	nbs75k.l	37466	64	C19H40	268

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Ethyl-2,2,6-trimethylcyclohexane	0-00-0	nbs75k.1	11030	97	C11H22	154
Cyclohexane, 1,1-dimethyl-2-propyl-	81983-71-3	nbs75k.1	11086	91	C11H22	154
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	81983-71-3	WILEY138.1	14847	91	C11H22	154

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.l	67315	89	C11H24	156
Decane, 3-methyl-	13151-34-3	nbs75k.l	67314	76	C11H24	156
Dodecane, 3-methyl-	17312-57-1	nbs75k.l	19011	50	C13H28	184

E00 990

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65955	95	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65956	95	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	WILEY138.1	122347	95	C10H18	138

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown hydrocarbon (mw 152)

4(1H)-Pyridinone, 2,3-dihydro-1-methyl-

4(1H)-Pyridinone, 2,3-dihydro-1-methyl-

3-Buten-2-one, 4-(1-aziridinyl)-

CAS Number	Library	Entry	Quality	Formula	Weight
35488-00-7	nbs75k.1	2418	49	C6H9NO	111
35488-00-7	WILEY138.1	2353	46	C6H9NO	111
18277-57-1	WILEY138.1	2342	43	C6H9NO	111

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

Cyclohexane, 1-ethyl-4-methyl-, cis-

Cyclohexane, 1-ethyl-4-methyl-, cis-

m-Menthane, (1S,3R)-(+)-

CAS Number	Library	Entry	Quality	Formula	Weight
4926-78-7	nbs75k.1	4633	45	C9H18	126
4926-78-7	nbs75k.1	64934	43	C9H18	126
13837-66-6	nbs75k.1	7546	43	C10H20	140

E00 993

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	83	C12H26	170
Undecane, 5-methyl-	1632-70-8	WILEY138.1	126018	83	C12H26	170
Octane, 2-methyl-	3221-61-2	nbs75k.1	65117	58	C9H20	128

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
2-Decalone, cat	4832-17-1	nbs75k.1	10378	58	C10H16O	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	10436	55	C11H20	152
CIS-SYN-2-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13879	55	C11H20	152

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-032.C227: 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown Alkyl Decahydronaphthalene
Pulegone
Pulegone
Pulegone

CAS Number	Library	Entry	Quality	Formula	Weight
69-82-7	nbs75k.1	66994	87	C10H16O	152
69-82-7	WILEY138.1	123990	87	C10H16O	152
69-82-7	WILEY138.1	123989	81	C10H16O	152

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	67185	83	C11H22	154
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	83	C11H22	154
Cyclohexane, pentyl-	4292-92-6	WILEY138.1	14841	83	C11H22	154

E00 997

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	94	C11H20	152
TRANS-ANTI-1-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13878	94	C11H20	152
(Z)-6,6-Dimethylcyclooct-4-en-1-one	91531-64-5	WILEY138.1	13709	90	C10H16O	152

HNF-4013
REV 0

Data File: /chem/hpdos1.i/18122301.b/18122309.D

Page 153

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	87	C12H26	170
Undecane, 2-methyl-	7045-71-8	WILEY138.1	21649	87	C12H26	170
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.1	15361	78	C12H26	170

E00-999

~~E00-999~~ BMT
2/21/99

HNF-4073
REV. 0

Data File: /chem/hpdos1.i/18122301.b/18122309.D

Page 154

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.1	15362	83	C12H26	170
Tetracontane, 3,5,24-trimethyl-	55162-61-3	nbs75k.1	60914	72	C43H88	605
Tridecane, 7-propyl-	56045-09-5	nbs75k.1	29265	72	C16H34	226

BMT
2/24/99

E01 000

Date : 06-NOV-98 09:18

Client ID: 200 ml

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
6-Dodecene, (E)-	7206-17-9	nbs75k.1	68115	93	C12H24	168
3-Dodecene, (Z)-	7239-23-8	nbs75k.1	68120	91	C12H24	168
3-Dodecene, (Z)-	7239-23-8	WILEY138.1	125794	91	C12H24	168

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227: 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
trans,trans-1,10-Dimethylspiro[4.5]decan	0-00-0	nbs75k.l	14137	64	C12H22	166
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.l	14152	55	C12H22	166
Cyclohexanone, 2-methyl-5-(1-methylethen	5948-04-9	nbs75k.l	66973	50	C10H16O	152

E01-002

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69033	97	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	27745	97	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	96	C13H28	184

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C13 Alkene/Cycloalkane (mw 182)						
Decane, 1,1'-oxybis-	2456-28-2	nbs75k.1	72724	64	C20H42O	298
Decane, 2,4,6-trimethyl-	62108-27-4	nbs75k.1	19032	47	C13H28	184
Undecane, 2,4-dimethyl-	17312-80-0	nbs75k.1	18999	47	C13H28	184

E01 004

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
cis,trans-1,10-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14138	55	C12H22	166
Cyclohexanone, 2-methyl-5-(1-methylethen	5948-04-9	nbs75k.1	66973	43	C10H16O	152
Cyclohexanone, 5-methyl-2-(1-methylethen	29606-79-9	nbs75k.1	10359	43	C10H16O	152

E01 005

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106, VP006-032, C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68867	94	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	91	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	55	C13H26	182

E01 006

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C13 Alkene/Cycloalkane (mw 182)

Decane, 2,9-dimethyl-

Decane

Octadecane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
1002-17-1	nbs75k.1	15361	47	C12H26	170
124-18-5	nbs75k.1	66207	47	C10H22	142
1560-88-9	nbs75k.1	37462	47	C19H40	268

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane, 7-methyl-	26730-14-3	WILEY138.1	34139	91	C14H30	198
Nonane, 3-methyl-	5911-04-6	WILEY138.1	10243	83	C10H22	142
Octane, 2,3,7-trimethyl-	62016-34-6	nbs75k.1	11603	78	C11H24	156

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, 1,2-dibutyl-	62199-52-4	nbs75k.1	18498	87	C13H26	182
4-Nonene, 5-butyl-	7367-38-6	nbs75k.1	18496	68	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68868	59	C13H26	182

Date : 06-NOV-98 09:18

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: C-106 VP006-032.C227; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C14 Alkene/Cycloalkane (mw 196)						
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	74	C13H26	182
Cyclopentane, butyl-	2040-95-1	nbs75k.1	4645	72	C9H18	126
Cyclohexane, 1,2,3-trimethyl-, (1.alpha.)	1678-81-5	nbs75k.1	64962	68	C9H18	126

Sample I

HNF-4073
Rev. 0

E01 011

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument ID : hpdos1.i
Method : InCal2_53097.m
File : 18122309.D
Injection Date : 06-NOV-98 09:18 Operator : Alex
Matrix : AIR Lab. Sample ID: C-106 VP006-032.C227
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.626	4.627	18711	0.36	0.0036	0.67	J
Chloromethane	23	50.49	5.003	5.014	5902	0.13	0.0013	0.56	J
1,2-dichloro1,1,2,2-tetrafluoroethane	23	170.92	5.218				0.0065	0.85	U
Methanol	23	32.04	5.358	5.359	1051785	29.95	0.2995	209.40	
Vinyl Chloride	23	62.50	5.498				0.0008	0.29	U
Butane	23	58.12	5.907	5.919	7915706	673.04	6.7304	2593.98	E
Bromomethane	23	94.94	6.392				0.0026	0.61	U
Chloroethane	23	64.51	6.736				0.0027	0.94	U
Ethanol	23	46.01	6.930	6.909	2620480	76.18	0.7618	370.86	
Acetonitrile	23	41.05	7.393	7.394	281871	5.36	0.0536	29.22	
Acetone	23	58.08	7.878	7.867	4782241	45.20	0.4520	174.33	
Trichlorofluoromethane	23	137.37	8.254	8.266	119680	3.00	0.0300	4.88	
Pentane	23	72.15	8.922	8.933	4611529	57.59	0.5759	178.80	
1,1-Dichloroethene	23	96.94	9.471				0.0019	0.44	U
Methylene Chloride	23	84.93	9.654	9.665	9863	0.44	0.0044	1.16	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.149	10.139	6943	0.34	0.0034	0.41	J
Propanenitrile	23	55.08	10.903	10.871	564826	16.50	0.1650	67.12	
Propanol	23	60.10	10.881	10.882	358651	8.83	0.0883	32.93	
1,1-Dichloroethane	23	98.96	11.775				0.0010	0.23	U
2-Butanone	23	72.11	12.421	12.422	394303	17.47	0.1747	54.27	
cis-1,2-Dichloroethene	23	96.94	13.293				0.0017	0.39	U
Hexane	23	86.18	13.659	13.671	2748240	65.16	0.6516	169.37	
Chloroform	23	119.38	13.831	13.832	9877	0.24	0.0024	0.45	J
Tetrahydrofuran	23	72.11	14.563	14.596	50611	2.81	0.0281	8.74	
1,2-Dichloroethane	34	98.96	15.231				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.737				0.0016	0.27	U
Butanenitrile	34	69.11	15.726	15.716	1838515	18.34	0.1834	59.45	
1-Butanol	34	74.12	16.211	16.211	1581597	87.58	0.8758	264.68	
Benzene	34	78.11	16.620	16.631	307314	2.42	0.0242	6.93	
Carbon Tetrachloride	34	153.82	16.911				0.0017	0.25	U
Cyclohexane	34	84.16	17.180	17.213	127499	2.96	0.0296	7.88	
1,2-Dichloropropane	34	112.99	18.192				0.0015	0.30	U
Trichloroethene	34	131.39	18.633				0.0012	0.20	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.128	19.172	4275225	114.18	1.1418	255.26	
cis-1,3-Dichloropropene	34	110.97	20.324				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.334	20.335	242681	5.57	0.0557	12.46	
Pyridine	34	79.10	20.517	20.583	105673	3.71	0.0371	10.50	J
trans-1,3-Dichloropropene	34	110.97	21.389	21.412	6649	0.25	0.0025	0.50	J
Pentanenitrile	34	83.13	21.411	21.412	988487	27.93	0.2793	75.27	
1,1,2-Trichloroethane	34	133.40	21.820	21.864	51442	1.96	0.0196	3.29	
Toluene	49	92.14	22.466	22.488	1183877	26.89	0.2689	65.37	
1,2-Dibromoethane	49	187.86	23.995				0.0026	0.31	U
Octane	49	114.23	24.544	24.566	742212	35.68	0.3568	69.96	
Bromoform	49	175.00	28.194				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.029	25.061	4137	0.27	0.0027	0.36	J
Chlorobenzene	49	112.56	26.633	26.698	37067	0.80	0.0080	1.59	J
Hexanenitrile	49	97.13	26.891	26.903	597255	22.56	0.2256	52.02	
Ethylbenzene	49	106.17	27.505	27.516	55644	0.70	0.0070	1.49	J
p/m-Xylene	49	106.17	27.936	27.925	27894	1.00	0.0100	2.12	J
Cyclohexanone	49	98.14	28.355	28.356	131036	10.06	0.1006	22.96	
Styrene	59	104.15	28.851				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.088	29.077	94649	3.02	0.0302	4.02	
o-Xylene	59	106.17	29.152	29.185	10856	0.32	0.0032	0.68	J
Nonane	59	128.26	29.604	29.616	1618454	26.43	0.2643	46.16	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.554	32.566	14914	0.19	0.0019	0.35	J
1,3,5-Trimethylbenzene	59	120.19	32.770	32.792	8312	0.12	0.0012	0.22	J
1,2,4-Trimethylbenzene	59	120.19	34.040	34.062	18297	0.27	0.0027	0.50	J
Decane	59	142.28	34.288	34.299	3421548	89.04	0.8904	140.18	
1,3-Dichlorobenzene	59	147.00	34.546				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.751				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.881				0.0009	0.14	U
Undecane	59	156.31	38.605	38.627	1864630	231.38	2.3138	331.58	
1,2,4-Trichlorobenzene	59	181.45	42.115	42.126	12143	0.81	0.0081	1.00	J
Dodecane	59	170.34	42.643	42.654	2851731	332.95	3.3295	437.83	E
Hexachloro-1,3-butadiene	59	260.76	43.945	43.957	7985	0.86	0.0086	0.74	J
Tridecane	59	184.36	46.411	46.401	4191547	635.35	6.3535	771.96	E
Tetradecane	59	198.34	50.018	49.975	58737	85.42	0.8542	96.47	
Bromochloromethane (IS)	23	129.38	13.605	13.606	2341784	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.180	17.191	8736347	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.525	26.536	5425115	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.336	30.359	4536626	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Carbon dioxide	23	44	124-38-9	3.895	1880495	9.61	0.0961	48.94	NJ
Nitrous Oxide	23	44	10024-97-2	3.964	1356649	6.94	0.0694	35.31	NJ
Propene	23	42	115-07-1	4.465	14681203	75.05	0.7505	400.26	NJ
Propane	23	44	74-98-6	4.519	9995497	51.10	0.5110	260.12	NJ
Methyl nitrite	23	61	624-91-9	4.810	901908	4.61	0.0461	16.93	NJ
Cyclopropane	23	42	75-19-4	5.057	1107752	5.66	0.0566	30.20	NJ
Acetaldehyde	23	44	75-07-0	5.283	1211565	6.19	0.0619	31.53	NJ

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Propene, 2-methyl-	23	56	115-11-7	5.725	23746865	121.39	1.2139	485.56	NJ
1-Butene	23	56	106-98-9	6.134	2343946	11.98	0.1198	47.93	NJ
2-Butene, (E)-	23	56	624-64-6	6.468	5030266	25.71	0.2571	102.86	NJ
Unknown C5 Alkane (mw 72)	23	72		7.986	2105709	10.76	0.1076	33.49	J
1-Butene, 2-methyl-	23	70	563-46-2	8.750	3077285	15.73	0.1573	50.34	NJ
2-Pentene, (E)-	23	70	646-04-8	9.213	3040189	15.54	0.1554	49.73	NJ
2-Pentene, (Z)-	23	70	627-20-3	9.568	2508075	12.82	0.1282	41.03	NJ
1-Pentene	23	70	109-67-1	9.741	3193004	16.32	0.1632	52.23	NJ
1-Pentene, 4-methyl-	23	84	691-37-2	11.442	1529149	7.82	0.0782	20.84	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.539	1743732	8.91	0.0891	22.19	NJ
Pentane, 2-methyl-	23	86	107-83-5	12.088	2829460	14.46	0.1446	37.67	NJ
Butanal	23	72	123-72-8	12.228	1720543	8.80	0.0880	27.36	NJ
Pentane, 3-methyl-	23	86	96-14-0	12.831	774254	3.96	0.0396	10.31	NJ
1-Hexene	23	84	592-41-6	13.078	25607470	130.90	1.3090	349.07	NJ
1,4-Hexadiene, (Z)-	23	82	7318-67-4	13.380	526318	2.69	0.0269	7.35	NJ
2-Hexene, (E)-	23	84	4050-45-7	13.875	3142147	16.06	0.1606	42.83	NJ
1,4-Pentadiene, 3-methyl-	23	82	1115-08-8	14.327	1730464	8.85	0.0885	24.16	NJ
2-Hexene	23	84	592-43-8	14.413	2510236	12.83	0.1283	34.22	NJ
1-Pentene, 2-methyl-	23	84	763-29-1	14.747	1369426	7.00	0.0700	18.67	NJ
Cyclopentane, methyl-	23	84	96-37-7	15.296	678066	3.47	0.0347	9.24	NJ
1,3-Dioxolane, 2-methyl-	34	88	497-26-7	15.458	326714	1.55	0.0155	3.94	NJ
Cyclopropane, 1,2-dimethyl-3-methylene-	34	82	62338-02-7	15.878	592144	2.81	0.0281	7.67	NJ
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		16.459	1721277	8.16	0.0816		J
3-Hexene, 2-methyl-, (E)-	34	98	692-24-0	16.879	880495	4.18	0.0418	9.54	NJ
Pentane, 2,4-dimethyl-	34	100	108-08-7	17.342	4742549	22.49	0.2249	50.38	NJ
Butanenitrile, 2-methylene-	34	81	1647-11-6	17.503	3888244	18.44	0.1844	51.00	NJ
3-Heptene, (E)-	34	98	14686-14-7	17.622	3053206	14.48	0.1448	33.10	NJ
Unknown C9 Alkane (mw 128)	34	0		17.859	2930541	13.90	0.1390		J
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		18.063	1401189	6.65	0.0665		J
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		18.386	1241565	5.89	0.0589		J
1-Heptene	34	98	592-76-7	18.526	15339248	72.75	0.7275	166.28	NJ
1,5-Heptadiene, (Z)-	34	96	7736-34-7	18.688	677037	3.21	0.0321	7.49	NJ
3-Heptene	34	98	592-78-9	19.011	56105905	266.10	2.6610	608.22	NJ
(Z)-3-Heptene	34	98	7642-10-6	19.172	52219129	247.66	2.4766	566.07	NJ
2-Heptene	34	98	592-77-8	19.388	55227444	261.92	2.6192	598.69	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.883	41969813	199.05	1.9905	454.97	NJ
Cyclohexane, methyl-	34	98	108-87-2	20.680	1002215	4.75	0.0475	10.86	NJ
Unknown C7 Alkene/Cycloalkane (mw 98)	34	0		21.229	1290887	6.12	0.0612		J
1,4-Heptadiene	34	96	5675-22-9	21.670	19816275	93.98	0.9398	219.29	NJ
Cyclopentane, 1,2-dimethyl-, cis	49	98	1192-18-3	21.864	2071537	13.71	0.1371	31.33	NJ
2-HEXENE, 3-ETHYL-	49	112	22.165	2285893	15.12	0.1512	30.25		NJ
2-Heptyne	49	96	1119-65-9	22.790	17854486	118.13	1.1813	275.64	NJ
2-Hexanone	49	100	591-78-6	22.887	5695674	37.68	0.3768	84.41	NJ
2-Octene, (E)-	49	112	13389-42-9	23.027	7907533	52.32	0.5232	104.64	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.231	31619203	209.20	2.0920	411.07	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.888	35463719	234.64	2.3464	469.28	NJ
3-HEXENE, 3-ETHYL-	49	112	0-00-0	24.049	3609003	23.88	0.2388	47.76	NJ
Unknown C8 Alkene/Cycloalkane (mw 112)	49	0		24.243	3503027	23.18	0.2318		J
3-Heptene, 3-methyl-	49	112	7300-03-0	24.394	10593606	70.09	0.7009	140.18	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2-Octene	49	112	111-67-1	24.695	4367802	28.90	0.2890	57.80	NJ
2-HEPTENE, 3-METHYL-	49	112	0-00-0	24.965	8357099	55.29	0.5529	110.59	NJ
2-Octene, (Z)-	49	112	7642-04-8	25.212	5053071	33.43	0.3343	66.87	NJ
3-Hexanone, 5-methyl-	49	114	623-56-3	25.524	2592353	17.15	0.1715	33.70	NJ
Unknown C8 Alkane (mw 114)	49	0		25.955	1110423	7.35	0.0735		J
Unknown C9 Alkane (mw 128)	49	0		26.170	1144541	7.57	0.0757		J
Furan, tetrahydro-2,2,5,5-tetramethyl-	49	128	15045-43-9	27.721	3546871	23.47	0.2347	41.07	NJ
3-Heptanone	49	114	106-35-4	28.044	72753873	481.37	4.8137	945.84	NJ
2-Heptanone	49	114	110-43-0	28.173	15226250	100.74	1.0074	197.95	NJ
Butane, 1,1'-oxybis-	49	130	142-96-1	28.367	5855575	38.74	0.3874	66.76	NJ
3-Heptanol	59	116	589-82-2	28.657	9476119	59.81	0.5981	115.50	NJ
Cyclopropane, 1-methyl-2-pentyl-	59	126	41977-37-1	29.067	3131620	19.77	0.1977	35.14	NJ
Furan, 2,5-diethyltetrahydro-	59	128	41239-48-9	30.908	17853088	112.69	1.1269	197.20	NJ
1-Hexyn-3-ol	59	98	105-31-7	31.037	21596766	136.32	1.3632	311.58	NJ
1,3-Diethyl-1,4-epoxybutane	59	128		31.112	17385135	109.73	1.0973	192.03	NJ
Unknown C10 Alkane (mw 142)	59	0		31.414	21777411	137.46	1.3746		J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.575	4140005	26.13	0.2613		J
Heptanenitrile	59	111	629-08-3	31.952	4736805	29.90	0.2990	60.33	NJ
4-Octanone	59	128	589-63-9	32.297	3588232	22.65	0.2265	39.63	NJ
Octane, 4-ethyl-	59	142	15869-86-0	32.372	1454868	9.18	0.0918	14.49	NJ
2-Hexenal, 2-ethyl-	59	126	645-62-5	32.501	892134	5.63	0.0563	10.01	NJ
Unknown C10 Alkane (mw 142)	59	0		32.716	1125480	7.10	0.0710		J
2-Octanone	59	128	111-13-7	33.018	2260941	14.27	0.1427	24.97	NJ
Cyclohexane, 1,1,2,3-tetramethyl-	59	140	6783-92-2	33.147	3125648	19.73	0.1973	31.57	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		33.309	789421	4.98	0.0498		J
Unknown C9 Alkane (mw 128)	59	0		33.685	15104527	95.34	0.9534		J
Cyclopropane, 1-ethyl-2-heptyl-	59	168	74663-86-8	33.793	3649590	21.90	0.2190	29.20	NJ
Cyclohexane, 1,4-dimethyl-	59	112	589-90-2	34.030	2840553	17.93	0.1793	35.86	NJ
1-Hexanol, 2-ethyl-	59	130	104-76-7	34.924	8362506	52.78	0.5278	90.95	NJ
Nonane, 2,6-dimethyl-	59	156	17302-28-2	35.419	7294857	46.04	0.4604	66.11	NJ
2-Pentanol, 5-methoxy-2-methyl-	59	132	55724-04-4	35.957	1448445	9.14	0.0914	15.51	NJ
Cyclohexane, (2-methylpropyl)-	59	140	1678-98-4	36.248	5297307	33.44	0.3344	53.50	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		36.539	2034021	12.84	0.1284		J
Octanenitrile	59	125	124-12-9	36.635	2124315	13.41	0.1341	24.03	NJ
Unknown C11 Alkane (mw 156)	59	0		36.851	1872966	11.82	0.1182		J
Decane, 4-methyl-	59	156	2847-72-5	37.034	1605023	10.13	0.1013	14.55	NJ
Decane, 2-methyl-	59	156	6975-98-0	37.152	1129612	7.13	0.0713	10.24	NJ
1-Ethyl-2,2,6-trimethylcyclohexane	59	154	0-00-0	37.271	1672469	10.56	0.1056	15.35	NJ
Decane, 3-methyl-	59	156	13151-34-3	37.464	1274132	8.04	0.0804	11.55	NJ
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.766	3068784	19.37	0.1937	31.44	NJ
Unknown hydrocarbon (mw 152)	59	0		38.164	2840125	17.93	0.1793		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		39.123	2779610	17.54	0.1754		J
Undecane, 5-methyl-	59	170	1632-70-8	39.456	2215191	13.98	0.1398	18.42	NJ
Unknown Alkyl Decahydronaphthalene	59	0		39.736	1490047	9.40	0.0940		J
Unknown Alkyl Decahydronaphthalene	59	0		40.178	2690257	16.98	0.1698		J
Cyclohexane, pentyl-	59	154	4292-92-6	40.630	1572677	9.93	0.0993	14.44	NJ
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.921	3337954	21.07	0.2107	31.05	NJ
Undecane, 2-methyl-	59	170	7045-71-8	41.276	1653398	10.44	0.1044	13.75	NJ
Undecane, 3-methyl-	59	170	1002-43-3	41.577	680799	4.30	0.0430	5.66	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6-Dodecene, (E) -	59	168	7206-17-9	42.245	1496883	9.45	0.0945	12.60	NJ
Unknown Alkyl Decahydronaphthalene	59	0		43.042	1311870	8.28	0.0828		J
Undecane, 2,6-dimethyl-	59	184	17301-23-4	43.278	7095635	44.79	0.4479	54.52	NJ
Unknown C13 Alkene/Cycloalkane (mw 182)	59	0		43.601	573187	3.62	0.0362		J
Unknown Alkyl Decahydronaphthalene	59	0		44.258	1194482	7.54	0.0754		J
Cyclohexane, 2-butyl-1,1,3-trimethyl-	59	182	54676-39-0	44.603	1414469	8.93	0.0893	10.99	NJ
Unknown C13 Alkene/Cycloalkane (mw 182)	59	0		45.109	677265	4.27	0.0427		J
Tridecane, 7-methyl-	59	198	26730-14-3	45.529	3663056	23.12	0.2312	26.16	NJ
Cyclopentane, 1,2-dibutyl-	59	182	62199-52-4	45.938	1271082	8.02	0.0802	9.87	NJ
Unknown C14 Alkene/Cycloalkane (mw 196)	59	0		46.724	782489	4.94	0.0494		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	23474811
Difluorobenzene (IS)	34	20452677
D5-Chlorobenzene (IS)	49	16776576
1-Bromo-4-Fluorobenzene (IS)	59	28517804

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

01/28/99 13:57

18122309.D

Page 5

E01 017

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-032.C227; 200 ml; 2X; rep

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 10 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS E01-020 THRU PAGE E01- 443 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

HNF-4073
Rev. 0

SUMMA BATCH FILE

18122402.b

E01 020

C-106 and AZ Stack Case Narrative (batch file 18122402.b)

This analytical sequence was run using 200 ml volumes to quantify target compounds in each tank and AZ Stack sample at a dilution 2X.

Tetradecane surpassed 0.05 RF criteria for the initial calibration.

Due to the initial calibration performance the uncertainty associated with the results is higher than normal.

Eleven target compounds (chloromethane – 88.5 %, 1,2-dichloro-1,1,2,2-tetrafluoroethane-34.9%, methanol – 63.8 %, vinyl chloride – 88.1 %, butane – 89 %, bromomethane – 48.6 %, chloroethane – 34.8%, acetonitrile – 40%, pyridine – 73.3%, 1,2,4 – tridecane – 40.6 % and tetradecane – 37.7%) were outside the 25% Difference acceptance criteria for the continuing calibration verification (CCV) sample. However, 83% of target compounds have passed the procedural criterion requiring $\pm 25\%$ D passage. This was considered satisfactory, because of the significant time difference between initial calibration and CCV.

Result of tetradecane determination was mentioned above. Methanol was found in all tank samples at concentrations between EQL and UQL, except samples VP006-001.C248, where it was not found at concentrations higher than its EQL and VP702-004.C429, where it was found at concentration below the EQL. 1,2-dichloro-1,1,2,2-tetrafluoroethane, vinyl chloride, bromomethane, acetonitrile and tridecane were not found in the tank samples at concentrations higher than their IDL, except sample VP702-010.C160 where tridecane was found at concentration between its UDL and EQL. Chloromethane was found in all samples at concentrations between its IDL and EQL, except sample VP006-001.C248, where it was not found at concentration higher than its IDL. Butane was found in all samples at concentrations between its EQL and UQL, except sample VP006-001.C248, where it was found at concentration between its IDL and EQL. Due to the CCV performance for these compounds a higher than normal uncertainty is associated with the results.

No target compound was detected in the CCB above its EQL.

After completing a valid BFB tune, the 12-hour clock criterion for an analytical sequence was not exceeded within the batch.

The tank sample's internal standard quant area % recoveries were within the acceptance criterion (50%<quant<200%) allowed by TVP-03, Rev. 1.

Instrument detection limits, precision, and accuracy have not been experimentally evaluated for methanol, ethanol. Sample results are flagged with a "J" when the absolute number of nanograms calculated in the sample is less than the lowest concentration standard used in the initial calibration. Methanol and ethanol results falling within their calibration range are quantitative results as evidenced by a valid calibration for these compounds.

Miller 2/22/99.

SAMPLE INFORMATION SUMMARY

HNF-4073
Rev. 0

BATCH: /chem/hpdos1.i/18122402.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
18122402.D	06-NOV-98 21:53	Continuing Cal	1.00	hpdos1	InCal2_53097.m	18122402.b
18122403.D	06-NOV-98 23:11	Unknown	1.00	hpdos1	InCal2_53097.m	18122402.b
18122404.D	07-NOV-1998 01:08	Unknown	2.00	hpdos1	InCal2_53097.m	18122402.b
18122405.D	07-NOV-98 02:51	Unknown	2.00	hpdos1	InCal2_53097.m	
18122406.D	07-NOV-98 04:25	Unknown	2.00	hpdos1	InCal2_53097.m	
18122407.D	07-NOV-98 05:52	Unknown	2.00	hpdos1	InCal2_53097.m	18122402.b
18122408.D	07-NOV-98 07:31	Unknown	2.00	hpdos1	InCal2_53097.m	
18122409.D	07-NOV-98 08:59	Unknown	2.00	hpdos1	InCal2_53097.m	

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
18122402.D	GAS	VAPOR	CCV	18122402	200mL	18122402
18122403.D	GAS	VAPOR	CCB	SDGa27199	200mL Nitrogen	SDGa27199
18122404.D	GAS	VAPOR	VP006-001.C248	SDGa27199	C-106	SDGa27199
18122405.D	GAS	VAPOR	VP702-013.C020	SDGa27199	AZ Stack	SDGa27199
18122406.D	GAS	VAPOR	VP702-013.C020	SDGa27199	AZ Stack	SDGa27199
18122407.D	GAS	VAPOR	VP702-010.C160	18122402	AZ Stack	18122402
18122408.D	GAS	VAPOR	VP702-007.C301	SDGa27199	AZ Stack	SDGa27199
18122409.D	GAS	VAPOR	VP702-004.C429	SDGa27199	AZ Stack	SDGa27199

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
18122402.D	all1.sub		1038465	1038466	1035843	1038467
18122403.D	all1.sub		1038474	1038466	1035843	1038467
18122404.D	all1.sub		1038475	1038466	1035843	1038467
18122405.D	all1.sub		1038476	1038466	1035843	1038468
18122406.D	all1.sub		1038477	1038466	1035843	1038468
18122407.D	all1.sub		1038514	1038466	1035843	1038467
18122408.D	all1.sub		1038478	1038466	1035843	1038468
18122409.D	all1.sub		1038479	1038466	1035843	1038468

Data File : C:\HPCHEM\1\DATA\18122401.B\18122401.D
 Acq On : 6 Nov 98 8:26 pm
 Sample : Tune Check BFB
 Misc : Tune Check BFB 56391-5-01

Vial: 1
 Operator: Alex
 Inst : System 1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\SUM1601.M
 Title : exp

HNF-4073
Rev. 0

Peak Apex is scan: 2619

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.1	15868	PASS
75	95	30	66	42.2	35088	PASS
95	95	100	100	100.0	83128	PASS
96	95	5	9	6.1	5043	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	91.3	75864	PASS
175	174	4	9	7.7	5849	PASS
176	174	93	101	96.6	73264	PASS
177	176	5	9	7.0	5151	PASS

Datefile	Internal Standard	RT	TotalArea	QuantArea	AreaRatio	Percent
18122402.D	Bromochloromethane (IS)	13.69	47425878	2601455	18.23	100.00
18122402.D	Difluorobenzene (IS)	17.22	52624159	7940083	6.63	100.00
18122402.D	D5-Chlorobenzene (IS)	26.57	25069743	8405607	2.98	100.00
18122402.D	1-Bromo-4-Fluorobenzene (IS)	30.39	27217412	5543466	4.91	100.00
18122403.D	Bromochloromethane (IS)	13.64	13543561	2770977	4.89	106.52
18122403.D	Difluorobenzene (IS)	17.21	24922175	11471977	2.17	144.48
18122403.D	D5-Chlorobenzene (IS)	26.57	25005530	8616288	2.90	102.51
18122403.D	1-Bromo-4-Fluorobenzene (IS)	30.39	24871892	5038136	4.94	90.88
18122404.D	Bromochloromethane (IS)	13.65	13984991	3506371	3.99	134.78
18122404.D	Difluorobenzene (IS)	17.22	24240111	11068012	2.19	139.39
18122404.D	D5-Chlorobenzene (IS)	26.57	25291746	8642779	2.93	102.82
18122404.D	1-Bromo-4-Fluorobenzene (IS)	30.39	26216803	5299603	4.95	95.60
18122405.D	Bromochloromethane (IS)	13.65	12337366	3076157	4.01	118.25
18122405.D	Difluorobenzene (IS)	17.22	24480920	11204024	2.19	141.11
18122405.D	D5-Chlorobenzene (IS)	26.58	25136014	8516254	2.95	101.32
18122405.D	1-Bromo-4-Fluorobenzene (IS)	30.40	25784142	5292286	4.87	95.47
18122406.D	Bromochloromethane (IS)	13.66	12462356	3202864	3.89	123.12
18122406.D	Difluorobenzene (IS)	17.23	24665852	11158178	2.21	140.53
18122406.D	D5-Chlorobenzene (IS)	26.58	25699518	8659928	2.97	103.03
18122406.D	1-Bromo-4-Fluorobenzene (IS)	30.40	26460048	5337020	4.96	96.28
18122407.D	Bromochloromethane (IS)	13.65	12191537	3536209	3.45	135.93
18122407.D	Difluorobenzene (IS)	17.22	24302247	10940829	2.22	137.79
18122407.D	D5-Chlorobenzene (IS)	26.58	24945213	8363832	2.98	99.50
18122407.D	1-Bromo-4-Fluorobenzene (IS)	30.40	25734436	5266672	4.89	95.01
18122408.D	Bromochloromethane (IS)	13.65	12233319	3099630	3.95	119.15
18122408.D	Difluorobenzene (IS)	17.22	23918791	10786006	2.22	135.84
18122408.D	D5-Chlorobenzene (IS)	26.58	24761382	8295656	2.98	98.69
18122408.D	1-Bromo-4-Fluorobenzene (IS)	30.40	25411371	5223594	4.86	94.23
18122409.D	Bromochloromethane (IS)	13.65	9876229	2589574	3.81	99.54
18122409.D	Difluorobenzene (IS)	17.22	23392306	10397304	2.25	130.95
18122409.D	D5-Chlorobenzene (IS)	26.57	24112601	8080334	2.98	96.13
18122409.D	1-Bromo-4-Fluorobenzene (IS)	30.39	24901911	5074287	4.91	91.54

HNF-4073
Rev. 0

Pacific Northwest National Laboratory

CONTINUING CALIBRATION COMPOUNDS

HNF-4073
Rev. 0

Instrument ID: hpdos1.i
Lab File ID: 18122402.D
Analysis Type: AIR
Lab Sample ID: CCV
Quant Type: ISTD

Injection Date: 06-NOV-98 21:53
Init. Calibration Date(s): 06/06/97 06/06/97
Init. Calibration Times: 10:35 16:58
Method File: /chem/hpdos1.i/18122402.b/InCal2_53097.

COMPOUND	RF	RF200	RRF	%D	%D
1 Dichlorodifluoromethane	2.257	2.814 0.050	24.7	25.0	
2 Chloromethane	1.420	2.676 0.050	88.5	25.0	<-
3 1,2-dichloroethane	1.033	1.393 0.050	34.9	25.0	<-
4 Methanol	1.159	1.898 0.050	63.8	25.0	<-
5 Vinyl Chloride	0.726	1.365 0.050	88.1	25.0	<-
7 Butane	0.350	0.662 0.050	89.0	25.0	<-
8 Bromomethane	0.380	0.565 0.050	48.6	25.0	<-
9 Chloroethane	0.767	0.500 0.050	34.8	25.0	<-
10 Ethanol	2.247	1.916 0.050	14.7	25.0	
11 Acetonitrile	3.138	1.881 0.050	40.0	25.0	<-
12 Acetone	4.744	5.643 0.050	19.0	25.0	
13 Trichlorofluoromethane	2.010	2.240 0.050	11.4	25.0	
14 Pentane	3.927	4.165 0.050	6.0	25.0	
15 1,1-Dichloroethane	1.047	1.213 0.050	15.9	25.0	
16 Methylene Chloride	1.183	1.251 0.050	5.8	25.0	
17 1,1,2-trichloroethane	0.958	1.185 0.050	23.7	25.0	
18 Propanenitrile	1.789	1.818 0.050	1.6	25.0	
19 Propanol	1.799	2.105 0.050	17.0	25.0	
20 1,1-Dichloroethane	2.189	2.510 0.050	14.7	25.0	
21 2-Butanone	1.168	1.220 0.050	4.4	25.0	
22 cis-1,2-Dichloroethane	1.161	1.341 0.050	15.5	25.0	
24 Hexane	2.403	2.175 0.050	9.5	25.0	
25 Chloroform	2.015	2.297 0.050	14.0	25.0	
26 Tetrahydrofuran	0.902	1.032 0.050	14.3	25.0	
27 1,2-Dichloroethane	0.450	0.498 0.050	10.6	25.0	
28 1,1,1-Trichloroethane	0.447	0.459 0.050	2.8	25.0	
29 Butanenitrile	1.072	1.073 0.050	0.1	25.0	
30 1-Butanol	0.202	0.201 0.050	0.5	25.0	
31 Benzene	1.288	1.468 0.050	14.0	25.0	
32 Carbon Tetrachloride	0.422	0.481 0.050	13.8	25.0	
33 Cyclohexane	0.500	0.474 0.050	5.4	25.0	
35 1,2-Dichloropropane	0.369	0.406 0.050	9.9	25.0	
36 Trichloroethene	0.346	0.372 0.050	7.8	25.0	
37 Heptane	0.444	0.431 0.050	2.9	25.0	
38 cis-1,3-Dichloropropene	0.452	0.462 0.050	2.3	25.0	
39 4-Methyl-2-Pentanone	0.420	0.473 0.050	12.5	25.0	
40 Pyridine	0.715	0.191 0.050	73.3	25.0	<-
41 trans-1,3-Dichloropropene	0.311	0.299 0.050	3.8	25.0	
42 Pentanenitrile	0.368	0.376 0.050	2.2	25.0	
43 1,1,2-Trichloroethane	0.279	0.283 0.050	1.5	25.0	

E01 025

Pacific Northwest National Laboratory

CONTINUING CALIBRATION COMPOUNDS

HNF-4073
Rev. 0

Instrument ID: hpdos1.i
Lab File ID: 18122402.D
Analysis Type: AIR
Lab Sample ID: CCV
Quant Type: ISTD

Injection Date: 06-NOV-98 21:53
Init. Calibration Date(s): 06/06/97 06/06/97
Init. Calibration Times: 10:35 16:58
Method File: /chem/hpdos1.i/18122402.b/InCal2_53097.

COMPOUND	RRF	RF200	RRF	%D	%D
44 Toluene	0.900	0.981	0.050	9.0	25.0
45 1,2-Dibromoethane	0.369	0.373	0.050	1.0	25.0
46 Octane	0.456	0.463	0.050	1.6	25.0
47 Bromoform	0.466	0.497	0.050	6.5	25.0
48 Tetrachloroethylene	0.314	0.343	0.050	9.5	25.0
50 Chlorobenzene	0.991	1.042	0.050	5.1	25.0
51 Hexanenitrile	0.519	0.563	0.050	8.6	25.0
52 Ethylbenzene	1.620	1.760	0.050	8.7	25.0
53 p/m-Xylene	0.627	0.623	0.050	0.7	25.0
54 Cyclohexanone	0.263	0.284	0.050	7.8	25.0
55 Styrene	2.161	1.814	0.050	16.1	25.0
56 1,1,2,2-Tetrachloroethane	1.289	1.292	0.050	0.2	25.0
57 o-Xylene	1.409	1.415	0.050	0.4	25.0
58 Nonane	2.542	2.555	0.050	0.5	25.0
60 1-Ethyl-2-Methyl-Benzene	3.134	3.407	0.050	8.7	25.0
61 1,3,5-Trimethylbenzene	2.714	2.944	0.050	8.5	25.0
62 1,2,4-Trimethylbenzene	2.699	2.891	0.050	7.1	25.0
63 Decane	1.600	1.611	0.050	0.7	25.0
64 1,3-Dichlorobenzene	1.655	1.800	0.050	8.8	25.0
65 1,4-Dichlorobenzene	1.625	1.765	0.050	8.6	25.0
66 1,2-Dichlorobenzene	1.465	1.643	0.050	12.2	25.0
67 Undecane	0.355	0.367	0.050	3.3	25.0
68 1,2,4-Trichlorobenzene	0.468	0.533	0.050	14.0	25.0
69 Dodecane	0.410	0.414	0.050	0.9	25.0
70 Hexachloro-1,3-butadiene	0.375	0.449	0.050	20.0	25.0
71 Tridecane	0.275	0.387	0.050	40.6	25.0
72 Tetradecane	0.019	0.012	0.050	37.7	25.0

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

INITIAL CALIBRATION DATA

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Calibration File Names:

Level 1: /chem/hpdos1.i/17060603.b/17060601.d
 Level 2: /chem/hpdos1.i/17060603.b/17060602.d
 Level 3: /chem/hpdos1.i/17060603.b/17060603.d
 Level 4: /chem/hpdos1.i/17060603.b/17060605.d
 Level 6: /chem/hpdos1.i/17060603.b/17060606.d
 Level 7: /chem/hpdos1.i/17060603.b/17060607.d

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	± RSD
1 Dichlorodifluoromethane	2.43862	2.21722	2.14282	2.48912	2.30074	1.95123	2.25700	8.794
2 Chloromethane	1.51670	1.36577	1.28327	1.66862	1.44729	1.23883	1.42000	11.195
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	1.15696	1.03824	1.00931	1.11913	0.95411	0.92118	1.03300	8.881
4 Methanol	1.25346	1.16123	1.09867	1.29715	1.16982	0.97297	1.15900	9.942
5 Vinyl Chloride	0.71266	0.66882	0.65695	0.81333	0.77441	0.72917	0.72590	8.310
6 1,3-Butadiene	++++	++++	++++	++++	++++	++++	++++	++++
7 Butane	0.34398	0.31603	0.30881	0.37911	0.38102	0.37213	0.35020	9.197
8 Bromomethane	0.37120	0.34556	0.34262	0.42377	0.41003	0.38728	0.38010	8.751
9 Chloroethane	0.69294	0.74027	0.73558	0.80065	0.78056	0.85420	0.76740	7.396
10 Ethanol	2.33627	2.28573	2.21551	2.45731	2.10420	2.08464	2.24700	6.338
11 Acetonitrile	3.28791	3.10332	2.96812	3.46874	3.10207	2.89528	3.13800	6.718
12 Acetone	5.45540	4.89912	4.61756	5.24640	4.33599	3.90917	4.74400	12.153
13 Trichlorofluoromethane	2.04790	1.83001	1.79202	2.17301	2.08433	2.13405	2.01000	7.985
14 Pentane	4.26438	3.85542	3.71679	4.44576	3.80975	3.47097	3.92718	9.209
15 1,1-Dichloroethene	1.02274	0.91480	0.91574	1.10362	1.12103	1.20364	1.04700	11.181
16 Methylene Chloride	1.23125	1.06542	1.03565	1.21823	1.23680	1.31207	1.18300	9.154
17 1,1,2-trichloro-1,2,2-trifluoroethane	0.94001	0.82539	0.82920	0.99190	1.03530	1.12834	0.95840	12.402
18 Propanenitrile	1.92391	1.79091	1.70988	1.99267	1.73228	1.58660	1.78900	8.294
19 Propanol	2.10040	1.88320	1.80504	2.08617	1.55076	1.36782	1.79890	16.264
20 1,1-Dichloroethane	2.23981	2.03770	1.98200	2.33671	2.27178	2.26540	2.18890	6.552
21 2-Butanone	1.19644	1.10909	1.08435	1.28664	1.18454	1.14876	1.16800	6.172
22 cis-1,2-Dichloroethene	1.12732	1.02685	1.01888	1.20742	1.27325	1.30987	1.16100	10.640
24 Hexane	2.88095	2.52056	2.41983	2.73619	2.15002	1.70990	2.40300	17.636
25 Chloroform	2.07444	1.85421	1.81941	2.12416	2.11530	2.10292	2.01500	6.925
26 Tetrahydrofuran	0.86957	0.81350	0.80200	0.96237	0.96959	0.99783	0.90250	9.439
27 1,2-Dichloroethane	0.43891	0.40298	0.38542	0.47386	0.47183	0.52574	0.44980	11.461

F01 027

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

HNF-4073
Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10	30	50	100	300	450	RRF	% RSD
-----	Level 1	Level 2	Level 3	Level 4	Level 6	Level 7	-----	-----
28 1,1,1-Trichloroethane	0.45189	0.40828	0.39368	0.47799	0.46542	0.48342	0.44680	8.369
29 Butanenitrile	1.20704	1.11050	1.04656	1.21895	0.93633	0.91047	1.07200	12.271
30 1-Butanol	0.20749	0.19006	0.17665	0.23326	0.19447	0.21209	0.20230	9.761
31 Benzene	1.25728	1.14460	1.11280	1.33554	1.34939	1.53041	1.28800	11.873
32 Carbon Tetrachloride	0.40288	0.36319	0.35398	0.44031	0.45646	0.51784	0.42240	14.653
33 Cyclohexane	0.57805	0.49512	0.46019	0.55230	0.46170	0.45591	0.50050	10.513
35 1,2-Dichloropropane	0.37408	0.33321	0.31771	0.39037	0.38123	0.41983	0.36940	10.220
36 Trichloroethene	0.33845	0.30906	0.29949	0.36774	0.36606	0.39292	0.34560	10.560
37 Heptane	0.47230	0.43007	0.41365	0.50164	0.43896	0.40409	0.44350	8.350
38 cis-1,3-Dichloropropene	0.42950	0.40459	0.39475	0.49761	0.47756	0.50569	0.45160	10.688
39 4-Methyl-2-Pentanone	0.44922	0.41369	0.39148	0.47706	0.38758	0.40368	0.42050	8.428
40 Pyridine	0.74450	0.65035	0.61730	0.81950	0.71325	0.74466	0.71490	10.163
41 trans-1,3-Dichloropropene	0.28504	0.27757	0.26849	0.34413	0.33239	0.35709	0.31080	12.276
42 Pentanenitrile	0.37851	0.35454	0.33769	0.41598	0.35567	0.36492	0.36790	7.368
43 1,1,2-Trichloroethane	0.27063	0.24933	0.24070	0.30528	0.29478	0.31256	0.27890	10.737
44 Toluene	0.95561	0.87608	0.87112	1.04495	0.89074	0.75183	0.90010	10.972
45 1,2-Dibromoethane	0.38994	0.35145	0.35511	0.43452	0.37184	0.31318	0.36930	11.069
46 Octane	0.48174	0.44086	0.44653	0.54029	0.45429	0.36995	0.45560	12.217
47 Bromoform	0.43323	0.41873	0.42953	0.55635	0.51617	0.44458	0.46640	12.043
48 Tetrachloroethylene	0.32676	0.29200	0.29846	0.37138	0.32923	0.26300	0.31350	11.946
50 Chlorobenzene	1.09890	0.96828	0.96251	1.15541	0.96969	0.79105	0.99100	12.799
51 Hexanenitrile	0.59961	0.55446	0.54595	0.63118	0.43524	0.34496	0.51860	20.835
52 Ethylbenzene	1.76694	1.63023	1.61026	1.93511	1.53765	1.24094	1.62000	14.384
53 p/m-Xylene	0.70370	0.64289	0.63834	0.77037	0.58102	0.42493	0.62690	18.843
54 Cyclohexanone	0.28661	0.26115	0.24924	0.31865	0.24845	0.21561	0.26330	13.487
55 Styrene	2.17696	2.10051	2.12953	2.53465	2.16265	1.86392	2.16100	9.983
56 1,1,2,2-Tetrachloroethane	1.49708	1.34361	1.32572	1.51752	1.14624	0.90150	1.28900	18.046
57 o-Xylene	1.50299	1.41727	1.42008	1.69164	1.35059	1.06866	1.40900	14.486
58 Nonane	3.09792	2.83073	2.76713	3.03283	1.96311	1.55904	2.54200	24.791
60 1-Ethyl-2-Methyl-Benzene	3.23089	3.19002	3.16107	3.78398	3.00123	2.43646	3.13400	13.835
61 1,3,5-Trimethylbenzene	2.85800	2.75168	2.72974	3.24772	2.57358	2.12440	2.71400	13.533
62 1,2,4-Trimethylbenzene	2.77520	2.74984	2.71140	3.24214	2.56270	2.15471	2.69900	13.028
63 Decane	1.95316	1.82047	1.76343	1.90270	1.18211	0.97712	1.60000	25.837
64 1,3-Dichlorobenzene	1.59354	1.58350	1.61639	2.00362	1.70320	1.43165	1.65500	11.593

E01 028

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

HNF-4073
Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
65 1,4-Dichlorobenzene	1.57185	1.56049	1.59250	1.98394	1.64309	1.39866	1.62500	11.949
66 1,2-Dichlorobenzene	1.43440	1.40495	1.42115	1.76383	1.47400	1.28979	1.46500	10.861
67 Undecane	0.31703	0.34344	0.34966	0.43709	0.35929	0.32633	0.35550	12.055
68 1,2,4-Trichlorobenzene	0.33583	0.39450	0.43207	0.50291	0.57264	0.56758	0.46760	20.567
69 Dodecane	0.34700	0.38982	0.42963	0.48048	0.41909	0.39707	0.41050	10.882
70 Hexachloro-1,3-butadiene	0.37281	0.35925	0.36522	0.41551	0.38933	0.34633	0.37470	6.554
71 Tridecane	0.26054	0.31961	0.34992	0.30368	0.22299	0.19515	0.27530	21.620
72 Tetradecane	0.01457	0.02319	0.02140	0.02540	0.01595	0.01452	0.01917	24.807

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

Data file : /chem/hpdos1.i/18122402.b/18122402.D
Lab Smp Id: CCV Client Smp ID: 200mL
Inj Date : 06-NOV-98 21:53
Operator : Alex Inst ID: hpdos1.i
Smp Info : CCV; 200mL; 54934-151-01
Misc Info :
Comment :
Method : /chem/hpdos1.i/18122402.b/InCal2_53097.m
Meth Date : 28-Jan-1999 14:00 john Quant Type: ISTD
Cal Date : 06-NOV-98 21:53 Cal File: 18122402.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all1.sub
Target Version: 3.10

Compounds	QUANT SIG					AMOUNTS		
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng)	ON-COL (ng)	
-----	----	--	-----	-----	-----	-----	-----	
1 Dichlorodifluoromethane	85.00	4.635	4.635	(0.340)	6588737	108.0	134.6 (M)	
2 Chloromethane	50.00	5.023	5.023	(0.368)	2616560	45.10	85.00	
3 1,2-dichloro1,1,2,2-tetrafluoroeth	85.00	5.227	5.227	(0.383)	4621771	153.0	206.4	
4 Methanol	31.00	5.378	5.378	(0.394)	4855216	118.0	193.2 (Q)	
5 Vinyl Chloride	62.00	5.518	5.518	(0.405)	1651706	55.80	105.0	
7 Butane	43.00	5.938	5.938	(0.435)	1361849	94.90	179.4	
8 Bromomethane	94.00	6.412	6.412	(0.470)	1038287	84.80	126.0	
9 Chloroethane	64.00	6.756	6.756	(0.495)	624616	57.60	37.54	
10 Ethanol	31.00	6.961	6.961	(0.510)	4693589	113.0	96.35	
11 Acetonitrile	41.00	7.424	7.424	(0.544)	4853693	119.0	71.35 (Q)	
12 Acetone	43.00	7.898	7.898	(0.579)	14925567	122.0	145.1	
13 Trichlorofluoromethane	101.00	8.285	8.285	(0.608)	5972457	123.0	137.1	
14 Pentane	43.00	8.953	8.953	(0.657)	7331083	81.20	86.11	
15 1,1-Dichloroethene	96.00	9.502	9.502	(0.697)	2278201	85.60	100.4	
16 Methylene Chloride	84.00	9.685	9.685	(0.710)	2055889	75.80	80.16	
17 1,1,2-trichloro1,2,2-trifluoroethane	151.00	10.169	10.169	(0.746)	4290417	167.0	206.5	
18 Propanenitrile	54.00	10.934	10.934	(0.802)	7055907	179.0	181.9	
19 Propanol	31.00	10.923	10.923	(0.801)	4609615	101.0	118.2	
20 1,1-Dichloroethane	63.00	11.817	11.817	(0.867)	4809905	88.40	101.4	
21 2-Butanone	72.00	12.463	12.463	(0.914)	3385169	128.0	133.7 (Q)	
22 cis-1,2-Dichloroethene	96.00	13.335	13.335	(0.978)	2517387	86.60	100.0	
23 Bromochloromethane (IS)	49.00	13.636	13.636	(1.000)	2601455	120.0	(QM)	
24 Hexane	57.00	13.701	13.701	(1.005)	7686503	163.0	147.6	
25 Chloroform	83.00	13.862	13.862	(1.017)	5328765	107.0	122.0	
26 Tetrahydrofuran	72.00	14.605	14.605	(1.071)	2039588	91.20	104.2 (Q)	
27 1,2-Dichloroethane	62.00	15.273	15.273	(0.887)	3600693	88.40	97.79	
28 1,1,1-Trichloroethane	97.00	15.779	15.779	(0.916)	4472021	119.0	122.3	
29 Butanenitrile	41.00	15.768	15.768	(0.916)	10009335	114.0	114.1	
30 1-Butanol	56.00	16.252	16.252	(0.944)	2108580	128.0	127.3	

E01 030

HNF-4073
Rev. 0

Compounds	QUANT SIG		RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
	MASS	----					CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----	-----
31 Benzene	78.00		16.672	16.672	(0.968)	8373820	69.70	79.42 (Q)
32 Carbon Tetrachloride	117.00		16.952	16.952	(0.984)	5390795	137.0	155.9
33 Cyclohexane	41.00		17.211	17.211	(0.999)	5005377	129.1	122.2 (Q)
* 34 Difluorobenzene (IS)	114.00		17.221	17.221	(1.000)	7940083	97.00	(QM)
35 1,2-Dichloropropane	63.00		18.233	18.233	(1.059)	3355251	101.0	111.0
36 Trichloroethene	95.00		18.675	18.675	(1.084)	3567474	117.0	126.1 (Q)
37 Heptane	71.00		19.170	19.170	(1.113)	4194459	119.0	115.5
38 cis-1,3-Dichloropropene	75.00		20.365	20.365	(1.183)	3373260	89.20	91.25
39 4-Methyl-2-Pentanone	43.00		20.376	20.376	(1.183)	6234898	161.0	181.1
40 Pyridine	79.00		20.570	20.570	(1.194)	1621969	104.0	27.72 (QM)
41 trans-1,3-Dichloropropene	75.00		21.431	21.431	(1.244)	2182956	89.20	85.80
42 Pentanenitrile	54.00		21.453	21.453	(1.246)	3323732	108.0	110.4
43 1,1,2-Trichloroethane	83.00		21.862	21.862	(1.269)	2756673	119.0	120.7
44 Toluene	92.00		22.508	22.508	(0.847)	6113441	82.30	89.69 (Q)
45 1,2-Dibromoethane	107.00		24.037	24.037	(0.905)	4743072	168.0	169.6
46 Octane	85.00		24.575	24.575	(0.925)	2737779	78.10	79.35
47 Bromoform	173.00		28.246	28.246	(1.063)	4440463	118.0	125.7 (Q)
48 Tetrachloroethylene	164.00		25.070	25.070	(0.944)	3846807	148.0	162.0 (Q)
* 49 D5-Chlorobenzene (IS)	117.00		26.567	26.567	(1.000)	8405607	111.0	(Q)
50 Chlorobenzene	112.00		26.674	26.674	(1.004)	7968664	101.0	106.2
51 Hexanenitrile	41.00		26.943	26.943	(1.014)	6565208	154.0	167.2
52 Ethylbenzene	91.00		27.546	27.546	(1.037)	12638125	94.80	103.0
53 p/m-Xylene	106.00		27.988	27.988	(1.053)	8956826	190.0	188.7 (Q)
54 Cyclohexanone	55.00		28.408	28.408	(1.069)	2339844	108.9	117.4 (Q)
55 Styrene	104.00		28.903	28.903	(0.951)	5194211	93.00	78.05 (Q)
56 1,1,2,2-Tetrachloroethane	83.00		29.129	29.129	(0.959)	5966981	150.0	150.3
57 o-Xylene	106.00		29.204	29.204	(0.961)	4131072	94.80	95.20 (Q)
58 Nonane	57.00		29.646	29.646	(0.976)	7300924	92.80	93.26
* 59 1-Bromo-4-Fluorobenzene (IS)	95.00		30.389	30.389	(1.000)	5543466	180.0	(Q)
60 1-Ethyl-2-Methyl-Benzene	105.00		32.596	32.596	(1.073)	11225438	107.0	116.3
61 1,3,5-Trimethylbenzene	105.00		32.811	32.811	(1.080)	9701159	107.0	116.1 (Q)
62 1,2,4-Trimethylbenzene	105.00		34.082	34.082	(1.122)	9527774	107.0	114.6 (Q)
63 Decane	43.00		34.319	34.319	(1.129)	7640250	154.0	155.0
64 1,3-Dichlorobenzene	146.00		34.588	34.588	(1.138)	7261724	131.0	142.5
65 1,4-Dichlorobenzene	146.00		34.792	34.792	(1.145)	7119623	131.0	142.3
66 1,2-Dichlorobenzene	146.00		35.923	35.923	(1.182)	6629872	131.0	146.9
67 Undecane	71.00		38.647	38.647	(1.272)	1255814	111.0	114.7
68 1,2,4-Trichlorobenzene	180.00		42.157	42.157	(1.387)	2660361	162.0	184.7 (QM)
69 Dodecane	71.00		42.673	42.673	(1.404)	4411149	113.0	114.0
70 Hexachloro-1,3-butadiene	225.00		43.987	43.987	(1.447)	3225335	233.0	279.5 (M)
71 Tridecane	57.00		46.442	46.442	(1.528)	1133267	95.10	133.7
72 Tetradecane	57.00		50.124	50.124	(1.649)	29850	81.20	50.56 (M)

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

EO1 031

Data File: /chem/hpdos1.i/18122402.b/18122402.D

Page 1

Date : 06-NOV-98 21:53

Client ID: 200mL

Instrument: hpdos1.i

Sample Info: CCV; 200mL; 54934-151-01

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

E01 032

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCV; 200mL; 54934-151-01

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122402.D
 Injection Date : 06-NOV-98 21:53 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCV
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CCALIB_5

VolumeFactor: 100 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.635	4.635	6763017	138.22	1.3822	256.07	
Chloromethane	23	50.49	5.023	5.023	2616560	85.00	0.8500	377.09	
1,2-dichloro1,1,2,2-tetrafluoroethane	23	170.92	5.227	5.227	4621771	206.38	2.0638	270.48	
Methanol	23	32.04	5.378	5.378	4855216	193.24	1.9324	1350.97	
Vinyl Chloride	23	62.50	5.518	5.518	1651706	104.96	1.0496	376.17	
Butane	23	58.12	5.938	5.938	1361849	179.38	1.7938	691.35	
Bromomethane	23	94.94	6.412	6.412	1038287	126.00	1.2600	297.29	
Chloroethane	23	64.51	6.756	6.756	624616	37.55	0.3755	130.37	
Ethanol	23	46.01	6.961	6.961	4693589	96.35	0.9635	469.10	
Acetonitrile	23	41.05	7.424	7.424	4853693	71.35	0.7135	389.33	
Acetone	23	58.08	7.898	7.898	14925567	145.13	1.4513	559.72	
Trichlorofluoromethane	23	137.37	8.285	8.285	5972457	137.06	1.3706	223.50	
Pentane	23	72.15	8.953	8.953	7331083	86.11	0.8611	267.34	
1,1-Dichloroethene	23	96.94	9.502	9.502	2278201	100.37	1.0037	231.93	
Methylene Chloride	23	84.93	9.685	9.685	2055889	80.16	0.8016	211.43	
1,1,2-Trichloroethane	23	187.38	10.169	10.169	4290417	206.50	2.0650	246.86	
Propanenitrile	23	55.08	10.934	10.934	7055907	181.93	1.8193	739.88	
Propanol	23	60.10	10.923	10.923	4609615	118.20	1.1820	440.55	
1,1-Dichloroethane	23	98.96	11.817	11.817	4809905	101.36	1.0136	229.44	
2-Butanone	23	72.11	12.463	12.463	3385169	133.69	1.3369	415.29	
cis-1,2-Dichloroethene	23	96.94	13.335	13.335	2517387	100.02	1.0002	231.11	
Hexane	23	86.18	13.701	13.701	7686503	147.55	1.4755	383.51	
Chloroform	23	119.38	13.862	13.862	5328765	121.99	1.2199	228.89	
Tetrahydrofuran	23	72.11	14.605	14.605	2039588	104.25	1.0425	323.83	
1,2-Dichloroethane	34	98.96	15.273	15.273	3600693	97.79	0.9779	221.36	
1,1,1-Trichloroethane	34	133.40	15.779	15.779	4472021	122.27	1.2227	205.32	
Butanenitrile	34	69.11	15.768	15.768	10009335	114.07	1.1407	369.71	
1-Butanol	34	74.12	16.252	16.252	2108580	127.33	1.2733	384.82	
Benzene	34	78.11	16.672	16.672	8373820	79.42	0.7942	227.77	
Carbon Tetrachloride	34	153.82	16.952	16.952	5390795	155.91	1.5591	227.04	
Cyclohexane	34	84.16	17.211	17.211	5005377	122.17	1.2217	325.18	
1,2-Dichloropropane	34	112.99	18.233	18.233	3355251	110.96	1.1096	219.98	
Trichloroethene	34	131.39	18.675	18.675	3567474	126.11	1.2611	214.99	

01/28/99 14:01

18122402.D

Page 1

E01 033

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m^3	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.170	19.170	4194459	115.54	1.1554	258.29	
cis-1,3-Dichloropropene	34	110.97	20.365	20.365	3373260	91.25	0.9125	184.20	
4-Methyl-2-Pentanone	34	100.16	20.376	20.376	6234898	181.14	1.8114	405.10	
Pyridine	34	79.10	20.570	20.570	1621969	27.72	0.2772	78.49	
trans-1,3-Dichloropropene	34	110.97	21.431	21.431	2182956	85.80	0.8580	173.20	
Pentanenitrile	34	83.13	21.453	21.453	3323732	110.37	1.1037	297.39	
1,1,2-Trichloroethane	34	133.40	21.862	21.862	2756673	120.75	1.2075	202.76	
Toluene	49	92.14	22.508	22.508	6113441	89.69	0.8969	218.05	
1,2-Dibromoethane	49	187.86	24.037	24.037	4743072	169.60	1.6960	202.23	
Octane	49	114.23	24.575	24.575	2737779	79.35	0.7935	155.61	
Bromoform	49	175.00	28.246	28.246	4440463	125.73	1.2573	160.93	
Tetrachloroethylene	49	165.83	25.070	25.070	3846807	162.04	1.6204	218.88	
Chlorobenzene	49	112.56	26.674	26.674	7968664	106.19	1.0619	211.31	
Hexanenitrile	49	97.13	26.943	26.943	6565208	167.17	1.6717	385.54	
Ethylbenzene	49	106.17	27.546	27.546	12638125	103.02	1.0302	217.35	
p/m-Xylene	49	106.17	27.988	27.988	8956826	188.67	1.8867	398.07	
Cyclohexanone	49	98.14	28.408	28.408	2339844	117.35	1.1735	267.85	
Styrene	59	104.15	28.903	28.903	5194211	78.05	0.7805	167.86	
1,1,2,2-Tetrachloroethane	59	167.85	29.129	29.129	5966981	150.31	1.5031	200.59	
o-Xylene	59	106.17	29.204	29.204	4131072	95.20	0.9520	200.86	
Nonane	59	128.26	29.646	29.646	7300924	93.26	0.9326	162.87	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.596	32.596	11225438	116.30	1.1630	216.76	
1,3,5-Trimethylbenzene	59	120.19	32.811	32.811	9701159	116.07	1.1607	216.31	
1,2,4-Trimethylbenzene	59	120.19	34.082	34.082	9527774	114.63	1.1463	213.63	
Decane	59	142.28	34.319	34.319	7640250	155.05	1.5505	244.11	
1,3-Dichlorobenzene	59	147.00	34.588	34.588	7261724	142.47	1.4247	217.10	
1,4-Dichlorobenzene	59	147.00	34.792	34.792	7119623	142.26	1.4226	216.78	
1,2-Dichlorobenzene	59	147.00	35.923	35.923	6629872	146.95	1.4695	223.92	
Undecane	59	156.31	38.647	38.647	1255814	114.70	1.1470	164.38	
1,2,4-Trichlorobenzene	59	181.45	42.157	42.157	2660361	184.74	1.8474	228.06	
Dodecane	59	170.34	42.673	42.673	1441149	114.00	1.1400	149.91	
Hexachloro-1,3-butadiene	59	260.76	43.987	43.987	3225335	279.50	2.7950	240.10	
Tridecane	59	184.36	46.442	46.442	1133267	133.66	1.3366	162.40	
Tetradecane	59	198.34	50.124	50.124	29850	50.56	0.5056	57.10	
Bromochloromethane (IS)	23	129.38	13.636	13.636	2601455	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.221	17.221	7940083	97.00	0.9700	190.60	
DS-Chlorobenzene (IS)	49	117.00	26.567	26.567	8405607	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.389	30.389	5543466	180.00	1.8000	231.72	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

01/28/99 14:01

18122402.D

Page 2

E01 035

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCV; 200mL; 54934-151-01

01/28/99 14:02

18122402.D

E01 036

Page 3

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122402.D

HNF-4073
Rev. 0

Sample Info : CCV; 200mL; 54934-151-01

01/28/99 14:02

18122402.D
E01 037

Page 4

Data File: /chem/hpdos1.i/18122402.b/18122403.D

Page 1

Date : 06-NOV-98 23:11

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB; 200mL Nitrogen

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

E01 038

Date : 06-NOV-98 23:11

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB; 200mL Nitrogen

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

12 Acetone

E01 039

Date : 06-NOV-98 23:11

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

16 Methylene Chloride

F01 040

Date : 06-NOV-98 23:11

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB: 200mL Nitrogen

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

F01 041

Date : 06-NOV-98 23:11

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Instrument: hpdos1.1

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number Library

Entry

Quality Formula

Weight

Unknown

0

0

0

E01 042

Date : 06-NOV-98 23:11

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115913	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44

E01 043

Date : 06-NOV-98 23:11

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB: 200mL Nitrogen

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number Library

Entry

Quality Formula

Weight

Unknown

0

0

0

E01 044

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
Method : InCal2_53097.m
File : 18122403.D
Injection Date : 06-NOV-98 23:11 Operator : Alex
Matrix : AIR Lab. Sample ID: CCB
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.635				0.0007	0.13	U
Chloromethane	23	50.49	5.023				0.0006	0.27	U
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.227				0.0033	0.43	U
Methanol	23	32.04	5.378				0.0032	2.20	U
Vinyl Chloride	23	62.50	5.518				0.0004	0.14	U
Butane	23	58.12	5.938				0.0006	0.23	U
Bromomethane	23	94.94	6.412				0.0013	0.31	U
Chloroethane	23	64.51	6.756				0.0014	0.47	U
Ethanol	23	46.01	6.961				0.0010	0.49	U
Acetonitrile	23	41.05	7.424				0.0010	0.55	U
Acetone	23	58.08	7.898	8.005	65003	0.50	0.0025	0.96	J
Trichlorofluoromethane	23	137.37	8.285				0.0012	0.20	U
Pentane	23	72.15	8.953				0.0009	0.29	U
1,1-Dichloroethene	23	96.94	9.502				0.0009	0.22	U
Methylene Chloride	23	84.93	9.685	9.696	11147	0.39	0.0019	0.51	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.169				0.0010	0.12	U
Propanenitrile	23	55.08	10.934				0.0009	0.39	U
Propanol	23	60.10	10.923				0.0007	0.26	U
1,1-Dichloroethane	23	98.96	11.817				0.0005	0.11	U
2-Butanone	23	72.11	12.463				0.0007	0.22	U
cis-1,2-Dichloroethene	23	96.94	13.335				0.0009	0.20	U
Hexane	23	86.18	13.701				0.0008	0.21	U
Chloroform	23	119.38	13.862				0.0006	0.12	U
Tetrahydrofuran	23	72.11	14.605				0.0004	0.12	U
1,2-Dichloroethane	34	98.96	15.273				0.0005	0.12	U
1,1,1-Trichloroethane	34	133.40	15.779				0.0008	0.13	U
Butanenitrile	34	69.11	15.768				0.0009	0.28	U
1-Butanol	34	74.12	16.252				0.0008	0.24	U
Benzene	34	78.11	16.672				0.0004	0.11	U
Carbon Tetrachloride	34	153.82	16.952				0.0009	0.12	U
Cyclohexane	34	84.16	17.211				0.0009	0.24	U
1,2-Dichloropropane	34	112.99	18.233				0.0008	0.15	U
Trichloroethene	34	131.39	18.675				0.0006	0.10	U

01/29/99 10:02

18122403.D

Page 1

E01 045

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.170				0.0004	0.10	U
cis-1,3-Dichloropropene	34	110.97	20.365				0.0006	0.12	U
4-Methyl-2-Pentanone	34	100.16	20.376				0.0009	0.19	U
Pyridine	34	79.10	20.570				0.0046	1.32	U
trans-1,3-Dichloropropene	34	110.97	21.431				0.0004	0.09	U
Pentanenitrile	34	83.13	21.453				0.0011	0.28	U
1,1,2-Trichloroethane	34	133.40	21.862				0.0007	0.12	U
Toluene	49	92.14	22.508				0.0005	0.12	U
1,2-Dibromoethane	49	187.86	24.037				0.0013	0.16	U
Octane	49	114.23	24.575				0.0006	0.12	U
Bromoform	49	175.00	28.246				0.0029	0.38	U
Tetrachloroethylene	49	165.83	25.070				0.0011	0.14	U
Chlorobenzene	49	112.56	26.674				0.0006	0.13	U
Hexanenitrile	49	97.13	26.943				0.0013	0.30	U
Ethylbenzene	49	106.17	27.546				0.0007	0.15	U
p/m-Xylene	49	106.17	27.988				0.0033	0.69	U
Cyclohexanone	49	98.14	28.408				0.0015	0.33	U
Styrene	59	104.15	28.903				0.0005	0.12	U
1,1,2,2-Tetrachloroethane	59	167.85	29.129				0.0011	0.14	U
o-Xylene	59	106.17	29.204				0.0007	0.15	U
Nonane	59	128.26	29.646				0.0004	0.07	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.596				0.0004	0.08	U
1,3,5-Trimethylbenzene	59	120.19	32.811				0.0004	0.08	U
1,2,4-Trimethylbenzene	59	120.19	34.082				0.0006	0.12	U
Decane	59	142.28	34.319				0.0008	0.12	U
1,3-Dichlorobenzene	59	147.00	34.588				0.0004	0.07	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0004	0.07	U
1,2-Dichlorobenzene	59	147.00	35.923				0.0004	0.07	U
Undecane	59	156.31	38.647				0.0070	1.01	U
1,2,4-Trichlorobenzene	59	181.45	42.157				0.0007	0.09	U
Dodecane	59	170.34	42.673				0.0024	0.32	U
Hexachloro-1,3-butadiene	59	260.76	43.987	44.041	28362	2.25	0.0113	0.97	J
Tridecane	59	184.36	46.442				0.0015	0.18	U
Tetradecane	59	198.34	50.124				0.0011	0.12	U
Bromochloromethane (IS)	23	129.38	13.636	13.636	2770977	120.00	0.6000	103.88	
Difluorobenzene (IS)	34	114.00	17.221	17.211	11471977	97.00	0.4850	95.30	
D5-Chlorobenzene (IS)	49	117.00	26.567	26.567	8616288	111.00	0.5550	106.26	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.389	30.389	5038136	180.00	0.9000	115.86	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown	23	0		3.804	1243482	11.02	0.0551		J
Carbon dioxide	23	44	124-38-9	3.908	2651270	23.49	0.1175	59.80	NJ
Unknown	23	0		4.081	987018	8.75	0.0437		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	13543561
Difluorobenzene (IS)	34	24922175
D5-Chlorobenzene (IS)	49	25005530
1-Bromo-4-Fluorobenzene (IS)	59	24871892

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

01/29/99 10:02

18122403.D

Page 2

E01 047

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

01/29/99 10:02

18122403.D

Page 3

E01 048

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

Data File: /chem/hpdos1.i/18122402.b/18122404.D

Page 1

Date : 07-NOV-1998 01:08

Client ID: C-106

Instrument: hpdos1.i

Sample Info: VP006-001.C248; C-106; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

E01 050

Date : 07-NOV-1998 01:08

Client ID: C-106

Sample Info: VP006-001.C248; C-106; 200 ml; 2K

Instrument: hpdosi.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

E01 051

Date : 07-NOV-1998 01:08

Client ID: C-106

Sample Info: VP006-001.C248; C-106; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

7 Butane

E01 052

Date : 07-NOV-1998 01:08

Client ID: C-106

Sample Info: VP006-001.C248; C-106; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

12 Acetone

E01 053

Date : 07-NOV-1998 01:08

Client ID: C-106

Instrument: hpdos1.i

Sample Info: VP006-001.C248; C-106; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

E01 054

Date : 07-NOV-1998 01:08

Client ID: C-106

Sample Info: VP006-001.C248; C-106; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

30 1-Butanol

E01 055

Date : 07-NOV-1998 01:08

Client ID: C-106

Instrument: hpdos1.i

Sample Info: VF006-001.C248; C-106; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

E01 056

Data File: /chem/hpdos1.i/18122402.b/18122404.D

Date : 07-NOV-1998 01:08

Client ID: C-106

Sample Info: VP006-001.C248; C-106; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 4-Methyl-2-Pentanone

F01 057

Date : 07-NOV-1998 01:08

Client ID: C-106

Instrument: hpdos1.i

Sample Info: VP006-001.C248; C-106; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

40 Pyridine

E01 058

Date : 07-NOV-1998 01:08

Client ID: C-106

Sample Info: VP006-001.C248; C-106; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Toluene

E01 059

Date : 07-NOV-1998 01:08

Client ID: C-106

Instrument: hpdosi.i

Sample Info: VP006-001.C248; C-106; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

E01 000

Date : 07-NOV-1998 01:08

Client ID: C-106

Instrument: hpdosi.i

Sample Info: VP006-001.C248; C-106; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrogen	7727-37-9	nbs75k.1	62244	1	N2	28
Nitrogen	7727-37-9	nbs75k.1	9	1	N2	28
Carbon monoxide	630-08-0	nbs75k.1	62240	1	CO	28

E01 061

Date : 07-NOV-1998 01:08

Client ID: C-106

Instrument: hpdos1.i

Sample Info: VP006-001.C248; C-106; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	34	5	CO2	44
Nitrous Oxide	10024-97-2	nbs75k.1	39	3	N2O	44

E01 062

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-001.C248; C-106; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2.53097.m
 File : 18122404.D
 Injection Date : 07-NOV-1998 01:08 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP006-001.C248
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.635	4.646	25234	0.31	0.0031	0.57	J
Chloromethane	23	50.49	5.023	5.045	6639	0.08	0.0008	0.38	J
1,2-dichloro1,1,2,2-tetrafluoroethane	23	170.92	5.227				0.0065	0.85	U
Methanol	23	32.04	5.378				0.0063	4.40	U
Vinyl Chloride	23	62.50	5.518				0.0008	0.29	U
Butane	23	58.12	5.938	5.949	9946	0.51	0.0051	1.98	J
Bromomethane	23	94.94	6.412				0.0026	0.61	U
Chloroethane	23	64.51	6.756				0.0027	0.94	U
Ethanol	23	46.01	6.961				0.0020	0.97	U
Acetonitrile	23	41.05	7.424				0.0020	1.09	U
Acetone	23	58.08	7.898	7.930	153992	0.93	0.0093	3.60	J
Trichlorofluoromethane	23	137.37	8.285	8.296	10505	0.16	0.0016	0.26	J
Pentane	23	72.15	8.953	8.974	6976	0.06	0.0006	0.18	J
1,1-Dichloroethene	23	96.94	9.502				0.0019	0.44	U
Methylene Chloride	23	84.93	9.585				0.0010	0.26	U
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.169				0.0020	0.24	U
Propanenitrile	23	55.08	10.934				0.0019	0.77	U
Propanol	23	60.10	10.923				0.0014	0.52	U
1,1-Dichloroethane	23	98.96	11.817				0.0010	0.23	U
2-Butanone	23	72.11	12.463	12.473	175530	4.92	0.0492	15.30	
cis-1,2-Dichloroethene	23	96.94	13.335				0.0017	0.39	U
Hexane	23	86.18	13.701				0.0016	0.42	U
Chloroform	23	119.38	13.862				0.0013	0.24	U
Tetrahydrofuran	23	72.11	14.605				0.0008	0.25	U
1,2-Dichloroethane	34	98.96	15.273				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.779				0.0016	0.27	U
Butanenitrile	34	69.11	15.768				0.0017	0.55	U
1-Butanol	34	74.12	16.252	16.285	31196	1.36	0.0136	4.11	J
Benzene	34	78.11	16.672	16.651	14177	0.08	0.0008	0.24	J
Carbon Tetrachloride	34	153.82	16.952				0.0017	0.25	U
Cyclohexane	34	84.16	17.211				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.233				0.0015	0.30	U
Trichloroethene	34	131.39	18.675				0.0012	0.20	U

02/08/99 16:53

18122404.D

Page 1

E01 063

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.170				0.0009	0.20	U
cis-1,3-Dichloropropene	34	110.97	20.365				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.376	20.408	14803	0.27	0.0027	0.61	J
Pyridine	34	79.10	20.570	20.871	40716	1.87	0.0187	5.30	J
trans-1,3-Dichloropropene	34	110.97	21.431				0.0009	0.18	U
Pentanenitrile	34	83.13	21.453				0.0021	0.57	U
1,1,2-Trichloroethane	34	133.40	21.862				0.0014	0.24	U
Toluene	49	92.14	22.508	22.519	19424	0.25	0.0025	0.62	J
1,2-Dibromoethane	49	187.86	24.037				0.0026	0.31	U
Octane	49	114.23	24.575				0.0012	0.24	U
Bromoform	49	175.00	28.246				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.070				0.0021	0.28	U
Chlorobenzene	49	112.56	26.674				0.0013	0.26	U
Hexanenitrile	49	97.13	26.943				0.0026	0.60	U
Ethylbenzene	49	106.17	27.546				0.0014	0.30	U
p/m-Xylene	49	106.17	27.988				0.0065	1.37	U
Cyclohexanone	49	98.14	28.408				0.0029	0.66	U
Styrene	59	104.15	28.903				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.129				0.0021	0.28	U
o-Xylene	59	106.17	29.204				0.0014	0.30	U
Nonane	59	128.26	29.646				0.0008	0.14	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.596				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.811				0.0013	0.24	U
1,2,4-Trimethylbenzene	59	120.19	34.082				0.0015	0.24	U
Decane	59	142.28	34.319				0.0009	0.14	U
1,3-Dichlorobenzene	59	147.00	34.588				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.923				0.0009	0.14	U
Undecane	59	156.31	38.647				0.0141	2.02	U
1,2,4-Trichlorobenzene	59	181.45	42.157				0.0014	0.17	U
Dodecane	59	170.34	42.673				0.0049	0.64	U
Hexachloro-1,3-butadiene	59	260.76	43.987	44.019	15079	1.14	0.0114	0.98	J
Tridecane	59	184.36	46.442				0.0030	0.36	U
Tetradecane	59	198.34	50.124				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.636	13.647	3506371	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.221	17.221	11068012	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.567	26.567	8642779	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.389	30.389	5299603	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Nitrogen	23	28	7727-37-9	3.802	1097459	9.42	0.0942	75.34	NJ
Carbon dioxide	23	44	124-38-9	3.918	5587881	47.95	0.4795	244.10	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	13984991
Difluorobenzene (IS)	34	24240111
D5-Chlorobenzene (IS)	49	25291746
1-Bromo-4-Fluorobenzene (IS)	59	26216803

E01 064

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 16:53

18122404.D

Page 2

E01 065

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-001.C248; C-106; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-001.C248; C-106; 200 ml; 2X

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdosi.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

E01 068

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Methanol

F01 069

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

E01 070

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Ethanol

E01 071

Data File: /chem/hpdos1.i/18122402.b/18122405.D
Date : 07-NOV-1998 02:51
Client ID: AZ Stack
Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Page 6

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

12 Acetone

E01 672

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 Trichlorofluoromethane

E01 073

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Pentane

E01 074

Date : 07-NOV-1998 02:51

Client ID: A2 Stack

Sample Info: VP702-013.C020; A2 Stack; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

16 Methylene Chloride

E01 075

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

E01 076

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanenitrile

E01 077

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

E01 078

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

E01 079

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

E01 050

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020: AZ Stack; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

E01 081

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

26 Tetrahydrofuran

E01 082

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

29 Butanenitrile

E01 083

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

30 1-Butanol

E01 084

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

31 Benzene

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

37 Heptane

E01 086

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

40 Pyridine

HN1-4013
R0

Data File: /chem/hpdos1.i/18122402.b/18122405.D

Date: 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

Page 22

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

44 Toluene

E01 085-A

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

48 Tetrachloroethylene

E01 088-B

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020: AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

54 Cyclohexanone

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrogen	7727-37-9	nbs75k.1	62244	1	N2	28
Nitrogen	7727-37-9	nbs75k.1	9	1	N2	28
Carbon monoxide	630-08-0	nbs75k.1	62240	1	CO	28

E01 091

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Nitrous Oxide	10024-97-2	nbs75k.1	39	3	N2O	44

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methane	74-82-8	nbs75k.1	62237	2	CH4	16
Methane	74-82-8	nbs75k.1	62236	2	CH4	16
Methane	74-82-8	nbs75k.1	1	2	CH4	16

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020: AZ Stack; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
Furan, 2,5-dihydro-	1708-29-8	nbs75k.1	62431	78	C4H6O	70
Cyclopropane	75-19-4	nbs75k.1	62260	78	C3H6	42

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.D020; AZ Stack; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	40	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	7	C3H8	44

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.1	62260	90	C3H6	42
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	72	C3H6	42

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	87	C4H8	56

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62486	91	C4H8O	72
Butanal	123-72-8	nbs75k.1	62487	68	C4H8O	72
Butanal	123-72-8	nbs75k.1	62490	59	C4H8O	72

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020: AZ Stack; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 4,7-dimethyl-	17301-32-5	nbs75k.1	19020	80	C13H28	184
Decane, 2,3,7-trimethyl-	62239-13-5	nbs75k.1	19048	64	C13H28	184
10-Methylnonadecane	0-00-0	nbs75k.1	39858	83	C20H42	282

Date : 07-NOV-1998 02:51

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	70269	64	C15H32	212
Decanedioic acid, didecyl ester	2432-89-5	nbs75k.1	58384	78	C30H58O4	482
Heptane, 2,4-dimethyl-	2213-23-2	nbs75k.1	65120	72	C9H20	128

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2 53097.m
 File : 18122405.D
 Injection Date : 07-NOV-1998 02:51 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-013.C020
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.635	4.658	30448	0.42	0.0042	0.78	J
Chloromethane	23	50.49	5.023	5.024	8063	0.12	0.0012	0.52	J
12dichloro122-tetrafluoroeth	23	170.92	5.227				0.0065	0.85	U
Methanol	23	32.04	5.378	5.390	493538	10.14	0.1014	70.92	
Vinyl Chloride	23	62.50	5.518				0.0008	0.29	U
Butane	23	58.12	5.938	5.950	195085	11.50	0.1150	44.31	
Bromomethane	23	94.94	6.412				0.0026	0.61	U
Chloroethane	23	64.51	6.756				0.0027	0.94	U
Ethanol	23	46.01	6.961	6.930	426947	8.69	0.0869	42.32	
Acetonitrile	23	41.05	7.424				0.0020	1.09	U
Acetone	23	58.08	7.898	7.909	2163907	14.96	0.1496	57.69	
Trichlorofluoromethane	23	137.37	8.285	8.297	717357	12.49	0.1249	20.37	
Pentane	23	72.15	8.953	8.965	64144	0.60	0.0060	1.87	J
1,1-Dichloroethene	23	96.94	9.502				0.0019	0.44	U
Methylene Chloride	23	84.93	9.685	9.697	10925	0.34	0.0034	0.90	J
112trichloro122trifluoroethane	23	187.38	10.169	10.181	9137	0.30	0.0030	0.36	J
Propanenitrile	23	55.08	10.934	10.924	110582	2.37	0.0237	9.65	
Propanol	23	60.10	10.923	10.924	164736	3.05	0.0305	11.38	
1,1-Dichloroethane	23	98.96	11.817				0.0010	0.23	U
2-Butanone	23	72.11	12.463	12.474	168016	5.37	0.0537	16.69	
cis-1,2-Dichloroethene	23	96.94	13.335				0.0017	0.39	U
Hexane	23	86.18	13.701	13.702	24697	0.44	0.0044	1.15	J
Chloroform	23	119.38	13.862	13.863	30639	0.52	0.0052	0.98	J
Tetrahydrofuran	23	72.11	14.605	14.649	3741	0.14	0.0014	0.44	J
1,2-Dichloroethane	34	98.96	15.273				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.779	15.780	4688	0.09	0.0009	0.15	J
Butanenitrile	34	69.11	15.768	15.780	254661	2.06	0.0206	6.66	
1-Butanol	34	74.12	16.252	16.264	373593	16.07	0.1607	48.57	
Benzene	34	78.11	16.672	16.673	19464	0.11	0.0011	0.33	J
Carbon Tetrachloride	34	153.82	16.952	16.964	3481	0.06	0.0006	0.09	J
Cyclohexane	34	84.16	17.211				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.233				0.0015	0.30	U
Trichloroethene	34	131.39	18.675				0.0012	0.20	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.170	19.182	5054	0.10	0.0010	0.23	J
cis-1,3-Dichloropropene	34	110.97	20.365				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.376				0.0017	0.38	U
Pyridine	34	79.10	20.570	20.818	55076	2.50	0.0250	7.09	J
trans-1,3-Dichloropropene	34	110.97	21.431				0.0009	0.18	U
Pentanenitrile	34	83.13	21.453				0.0021	0.57	U
1,1,2-Trichloroethane	34	133.40	21.862				0.0014	0.24	U
Toluene	49	92.14	22.508	22.530	13943	0.19	0.0019	0.45	J
1,2-Dibromoethane	49	187.86	24.037				0.0026	0.31	U
Octane	49	114.23	24.575				0.0012	0.24	U
Bromoform	49	175.00	28.246				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.070	25.082	44354	1.68	0.0168	2.28	J
Chlorobenzene	49	112.56	26.674				0.0013	0.26	U
Hexanenitrile	49	97.13	26.943				0.0026	0.60	U
Ethylbenzene	49	106.17	27.546				0.0014	0.30	U
p/m-Xylene	49	106.17	27.988				0.0065	1.37	U
Cyclohexanone	49	98.14	28.408	28.452	15791	0.73	0.0073	1.66	J
Styrene	59	104.15	28.903				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.129				0.0021	0.28	U
o-Xylene	59	106.17	29.204				0.0014	0.30	U
Nonane	59	128.26	29.646				0.0008	0.14	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.596				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.811				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.082				0.0013	0.24	U
Decane	59	142.28	34.319				0.0015	0.24	U
1,3-Dichlorobenzene	59	147.00	34.588				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.923				0.0009	0.14	U
Undecane	59	156.31	38.647				0.0141	2.02	U
1,2,4-Trichlorobenzene	59	181.45	42.157				0.0014	0.17	U
Dodecane	59	170.34	42.673				0.0049	0.64	U
Hexachloro-1,3-butadiene	59	260.76	43.987	44.020	7275	0.55	0.0055	0.47	J
Tridecane	59	184.36	46.442				0.0030	0.36	U
Tetradecane	59	198.34	50.124				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.636	13.648	3076157	120.00	1.2000	207.76	U
Difluorobenzene (IS)	34	114.00	17.221	17.222	11204024	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.567	26.579	8516254	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.389	30.401	5292286	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Nitrogen	23	28	7727-37-9	3.812	1039727	10.11	0.1011	80.90	NJ
Carbon dioxide	23	44	124-38-9	3.916	5763334	56.06	0.5606	285.38	NJ
Methane	23	16	74-82-8	4.088	863342	8.40	0.0840	117.56	NJ
Propene	23	42	115-07-1	4.486	503072	4.89	0.0489	26.10	NJ
Propane	23	44	74-98-6	4.540	478441	4.65	0.0465	23.69	NJ
Cyclopropane	23	42	75-19-4	5.078	67765	0.66	0.0066	3.52	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.756	636572	6.19	0.0619	24.77	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	ng/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Butanal	23	72	123-72-8	12.259	135082	1.31	0.0131	4.09	NJ
Undecane, 4,7-dimethyl-	59	184	17301-32-5	37.130	1011868	7.06	0.0706	8.60	NJ
Dodecane, 2,6,10-trimethyl-	59	212	3891-98-3	37.388	420030	2.93	0.0293	3.10	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
*****	*****	*****
Bromochloromethane (IS)	23	12337366
Difluorobenzene (IS)	34	24480920
D5-Chlorobenzene (IS)	49	25136014
1-Bromo-4-Fluorobenzene (IS)	59	25784142

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/08/99 17:05

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HNF-4073
Rev. 0

Page 3

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122405.D

HNF-4073
Rev. 0

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.D020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

E01 107

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

4 Methanol

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2K; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

13 Trichlorofluoromethane

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.D020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020: AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanenitrile

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

24 Hexane

Date: 07-NOV-1998 04:25

Client ID: AZ Stack

Sample Info: VP702-013.D020; AZ Stack; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

25 Chloroform

E01 122

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Butanenitrile

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

30 1-Butanol

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2K; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

36 Trichloroethene

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

37 Heptane

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

HNF-4073

Column phase: DB-1

Column diameter: 0.32

Rev. 0

40 Pyridine

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

44 Toluene

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

46 Octane

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2K; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

48 Tetrachloroethylene

E01 132

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

54 Cyclohexanone

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2K; rep

Column phase: BB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.1

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrogen	7727-37-9	nbs75k.1	62244	1	N2	28
Nitrogen	7727-37-9	nbs75k.1	9	1	N2	28
Carbon monoxide	630-08-0	nbs75k.1	62240	1	CO	28

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	34	5	CO2	44
Nitrous Oxide	10024-97-2	nbs75k.1	39	3	N2O	44

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ammonia	7664-41-7	nbs75k.l	2	9	H3N	17
Carbamic acid, monoammonium salt	1111-78-0	nbs75k.l	391	2	CH6N2O2	78
Ethanediiimdic acid, dihydrazide	3457-37-2	nbs75k.l	3177	2	C2H8N6	116

E01 137

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	86	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	78	C3H6	42

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	78	C3H8	44
Propane	74-98-6	nbs75k.1	62268	78	C3H8	44
Propane	74-98-6	nbs75k.1	38	64	C3H8	44

E01 139

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ethane, 1-chloro-1,1-difluoro-	75-68-3	nbs75k.1	1427	83	C2H3ClF2	100
Propane, 2,2-difluoro-	420-45-1	nbs75k.1	62639	43	C3H6F2	80
Propane, 2,2-difluoro-	420-45-1	nbs75k.1	414	9	C3H6F2	80

E01 140

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	87	C4H8	56
1-Butene	106-98-9	nbs75k.1	62308	87	C4H8	56

Date: 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62487	90	C4H8O	72
Butanal	123-72-8	nbs75k.1	62489	80	C4H8O	72
Butanal	123-72-8	nbs75k.1	265	64	C4H8O	72

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.1

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Butane, 2-iodo-2-methyl-	594-38-7	nbs75k.1	22156	59	CEH11I	198
Ether, hexyl pentyl	32357-83-8	nbs75k.1	15858	53	C11H24O	172
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	70270	53	C15H32	212

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown Alkane

Nonadecane

1-Iodo-2-methylnonane

Undecane, 5,7-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
629-92-5	nbs75k.1	37469	78	C19H40	268
0-00-0	nbs75k.1	37255	72	C10H21I	268
17312-83-3	nbs75k.1	19013	64	C13H28	184

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5,7-dimethyl-	17312-83-3	nbs75k.1	19013	78	C13H28	184
Undecane, 3,7-dimethyl-	17301-29-0	nbs75k.1	19002	72	C13H28	184
Dodecane, 5-methyl-	17453-93-9	nbs75k.1	19034	72	C13H28	184

E01-145

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2K; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Nonane, 4,5-dimethyl-	17302-23-7	nbs75k.1	11612	72	C11H24	156
2,6-Dimethyldecane	13150-81-7	nbs75k.1	15357	59	C12H26	170
Hexane, 3,3-dimethyl-	563-16-6	nbs75k.1	64223	59	C8H18	114

Date : 07-NOV-1998 04:25

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-013.C020; AZ Stack; 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Pentadecane	629-62-9	nbs75k.1	26001	64	C15H32	212
Nonadecane	629-92-5	nbs75k.1	37469	64	C19H40	268
1-Iodo-2-methylnonane	0-00-0	nbs75k.1	37255	59	C10H21I	268

E01 147

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X; rep **HNF-4073**
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122406.D
 Injection Date : 07-NOV-1998 04:25 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-013.C020
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.635	4.658	31029	0.41	0.0041	0.77	J
Chloromethane	23	50.49	5.023	5.035	7926	0.11	0.0011	0.49	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.227				0.0065	0.85	U
Methanol	23	32.04	5.378	5.401	536234	10.59	0.1059	74.01	
Vinyl Chloride	23	62.50	5.518				0.0008	0.29	U
Butane	23	58.12	5.938	5.950	196854	11.14	0.1114	42.94	
Bromomethane	23	94.94	6.412				0.0026	0.61	U
Chloroethane	23	64.51	6.756				0.0027	0.94	U
Ethanol	23	46.01	6.961	6.930	356700	6.98	0.0698	33.96	
Acetonitrile	23	41.05	7.424				0.0020	1.09	U
Acetone	23	58.08	7.898	7.910	2269708	15.07	0.1507	58.12	
Trichlorofluoromethane	23	137.37	8.285	8.297	722439	12.08	0.1208	19.71	
Pentane	23	72.15	8.953	8.976	67255	0.61	0.0061	1.88	J
1,1-Dichloroethene	23	96.94	9.502				0.0019	0.44	U
Methylene Chloride	23	84.93	9.685	9.708	10241	0.31	0.0031	0.81	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.169	10.182	8171	0.26	0.0026	0.31	J
Propanenitrile	23	55.08	10.934	10.924	91713	1.89	0.0189	7.69	J
Propanol	23	60.10	10.923	10.935	161476	2.87	0.0287	10.71	
1,1-Dichloroethane	23	98.96	11.817				0.0010	0.23	U
2-Butanone	23	72.11	12.463	12.464	171947	5.28	0.0528	16.40	
cis-1,2-Dichloroethene	23	96.94	13.335				0.0017	0.39	U
Hexane	23	86.18	13.701	13.702	22912	0.39	0.0039	1.03	J
Chloroform	23	119.38	13.862	13.864	30936	0.50	0.0050	0.95	J
Tetrahydrofuran	23	72.11	14.605				0.0008	0.25	U
1,2-Dichloroethane	34	98.96	15.273				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.779				0.0016	0.27	U
Butanenitrile	34	69.11	15.768	15.769	246695	2.00	0.0200	6.48	
1-Butanol	34	74.12	16.252	16.265	378068	16.33	0.1633	49.36	
Benzene	34	78.11	16.672	16.685	19472	0.12	0.0012	0.33	J
Carbon Tetrachloride	34	153.82	16.952				0.0017	0.25	U
Cyclohexane	34	84.16	17.211				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.233				0.0015	0.30	U
Trichloroethene	34	131.39	18.675	18.676	3876	0.09	0.0009	0.15	J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
Heptane	34	100.20	19.170	19.182	4808	0.10	0.0010	0.22	J
cis-1,3-Dichloropropene	34	110.97	20.365				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.376				0.0017	0.38	U
Pyridine	34	79.10	20.570	20.851	30409	1.39	0.0139	3.93	J
trans-1,3-Dichloropropene	34	110.97	21.431				0.0009	0.18	U
Pentanenitrile	34	83.13	21.453	21.465	12908	0.30	0.0030	0.80	J
1,1,2-Trichloroethane	34	133.40	21.862				0.0014	0.24	U
Toluene	49	92.14	22.508	22.531	12894	0.17	0.0017	0.41	J
1,2-Dibromoethane	49	187.86	24.037				0.0026	0.31	U
Octane	49	114.23	24.575	24.609	2452	0.07	0.0007	0.13	J
Bromoform	49	175.00	28.246				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.070	25.104	42486	1.59	0.0159	2.14	J
Chlorobenzene	49	112.56	26.674				0.0013	0.26	U
Hexanenitrile	49	97.13	26.943				0.0026	0.60	U
Ethylbenzene	49	106.17	27.546				0.0014	0.30	U
p/m-Xylene	49	106.17	27.988				0.0065	1.37	U
Cyclohexanone	49	98.14	28.408	28.442	13898	0.63	0.0063	1.43	J
Styrene	59	104.15	28.903				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.129				0.0021	0.28	U
o-Xylene	59	106.17	29.204				0.0014	0.30	U
Nonane	59	128.26	29.646				0.0008	0.14	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.596				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.811				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.082				0.0013	0.24	U
Decane	59	142.28	34.319				0.0015	0.24	U
1,3-Dichlorobenzene	59	147.00	34.588				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.923				0.0009	0.14	U
Undecane	59	156.31	38.647				0.0141	2.02	U
1,2,4-Trichlorobenzene	59	181.45	42.157				0.0014	0.17	U
Dodecane	59	170.34	42.673				0.0049	0.64	U
Hexachloro-1,3-butadiene	59	260.76	43.987	43.999	5529	0.41	0.0041	0.36	J
Tridecane	59	184.36	46.442				0.0030	0.36	U
Tetradecane	59	198.34	50.124				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.636	13.648	3202864	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.221	17.234	11158178	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.567	26.579	8659928	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.389	30.401	5337020	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	ng/m ³	ppbv	Flags
Nitrogen	23	28	7727-37-9	3.815	978827	9.43	0.0943	75.40	NJ
Carbon dioxide	23	44	124-38-9	3.919	5155099	49.64	0.4964	252.70	NJ
Ammonia	23	17	7664-41-7	4.092	755625	7.28	0.0728	95.87	NJ
Propene	23	42	115-07-1	4.497	492520	4.74	0.0474	25.29	NJ
Propane	23	44	74-98-6	4.540	523033	5.04	0.0504	25.64	NJ
Ethane, 1-chloro-1,1-difluoro-	23	100	75-68-3	4.971	96758	0.93	0.0093	2.09	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.757	685336	6.60	0.0660	26.40	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Butanal	23	72	123-72-8	12.281	134973	1.30	0.0130	4.04	NJ
Unknown Alkane	59	0		36.947	89419	0.61	0.0061		J
Unknown Alkane	59	0		37.130	929281	6.32	0.0632		J
Undecane, 5,7-dimethyl-	59	184	17312-83-3	37.389	381370	2.59	0.0259	3.16	NJ
Unknown Alkane	59	0		38.950	143779	0.98	0.0098		J
Unknown Alkane	59	0		46.109	124304	0.85	0.0085		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
*****	*****	*****
Bromochloromethane (IS)	23	12462356
Difluorobenzene (IS)	34	24665852
D5-Chlorobenzene (IS)	49	25699518
1-Bromo-4-Fluorobenzene (IS)	59	26460048

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 17:05

18122406.D

Page 3

E01 151

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Data File: /chem/hpdos1.i/18122402.b/18122407.D

Page 1

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Data File: /chem/hpds1.i/18122402.b/18122407.D
Date : 07-NOV-98 05:52
Client ID: AZ Stack
Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2K;

Page 2

Instrument: hpds1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

1 Dichlorodifluoromethane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010,C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

4 Methanol

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7-Butane

Data File: /chem/hpdos1.i/18122402.b/18122407.D
Date : 07-NOV-98 05:52
Client ID: AZ Stack
Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Page 6

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010,C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpds01.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2K;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

16 Methylene Chloride

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

18 Propanenitrile

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

19 Propanol

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

E01 167

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

25 Chloroform

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

29 Butanenitrile

E01 171

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

30 1-Butanol

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

E01 173

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

32 Carbon Tetrachloride

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Sample Info: VP702-010,C160; AZ Stack; 200 ml; 2X;

Instrument: hpdos1.i

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

37 Heptane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

40 Pyridine

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

44 Toluene

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

48 Tetrachloroethylene

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2K;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

63 Decane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpds1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

69 Dodecane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

71 Tridecane

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

CAS Number

Library

Entry

Quality Formula

Weight

Unknown

0

0

0

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	34	5	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115915	5	CO2	44

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.1

Sample Info: VP702-010.C160; AZ Stack; 200 nl; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ammonia	7664-41-7	nbs75k.1	2	9	H3N	17
Ammonia	7664-41-7	WILEY138.1	115830	9	H3N	17
Ammonia	7664-41-7	WILEY138.1	115829	3	H3N	17

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.l	62258	86	C3H6	42
Furan, 2,5-dihydro-	1708-29-8	nbs75k.l	62432	78	C4H6O	70
Furan, 2,5-dihydro-	1708-29-8	nbs75k.l	62431	78	C4H6O	70

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	50	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ethane, 1-chloro-1,1-difluoro-	75-68-3	nbs75k.1	1427	78	C2H3ClF2	100
m-Nitroaniline	99-09-2	nbs75k.1	65863	39	C6H6N2O2	138
3-Picoline, 6-nitro-	1074-38-0	nbs75k.1	6853	4	C6H6N2O2	138

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.l	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.l	62305	87	C4H8	56
1-Butene	106-98-9	nbs75k.l	62307	87	C4H8	56

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Ketone						
2-Pentanone	107-87-9	nbs75k.1	706	56	C5H10O	86
2,3-Butanedione	431-03-8	nbs75k.1	62803	50	C4H6O2	86
2,3-Butanedione	431-03-8	nbs75k.1	62804	50	C4H6O2	86

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdosl.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62486	91	C4H8O	72
Propane	74-98-6	nbs75k.1	62268	59	C3H8	44
1-Propene, 3-methoxy-	627-40-7	nbs75k.1	277	50	C4H8O	72

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butanol	78-92-2	nbs75k.1	334	74	C4H10O	74
2-Butanol, (R)-	14898-79-4	nbs75k.1	335	43	C4H10O	74
2-Butanol	78-92-2	nbs75k.1	62569	9	C4H10O	74

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	64174	64	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64173	59	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	3029	59	C7H14O	114

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
1-Octanol, 2-butyl-	3913-02-8	nbs75k.1	69110	59	C12H26O	186
Nonane, 2,5-dimethyl-	17302-27-1	nbs75k.1	11616	50	C11H24	156
Nonane	111-84-2	nbs75k.1	5163	50	C9H20	128

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Limonene	138-86-3	nbs75k.1	6647	96	C10H16	136
Limonene	138-86-3	nbs75k.1	65776	86	C10H16	136
Cyclohexene, 1-methyl-4-(1-methylethenyl)	7705-14-8	nbs75k.1	6633	76	C10H16	136

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Undecane, 4-methyl-	2980-69-0	nbs75k.1	68256	59	C12H26	170
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	50	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	67324	50	C11H24	156

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown Alkane

Heptane, 2,4-dimethyl-

Eicosane

Undecane, 3,7-dimethyl-

CAS Number

Library

Entry

Quality

Formula

Weight

2213-23-2

nbs75k.1

5145

59

C₂₄H₅₀

128

112-95-8

nbs75k.1

72323

59

C₂₀H₄₂

282

17301-29-0

nbs75k.1

19002

58

C₁₃H₂₈

184

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown Alkane

Undecane, 4,7-dimethyl-

Undecane, 2,7-dimethyl-

Decane, 2,4,6-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
17301-32-5	nbs75k.1	19020	53	C13H28	184
17301-24-5	nbs75k.1	19060	50	C13H28	184
62108-27-4	nbs75k.1	19032	50	C13H28	184

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2K;

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Undecane	1120-21-4	nbs75k.1	67317	53	C11H24	156
Ether, hexyl pentyl	32357-83-8	nbs75k.1	15858	42	C11H24O	172
Nonane	111-84-2	nbs75k.1	65142	38	C9H20	128

Date : 07-NOV-98 05:52

Client ID: AZ Stack

Instrument: hpdos1.1

Sample Info: VP702-010.C160; AZ Stack; 200 ml; 2X;

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
2,6-Dimethyldecane	13150-81-7	nbs75k.1	15357	78	C12H26	170
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	70270	72	C15H32	212
Hexane, 2,3,4-trimethyl-	921-47-1	nbs75k.1	65123	64	C9H20	128

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-010.C160; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122407.D
 Injection Date : 07-NOV-98 05:52 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-010.C160
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.635	4.647	30983	0.37	0.0037	0.69	J
Chloromethane	23	50.49	5.023	5.034	7394	0.09	0.0009	0.42	J
12dichloro1122-tetrafluoroeth	23	170.92	5.227				0.0065	0.85	U
Methanol	23	32.04	5.378	5.390	505187	9.03	0.0903	63.15	
Vinyl Chloride	23	62.50	5.518				0.0008	0.29	U
Butane	23	58.12	5.938	5.950	126734	6.50	0.0650	25.04	
Bromomethane	23	94.94	6.412				0.0026	0.61	U
Chloroethane	23	64.51	6.756				0.0027	0.94	U
Ethanol	23	46.01	6.961	6.929	338581	6.00	0.0600	29.20	
Acetonitrile	23	41.05	7.424				0.0020	1.09	U
Acetone	23	58.08	7.898	7.909	1668650	10.03	0.1003	38.70	
Trichlorofluoromethane	23	137.37	8.285	8.297	665463	10.08	0.1008	16.44	
Pentane	23	72.15	8.953	8.975	51455	0.42	0.0042	1.30	J
1,1-Dichloroethene	23	96.94	9.502				0.0019	0.44	U
Methylene Chloride	23	84.93	9.685	9.707	10151	0.28	0.0028	0.73	J
112trichloro122trifluoroethane	23	187.38	10.169	10.181	8282	0.24	0.0024	0.28	J
Propanenitrile	23	55.08	10.934	10.924	101228	1.89	0.0189	7.68	J
Propanol	23	60.10	10.923	10.934	180391	2.91	0.0291	10.84	
1,1-Dichloroethane	23	98.96	11.817				0.0010	0.23	U
2-Butanone	23	72.11	12.463	12.463	196382	5.46	0.0546	16.97	
cis-1,2-Dichloroethene	23	96.94	13.335				0.0017	0.39	U
Hexane	23	86.18	13.701	13.712	22850	0.36	0.0036	0.93	J
Chloroform	23	119.38	13.862	13.874	29579	0.44	0.0044	0.82	J
Tetrahydrofuran	23	72.11	14.605	14.649	2936	0.10	0.0010	0.30	J
1,2-Dichloroethane	34	98.96	15.273				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.779				0.0016	0.27	U
Butanenitrile	34	69.11	15.768	15.779	206079	1.70	0.0170	5.52	
1-Butanol	34	74.12	16.252	16.264	681206	30.01	0.3001	90.70	
Benzene	34	78.11	16.672	16.673	16779	0.10	0.0010	0.29	J
Carbon Tetrachloride	34	153.82	16.952	16.964	3286	0.06	0.0006	0.09	J
Cyclohexane	34	84.16	17.211				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.233				0.0015	0.30	U
Trichloroethene	34	131.39	18.675				0.0012	0.20	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.170	19.182	4346	0.09	0.0009	0.20	J
cis-1,3-Dichloropropene	34	110.97	20.365				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.376				0.0017	0.38	U
Pyridine	34	79.10	20.570	20.872	18710	0.87	0.0087	2.47	J
trans-1,3-Dichloropropene	34	110.97	21.431				0.0009	0.18	U
Pentanenitrile	34	83.13	21.453	21.464	12734	0.30	0.0030	0.81	J
1,1,2-Trichloroethane	34	133.40	21.862				0.0014	0.24	U
Toluene	49	92.14	22.508	22.530	11791	0.16	0.0016	0.39	J
1,2-Dibromoethane	49	187.86	24.037				0.0026	0.31	U
Octane	49	114.23	24.575				0.0012	0.24	U
Bromoform	49	175.00	28.246				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.070	25.082	37697	1.46	0.0146	1.97	J
Chlorobenzene	49	112.56	26.674				0.0013	0.26	U
Hexanenitrile	49	97.13	26.943				0.0026	0.60	U
Ethylbenzene	49	106.17	27.546				0.0014	0.30	U
p/m-Xylene	49	106.17	27.988				0.0065	1.37	U
Cyclohexanone	49	98.14	28.408				0.0029	0.66	U
Styrene	59	104.15	28.903				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.129				0.0021	0.28	U
o-Xylene	59	106.17	29.204				0.0014	0.30	U
Nonane	59	128.26	29.646				0.0008	0.14	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.596				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.811				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.082				0.0013	0.24	U
Decane	59	142.28	34.319	34.362	13316	0.28	0.0028	0.44	J
1,3-Dichlorobenzene	59	147.00	34.588				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.923				0.0009	0.14	U
Undecane	59	156.31	38.647				0.0141	2.02	U
1,2,4-Trichlorobenzene	59	181.45	42.157				0.0014	0.17	U
Dodecane	59	170.34	42.673	42.760	31574	2.61	0.0261	3.43	J
Hexachloro-1,3-butadiene	59	260.76	43.987	44.020	5284	0.40	0.0040	0.35	J
Tridecane	59	184.36	46.442	46.496	262975	23.23	0.2323	28.22	
Tetradecane	59	198.34	50.124				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.636	13.648	3536209	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.221	17.222	10940829	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.567	26.578	8363832	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.389	30.400	5266672	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	23	0		3.813	942724	9.28	0.0928		J
Carbon dioxide	23	44	124-38-9	3.917	5502430	54.16	0.5416	275.72	NJ
Ammonia	23	17	7664-41-7	4.101	2208152	21.73	0.2173	286.39	NJ
Propene	23	42	115-07-1	4.496	329063	3.24	0.0324	17.27	NJ
Propane	23	44	74-98-6	4.539	404205	3.98	0.0398	20.25	NJ
Ethane, 1-chloro-1,1-difluoro-	23	100	75-68-3	4.970	92504	0.91	0.0091	2.04	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.756	414888	4.08	0.0408	16.33	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m^3	ppbv	Flags
*****	*****	*****	*****	****	*****	*****	*****	*****	*****
Unknown Ketone	23	0		11.979	269589	2.65	0.0265		J
Butanal	23	72	123-72-8	12.280	145555	1.43	0.0143	4.46	NJ
2-Butanol	23	74	78-92-2	13.012	65558	0.65	0.0065	1.95	NJ
3-Heptanone	49	114	106-35-4	28.107	132807	0.59	0.0059	1.16	NJ
Unknown Alkane	59	0		33.512	180295	1.26	0.0126		J
Limonene	59	136	138-86-3	35.945	89856	0.63	0.0063	1.04	NJ
Unknown Alkane	59	0		36.946	92550	0.65	0.0065		J
Unknown Alkane	59	0		36.946	92550	0.65	0.0065		J
Unknown Alkane	59	0		37.399	351580	2.46	0.0246		J
Unknown Alkane	59	0		38.744	136693	0.96	0.0096		J
Unknown Alkane	59	0		38.949	145946	1.02	0.0102		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
*****	*****	*****
Bromochloromethane (IS)	23	12191537
Difluorobenzene (IS)	34	24302247
D5-Chlorobenzene (IS)	49	24945213
1-Bromo-4-Fluorobenzene (IS)	59	25734436

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 17:05

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Page 3

E01 205

E01 206

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-010.C160; AZ Stack; 200 ml; 2X;

Data File: /chem/hpdos1.i/18122402.b/18122408.D

Page 1

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Date: 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

4 Methanol

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2K;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpds1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X:

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

E01 216

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2K;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

E01 217

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanenitrile

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2K;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

29 Butanenitrile

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

30 1-Butanol

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

44 Toluene

Em 327

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpds1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

48 Tetrachloroethylene

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	34	5	CO2	44
Nitrous Oxide	10024-97-2	nbs75k.1	39	3	N2O	44

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methane	74-82-8	nbs75k.1	62237	2	CH4	16
Methane	74-82-8	nbs75k.1	62236	2	CH4	16
Methane	74-82-8	nbs75k.1	1	2	CH4	16

E01 230

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	86	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	78	C3H6	42

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	9	C3H8	44
Propane	74-98-6	nbs75k.1	62268	7	C3H8	44
Propane	74-98-6	nbs75k.1	38	7	C3H8	44

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ethane, 1-chloro-1,1-difluoro-	75-68-3	nbs75k.1	1427	83	C2H3ClF2	100
m-Nitroaniline	99-09-2	nbs75k.1	65863	9	C6H6N2O2	138
Pentane, 1,1,2,2,3,3,4,4-octafluoro-	40723-64-6	nbs75k.1	26576	9	C5H4F8	216

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301: AZ Stack; 200 ml; 2K;

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	86	C4H8	56
1-Butene	106-98-9	nbs75k.1	62309	86	C4H8	56
1-Butene	106-98-9	nbs75k.1	62308	86	C4H8	56

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Hexane, 2,4-dimethyl-	589-43-5	nbs75k.1	64213	72	C8H18	114
Hexane, 2,4-dimethyl-	589-43-5	nbs75k.1	64212	72	C8H18	114
Hexane, 2,4-dimethyl-	589-43-5	nbs75k.1	3089	64	C8H18	114

E01 235

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown Alkane
Hexane, 3,3-dimethyl-
Undecane, 4-methyl-
Decane, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
563-16-6	nbs75k.1	64223	59	C8H18	114
2980-69-0	nbs75k.1	68256	56	C12H26	170
2847-72-5	nbs75k.1	11615	53	C11H24	156

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0Library Search Compound Match
Unknown Alkane

Nonadecane

Undecane, 4,7-dimethyl-

Undecane, 5,7-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
629-92-5	nbs75k.1	37469	78	C19H40	268
17301-32-5	nbs75k.1	19020	72	C13H28	184
17312-83-3	nbs75k.1	19013	59	C13H28	184

E01 237

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
2,6-Dimethyldecane	13150-81-7	nbs75k.l	15357	78	C12H26	170
1-Iodo-2-methylundecane	73105-67-6	nbs75k.l	41997	78	C12H25I	296
Undecane, 2,7-dimethyl-	17301-24-5	nbs75k.l	19060	72	C13H28	184

E01 238

Date : 07-NOV-1998 07:31

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-007.C301; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown Alkane

2,6-Dimethyldecane

Ether, hexyl pentyl

Hexane, 2,3,4-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
13150-81-7	nbs75k.1	15357	64	C12H26	170
32357-83-8	nbs75k.1	15858	64	C11H24O	172
921-47-1	nbs75k.1	65123	64	C9H20	128

E01 239

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-007.C301; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122408.D
 Injection Date : 07-NOV-1998 07:31 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-007.C301
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.635	4.659	31164	0.43	0.0043	0.79	J
Chloromethane	23	50.49	5.023	5.046	8314	0.12	0.0012	0.53	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.227				0.0065	0.85	U
Methanol	23	32.04	5.378	5.401	512238	10.45	0.1045	73.05	
Vinyl Chloride	23	62.50	5.518				0.0008	0.29	U
Butane	23	58.12	5.938	5.951	107800	6.30	0.0630	24.30	
Bromomethane	23	94.94	6.412				0.0026	0.61	U
Chloroethane	23	64.51	6.756				0.0027	0.94	U
Ethanol	23	46.01	6.961	6.920	332978	6.73	0.0673	32.76	
Acetonitrile	23	41.05	7.424				0.0020	1.09	U
Acetone	23	58.08	7.898	7.910	1703697	11.69	0.1169	45.08	
Trichlorofluoromethane	23	137.37	8.285	8.298	677729	11.71	0.1171	19.10	
Pentane	23	72.15	8.953	8.965	42616	0.40	0.0040	1.23	J
1,1-Dichloroethene	23	96.94	9.502				0.0019	0.44	U
Methylene Chloride	23	84.93	9.685	9.708	10577	0.33	0.0033	0.86	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.169	10.182	8026	0.26	0.0026	0.31	J
Propanenitrile	23	55.08	10.934	10.925	87736	1.87	0.0187	7.60	J
Propanol	23	60.10	10.923	10.935	126482	2.33	0.0233	8.67	
1,1-Dichloroethane	23	98.96	11.817				0.0010	0.23	U
2-Butanone	23	72.11	12.463	12.475	122323	3.88	0.0388	12.06	
cis-1,2-Dichloroethene	23	96.94	13.335				0.0017	0.39	U
Hexane	23	86.18	13.701	13.692	20895	0.37	0.0037	0.97	J
Chloroform	23	119.38	13.862	13.864	29537	0.50	0.0050	0.93	J
Tetrahydrofuran	23	72.11	14.605				0.0008	0.25	U
1,2-Dichloroethane	34	98.96	15.273				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.779				0.0016	0.27	U
Butanenitrile	34	69.11	15.768	15.780	218154	1.83	0.0183	5.93	
1-Butanol	34	74.12	16.252	16.276	127350	5.69	0.0569	17.20	
Benzene	34	78.11	16.672	16.663	17627	0.11	0.0011	0.31	J
Carbon Tetrachloride	34	153.82	16.952	16.965	3514	0.07	0.0007	0.10	J
Cyclohexane	34	84.16	17.211				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.233				0.0015	0.30	U
Trichloroethene	34	131.39	18.675				0.0012	0.20	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.170				0.0009	0.20	U
cis-1,3-Dichloropropene	34	110.97	20.365				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.376				0.0017	0.38	U
Pyridine	34	79.10	20.570				0.0093	2.63	U
trans-1,3-Dichloropropene	34	110.97	21.431				0.0009	0.18	U
Pentanenitrile	34	83.13	21.453	21.487	7425	0.18	0.0018	0.48	J
1,1,2-Trichloroethane	34	133.40	21.862				0.0014	0.24	U
Toluene	49	92.14	22.508	22.509	13549	0.18	0.0018	0.45	J
1,2-Dibromoethane	49	187.86	24.037				0.0026	0.31	U
Octane	49	114.23	24.575				0.0012	0.24	U
Bromoform	49	175.00	28.246				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.070	25.093	37387	1.46	0.0146	1.97	J
Chlorobenzene	49	112.56	26.674				0.0013	0.26	U
Hexanenitrile	49	97.13	26.943				0.0026	0.60	U
Ethylbenzene	49	106.17	27.546				0.0014	0.30	U
p/m-Xylene	49	106.17	27.988				0.0065	1.37	U
Cyclohexanone	49	98.14	28.408				0.0029	0.66	U
Styrene	59	104.15	28.903				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.129				0.0021	0.28	U
o-Xylene	59	106.17	29.204				0.0014	0.30	U
Nonane	59	128.26	29.646				0.0008	0.14	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.596				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.811				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.082				0.0013	0.24	U
Decane	59	142.28	34.319				0.0015	0.24	U
1,3-Dichlorobenzene	59	147.00	34.588				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.923				0.0009	0.14	U
Undecane	59	156.31	38.647				0.0141	2.02	U
1,2,4-Trichlorobenzene	59	181.45	42.157				0.0014	0.17	U
Dodecane	59	170.34	42.673				0.0049	0.64	U
Hexachloro-1,3-butadiene	59	260.76	43.987				0.0023	0.20	U
Tridecane	59	184.36	46.442				0.0030	0.36	U
Tetradecane	59	198.34	50.124				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.636	13.649	3099630	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.221	17.223	10786006	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.567	26.579	8295656	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.389	30.390	5223594	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Carbon dioxide	23	44	124-38-9	3.916	5930659	58.18	0.5818	296.17	NJ
Methane	23	16	74-82-8	4.100	707078	6.94	0.0694	97.10	NJ
Propene	23	42	115-07-1	4.497	312811	3.07	0.0307	16.37	NJ
Propane	23	44	74-98-6	4.540	378973	3.72	0.0372	18.93	NJ
Ethane, 1-chloro-1,1-difluoro-	23	100	75-68-3	4.960	100958	0.99	0.0099	2.22	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.757	338518	3.32	0.0332	13.28	NJ
Unknown Alkane	59	0		33.524	107024	0.76	0.0076		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Unknown Alkane	59	0		36.937	79842	0.57	0.0057		J
Unknown Alkane	59	0		37.120	985718	6.98	0.0698		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
*****	*****	*****
Bromochloromethane (IS)	23	12233319
Difluorobenzene (IS)	34	23918791
D5-Chlorobenzene (IS)	49	24761382
1-Bromo-4-Fluorobenzene (IS)	59	25411371

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 17:05

18122408.D

Page 3

E01 243

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-007.C301; AZ Stack; 200 ml; 2X;

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122408.D

HNF-4073
Rev. 0

Sample Info : VP702-007.C301; AZ Stack; 200 ml; 2X;

Data File: /chem/hpdos1.i/18122402.b/18122409.D

Page 1

Date : 07-NOV-1998 08:59

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-004.C429; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

E01 246

Date : 07-NOV-1998 08:59

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-004.C429; AZ Stack; 200 ml; 2X;

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

E01 247

Date : 07-NOV-1998 08:59

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-004.C429; AZ Stack; 200 ml; 2X;

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

E01 248

Date : 07-NOV-1998 08:59

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-004.C429; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	34	5	CO2	44
Nitrous Oxide	10024-97-2	nbs75k.1	39	3	N2O	44

Date : 07-NOV-1998 08:59

Client ID: AZ Stack

Instrument: hpdos1.i

Sample Info: VP702-004.C429; AZ Stack; 200 ml; 2X;

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ammonia	7664-41-7	nbs75k.1	2	9	HN	17
Carbamic acid, monoammonium salt	1111-78-0	nbs75k.1	391	2	CH6N2O2	78
Ethenone	463-51-4	nbs75k.1	29	1	C2H2O	42

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-004.C429; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
Method : InCal2_53097.m
File : 18122409.D
Injection Date : 07-NOV-1998 08:59 Operator : Alex
Matrix : AIR Lab. Sample ID: VP702-004.C429
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.635	4.659	26824	0.44	0.0044	0.82	J
Chloromethane	23	50.49	5.023	5.035	7978	0.14	0.0014	0.61	J
12dichloro1122-tetrafluoroeth	23	170.92	5.227				0.0065	0.85	U
Methanol	23	32.04	5.378	5.552	76751	1.87	0.0187	13.10	J
Vinyl Chloride	23	62.50	5.518				0.0008	0.29	U
Butane	23	58.12	5.938	5.950	15485	1.08	0.0108	4.18	J
Bromomethane	23	94.94	6.412				0.0026	0.61	U
Chloroethane	23	64.51	6.756				0.0027	0.94	U
Ethanol	23	46.01	6.961	6.984	17639	0.43	0.0043	2.08	J
Acetonitrile	23	41.05	7.424				0.0020	1.09	U
Acetone	23	58.08	7.898	7.942	177705	1.46	0.0146	5.63	J
Trichlorofluoromethane	23	137.37	8.285	8.308	14785	0.31	0.0031	0.50	J
Pentane	23	72.15	8.953	8.965	8758	0.10	0.0010	0.30	J
1,1-Dichloroethene	23	96.94	9.502				0.0019	0.44	U
Methylene Chloride	23	84.93	9.685	9.697	8976	0.33	0.0033	0.88	J
112trichloro122trifluoroethane	23	187.38	10.169	10.192	7045	0.28	0.0028	0.33	J
Propanenitrile	23	55.08	10.934				0.0019	0.77	U
Propanol	23	60.10	10.923				0.0014	0.52	U
1,1-Dichloroethane	23	98.96	11.817				0.0010	0.23	U
2-Butanone	23	72.11	12.463	12.550	3169	0.12	0.0012	0.37	J
cis-1,2-Dichloroethene	23	96.94	13.335				0.0017	0.39	U
Hexane	23	86.18	13.701	13.713	3312	0.07	0.0007	0.18	J
Chloroform	23	119.38	13.862				0.0013	0.24	U
Tetrahydrofuran	23	72.11	14.605				0.0008	0.25	U
1,2-Dichloroethane	34	98.96	15.273				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.779				0.0016	0.27	U
Butanenitrile	34	69.11	15.768				0.0017	0.55	U
1-Butanol	34	74.12	16.252				0.0016	0.48	U
Benzene	34	78.11	16.672	16.674	21153	0.13	0.0013	0.39	J
Carbon Tetrachloride	34	153.82	16.952				0.0017	0.25	U
Cyclohexane	34	84.16	17.211				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.233				0.0015	0.30	U
Trichloroethene	34	131.39	18.675				0.0012	0.20	U

02/08/99 17:06

18122409.D

Page 1

E01 251

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.170				0.0009	0.20	U
cis-1,3-Dichloropropene	34	110.97	20.365				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.376				0.0017	0.38	U
Pyridine	34	79.10	20.570				0.0093	2.63	U
trans-1,3-Dichloropropene	34	110.97	21.431				0.0009	0.18	U
Pentanenitrile	34	83.13	21.453				0.0021	0.57	U
1,1,2-Trichloroethane	34	133.40	21.862				0.0014	0.24	U
Toluene	49	92.14	22.508	22.520	21067	0.30	0.0030	0.72	J
1,2-Dibromoethane	49	187.86	24.037				0.0026	0.31	U
Octane	49	114.23	24.575				0.0012	0.24	U
Bromoform	49	175.00	28.246				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.070				0.0021	0.28	U
Chlorobenzene	49	112.56	26.674				0.0013	0.26	U
Hexanenitrile	49	97.13	26.943				0.0026	0.60	U
Ethylbenzene	49	106.17	27.546				0.0014	0.30	U
p/m-Xylene	49	106.17	27.988				0.0065	1.37	U
Cyclohexanone	49	98.14	28.408				0.0029	0.66	U
Styrene	59	104.15	28.903				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.129				0.0021	0.28	U
o-Xylene	59	106.17	29.204				0.0014	0.30	U
Nonane	59	128.26	29.646				0.0008	0.14	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.596				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.811				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.082				0.0013	0.24	U
Decane	59	142.28	34.319				0.0015	0.24	U
1,3-Dichlorobenzene	59	147.00	34.588				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.923				0.0009	0.14	U
Undecane	59	156.31	38.647				0.0141	2.02	U
1,2,4-Trichlorobenzene	59	181.45	42.157				0.0014	0.17	U
Dodecane	59	170.34	42.673				0.0049	0.64	U
Hexachloro-1,3-butadiene	59	260.76	43.987				0.0023	0.20	U
Tridecane	59	184.36	46.442				0.0030	0.36	U
Tetradecane	59	198.34	50.124				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.636	13.649	2589574	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.221	17.223	10397304	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.567	26.568	8080334	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.389	30.390	5074287	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Nitrogen	23	28	7727-37-9	3.812	948419	11.52	0.1152	92.19	NJ
Carbon dioxide	23	44	124-38-9	3.916	6046803	73.47	0.7347	374.03	NJ
Ammonia	23	17	7664-41-7	4.100	904216	10.99	0.1099	144.76	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	9876229
Difluorobenzene (IS)	34	23392306
D5-Chlorobenzene (IS)	49	24112601
1-Bromo-4-Fluorobenzene (IS)	59	24901911

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 17:06

18122409.D

Page 2

E01 253

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-004.C429; AZ Stack; 200 ml; 2X;

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-004.C429; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

SUMMA BATCH FILE

18122602.b

C-106 and AZ Stack Case Narrative (batch file 18122602.b)

This analytical sequence was run using 200 ml volumes to quantify target compounds in each tank and AZ Stack sample at a 2X dilution.

Tetradecane surpassed 0.05 RF criteria for the initial calibration.

Tetradecane was found in all tank and AZ Stack samples at concentrations between its EQL and UQL, except samples VP006-009.C143 and VP702-002.C428, where it was not found at concentrations higher than its IDL, and sample VP006-127.C295, where it was found at concentration exceeded its UQL. Due to the initial calibration performance the uncertainty associated with the results is higher than normal.

Eleven target compounds (chloromethane - 54.7 %, methanol - 37.2 %, vinyl chloride - 59.0 %, butane - 53.7 %, bromomethane - 30 %, chloroethane - 41.9%, acetonitrile - 32.8%, pyridine - 74.3%, 1,2,4 - tridecane - 48.2 % and tetradecane - 44.7%) were outside the 25% Difference acceptance criteria for the continuing calibration verification (CCV) sample. However, 83% of target compounds have passed the procedural criterion requiring $\pm 25\%$ D passage. This was considered satisfactory, because of the significant time difference between initial calibration and CCV.

Results of tetradecane determinations were mentioned above. Methanol was found in all tank samples at concentrations between EQL and UQL, except sample VP006-024.C277 and VP006-024.C277 rep, where it was not found at concentrations higher than its EQL. Vinyl chloride, bromomethane, chloroethane and acetonitrile were not found in the tank samples at concentrations higher than their IDL, except samples VP006-127.C295 and VP006-017.C235, where acetonitrile was found at concentrations between its EQL and UQL. Chloromethane was found in all samples at concentrations between its IDL and EQL, except sample VP006-024.C277 rep, where it was not found at concentration higher than its IDL. Butane was found in all samples at concentrations between its EQL and UQL, except samples VP006-127.C295 and VP006-017.C235, where it was found at concentration higher than its UQL and VP006-024.C277 rep, where it was found at concentration between its EQL and IDL. Ethanol and tridecane were found in all samples at concentrations between their EQL and UQL, except samples VP006-024.C277 and VP006-024.C277 rep, where ethanol was not found at concentration higher than its EQL, sample VP702-002.C428, where tridecane was not found at concentration higher than its IDL, and sample VP006-127.C295, where tridecane was found at concentration exceeded its UQL. Due to the CCV performance for these compounds a higher than normal uncertainty is associated with the results.

No target compound was detected in the CCB above its EQL.

After completing a valid BFB tune, the 12-hour clock criterion for an analytical sequence was not exceeded within the batch.

The tank sample's internal standard quant area % recoveries were within the acceptance criterion (50%<quant<200%) allowed by TVP-03, Rev. 1.

Instrument detection limits, precision, and accuracy have not been experimentally evaluated for methanol, ethanol. Sample results are flagged with a "J" when the absolute number of nanograms calculated in the sample is less than the lowest concentration standard used in the initial calibration. Methanol and ethanol results falling within their calibration range are quantitative results as evidenced by a valid calibration for these compounds.

[Signature]

02/11/99

E01 257

Data File : C:\HPCHEM\1\DATA\18122601.B\18122601.D
 Acq On : 8 Nov 98 8:30 pm
 Sample : Tune Check BFB
 Misc : Tune Check BFB 56391-5-01

Vial: 1
 Operator: Alex
 Inst : System 1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\SUM1601.M
 Title : exp

Peak Apex is scan: 2623

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.9	23248	PASS
75	95	30	66	42.3	52080	PASS
95	95	100	100	100.0	123200	PASS
96	95	5	9	6.1	7571	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	85.9	105800	PASS
175	174	4	9	7.3	7765	PASS
176	174	93	101	95.4	100912	PASS
177	176	5	9	6.2	6241	PASS

BATCH: /chem/hpdosl.i/18122602.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
18122602.D	08-NOV-1998 21:52	Continuing Cal	1.00	hpdosl	InCal2_53097.m	18122602.b
18122603.D	09-NOV-1998 00:03	Unknown	1.00	hpdosl	InCal2_53097.m	18122602.b
18122604.D	09-NOV-1998 01:27	Unknown	2.00	hpdosl	InCal2_53097.m	18122602.b
18122605.D	09-NOV-1998 02:52	Unknown	2.00	hpdosl	InCal2_53097.m	18122602.b
18122606.D	09-NOV-98 04:25	Unknown	2.00	hpdosl	InCal2_53097.m	18122602.b
18122607.D	09-NOV-98 05:46	Unknown	2.00	hpdosl	InCal2_53097.m	18122602.b
18122608.D	09-NOV-98 07:55	Unknown	2.00	hpdosl	InCal2_53097.m	18122602.b
18122609.D	09-NOV-98 09:14	Unknown	2.00	hpdosl	InCal2_53097.m	18122602.b

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
18122602.D	GAS	VAPOR	CCV	SDGa27199	200mL	SDGa27199
18122603.D	GAS	VAPOR	CCB	SDGa27199	200mL Nitrogen	SDGa27199
18122604.D	GAS	VAPOR	VP006-127.C295	SDGa27199	postshutdown	SDGa27199
18122605.D	GAS	VAPOR	VP006-017.C235	SDGa27199	200 ml	SDGa27199
18122606.D	GAS	VAPOR	VP006-009.C143	SDGa27199	200 ml	SDGa27199
18122607.D	GAS	VAPOR	VP702-002.C428	SDGa27199	200 ml	SDGa27199
18122608.D	GAS	VAPOR	VP006-024.C277	SDGa27199	amb.air 200 ml	SDGa27199
18122609.D	GAS	VAPOR	VP006-024.C277	SDGa27199	amb.air 200 ml	SDGa27199

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
18122602.D	all1.sub		1038469	1038470	1035843	1038468
18122603.D	all1.sub		1038515	1038470	1035843	1038468
18122604.D	all1.sub		1038516	1038470	1035843	1038468
18122605.D	all1.sub		1038517	1038470	1035843	1038468
18122606.D	all1.sub		1038518	1038470	1035843	1038468
18122607.D	all1.sub		1038519	1038470	1035843	1038468
18122608.D	all1.sub		1038520	1038470	1035843	1038468
18122609.D	all1.sub		1038521	1038470	1035843	1038468

INTERNAL STANDARD AREA SUMMARY (as of 02/01/99 13:55)

Datafile	Internal Standard	RT	TotalArea	QuantArea	AreaRatio	Percent
18122602.D	Bromochloromethane (IS)	13.73	70427984	4170688	16.89	100.00
18122602.D	Difluorobenzene (IS)	17.26	77540710	11877995	6.53	100.00
18122602.D	D5-Chlorobenzene (IS)	26.61	34568992	11415684	3.03	100.00
18122602.D	1-Bromo-4-Fluorobenzene (IS)	30.42	36365664	7309302	4.98	100.00
18122603.D	Bromochloromethane (IS)	13.67	14932925	4487447	3.33	107.59
18122603.D	Difluorobenzene (IS)	17.24	33335040	15358365	2.17	129.30
18122603.D	D5-Chlorobenzene (IS)	26.60	33018457	11472613	2.88	100.50
18122603.D	1-Bromo-4-Fluorobenzene (IS)	30.42	31652392	6435826	4.92	88.05
18122604.D	Bromochloromethane (IS)	13.69	30915834	4266086	7.25	102.29
18122604.D	Difluorobenzene (IS)	17.24	32478872	14367281	2.26	120.96
18122604.D	D5-Chlorobenzene (IS)	26.60	34065571	11689211	2.91	102.40
18122604.D	1-Bromo-4-Fluorobenzene (IS)	30.42	47892157	7847265	6.10	107.36
18122605.D	Bromochloromethane (IS)	13.68	25046703	4054480	6.18	97.21
18122605.D	Difluorobenzene (IS)	17.24	32606013	14730961	2.21	124.02
18122605.D	D5-Chlorobenzene (IS)	26.60	34221287	11671371	2.93	102.24
18122605.D	1-Bromo-4-Fluorobenzene (IS)	30.42	39473989	7295715	5.41	99.81
18122606.D	Bromochloromethane (IS)	13.67	15652361	3740602	4.18	89.69
18122606.D	Difluorobenzene (IS)	17.24	30744170	14166334	2.17	119.27
18122606.D	D5-Chlorobenzene (IS)	26.60	31501275	10889651	2.89	95.39
18122606.D	1-Bromo-4-Fluorobenzene (IS)	30.42	32566383	6527052	4.99	89.30
18122607.D	Bromochloromethane (IS)	13.67	14666035	3756838	3.90	90.08
18122607.D	Difluorobenzene (IS)	17.24	29455516	13523932	2.18	113.86
18122607.D	D5-Chlorobenzene (IS)	26.60	30408929	10430604	2.92	91.37
18122607.D	1-Bromo-4-Fluorobenzene (IS)	30.42	30550467	6227312	4.91	85.20
18122608.D	Bromochloromethane (IS)	13.68	12804920	3763400	3.40	90.23
18122608.D	Difluorobenzene (IS)	17.24	28548592	12955009	2.20	109.07
18122608.D	D5-Chlorobenzene (IS)	26.60	29356390	10026080	2.93	87.83
18122608.D	1-Bromo-4-Fluorobenzene (IS)	30.42	30782111	6198132	4.97	84.80
18122609.D	Bromochloromethane (IS)	13.67	15875622	3798322	4.18	91.07
18122609.D	Difluorobenzene (IS)	17.24	27740759	12569741	2.21	105.82
18122609.D	D5-Chlorobenzene (IS)	26.60	29516897	10072089	2.93	88.23
18122609.D	1-Bromo-4-Fluorobenzene (IS)	30.42	30720918	6163022	4.98	84.32

HNF-4073
Rev. 0

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: hpdos1.i Injection Date: 08-NOV-98 21:52
Lab File ID: 18122602.D Init. Calibration Date(s): 06/06/97 06/06/97
Analysis Type: AIR Init. Calibration Times: 10:35 16:58
Lab Sample ID: CCV Method File: /chem/hpdos1.i/18122602.B/InCal2_53097.
Quant Type: ISTD

COMPOUND	RRF	RF200	RRF	%D	MAX %D
1 Dichlorodifluoromethane	2.257	2.467 0.050	9.3	25.0	
2 Chloromethane	1.420	2.197 0.050	54.7	25.0	<-
3 1,2-dichloro1,1,2-tetrafluoroeth	1.033	1.192 0.050	15.4	25.0	
4 Methanol	1.159	1.590 0.050	37.2	25.0	<-
5 Vinyl Chloride	0.726	1.154 0.050	59.0	25.0	<-
7 Butane	0.350	0.538 0.050	53.7	25.0	<-
8 Bromomethane	0.380	0.494 0.050	30.0	25.0	<-
9 Chloroethane	0.767	0.446 0.050	41.9	25.0	<-
10 Ethanol	2.247	1.510 0.050	32.8	25.0	<-
11 Acetonitrile	3.138	1.531 0.050	51.2	25.0	<-
12 Acetone	4.744	4.291 0.050	9.5	25.0	
13 Trichlorofluoromethane	2.010	1.778 0.050	11.5	25.0	
14 Pentane	3.927	3.617 0.050	7.9	25.0	
15 1,1-Dichloroethene	1.047	0.952 0.050	9.1	25.0	
16 Methylene Chloride	1.183	1.007 0.050	14.9	25.0	
17 1,1,2-trichloro1,2,2-trifluoroetha	0.958	0.944 0.050	1.5	25.0	
18 Propanenitrile	1.789	1.613 0.050	9.8	25.0	
19 Propanol	1.799	1.865 0.050	3.6	25.0	
20 1,1-Dichloroethane	2.189	2.098 0.050	4.1	25.0	
21 2-Butanone	1.168	1.054 0.050	9.7	25.0	
22 cis-1,2-Dichloroethene	1.161	1.084 0.050	6.6	25.0	
24 Hexane	2.403	2.032 0.050	15.4	25.0	
25 Chloroform	2.015	1.934 0.050	4.0	25.0	
26 Tetrahydrofuran	0.902	0.850 0.050	5.9	25.0	
27 1,2-Dichloroethane	0.450	0.444 0.050	1.3	25.0	
28 1,1,1-Trichloroethane	0.447	0.416 0.050	6.9	25.0	
29 Butanenitrile	1.072	1.063 0.050	0.8	25.0	
30 1-Butanol	0.202	0.175 0.050	13.7	25.0	
31 Benzene	1.288	1.328 0.050	3.1	25.0	
32 Carbon Tetrachloride	0.422	0.419 0.050	0.9	25.0	
33 Cyclohexane	0.500	0.458 0.050	8.5	25.0	
35 1,2-Dichloropropane	0.369	0.364 0.050	1.3	25.0	
36 Trichloroethene	0.346	0.339 0.050	2.0	25.0	
37 Heptane	0.444	0.397 0.050	10.4	25.0	
38 cis-1,3-Dichloropropene	0.452	0.426 0.050	5.7	25.0	
39 4-Methyl-2-Pentanone	0.420	0.455 0.050	8.2	25.0	
40 Pyridine	0.715	0.184 0.050	74.3	25.0	<-
41 trans-1,3-Dichloropropene	0.311	0.279 0.050	10.4	25.0	
42 Pentanenitrile	0.368	0.369 0.050	0.3	25.0	
43 1,1,2-Trichloroethane	0.279	0.275 0.050	1.5	25.0	

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: hpdos1.i Injection Date: 08-NOV-98 21:52
Lab File ID: 18122602.D Init. Calibration Date(s): 06/06/97 06/06/97
Analysis Type: AIR Init. Calibration Times: 10:35 16:58
Lab Sample ID: CCV Method File: /chem/hpdos1.i/18122602.B/InCal2_53097.
Quant Type: ISTD

COMPOUND	RRF	RF200	MIN	MAX
	RRF	RRF	1D	1D
44 Toluene	0.900	0.916 0.050	1.7	25.0
45 1,2-Dibromoethane	0.369	0.351 0.050	4.9	25.0
46 Octane	0.456	0.428 0.050	6.0	25.0
47 Bromoform	0.466	0.471 0.050	1.0	25.0
48 Tetrachloroethylene	0.314	0.324 0.050	3.5	25.0
50 Chlorobenzene	0.991	0.971 0.050	2.0	25.0
51 Hexanenitrile	0.519	0.552 0.050	6.5	25.0
52 Ethylbenzene	1.620	1.646 0.050	1.6	25.0
53 p/m-Xylene	0.627	0.582 0.050	7.1	25.0
54 Cyclohexanone	0.263	0.260 0.050	1.1	25.0
55 Styrene	2.161	1.723 0.050	20.3	25.0
56 1,1,2,2-Tetrachloroethane	1.289	1.289 0.050	0.0	25.0
57 o-Xylene	1.409	1.400 0.050	0.6	25.0
58 Nonane	2.542	2.574 0.050	1.3	25.0
60 1-Ethyl-2-Methyl-Benzene	3.134	3.267 0.050	4.3	25.0
61 1,3,5-Trimethylbenzene	2.714	2.759 0.050	1.7	25.0
62 1,2,4-Trimethylbenzene	2.699	2.757 0.050	2.2	25.0
63 Decane	1.600	1.572 0.050	1.8	25.0
64 1,3-Dichlorobenzene	1.655	1.791 0.050	8.2	25.0
65 1,4-Dichlorobenzene	1.625	1.753 0.050	7.9	25.0
66 1,2-Dichlorobenzene	1.465	1.596 0.050	8.9	25.0
67 Undecane	0.355	0.326 0.050	8.2	25.0
68 1,2,4-Trichlorobenzene	0.468	0.553 0.050	18.2	25.0
69 Dodecane	0.410	0.380 0.050	7.3	25.0
70 Hexachloro-1,3-butadiene	0.375	0.450 0.050	20.0	25.0
71 Tridecane	0.275	0.408 0.050	48.2	25.0<-
72 Tetradecane	0.019	0.011 0.050	44.7	25.0<-

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

INITIAL CALIBRATION DATA

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Calibration File Names:

Level 1: /chem/hpdos1.i/17060603.b/17060601.d
 Level 2: /chem/hpdos1.i/17060603.b/17060602.d
 Level 3: /chem/hpdos1.i/17060603.b/17060603.d
 Level 4: /chem/hpdos1.i/17060603.b/17060605.d
 Level 6: /chem/hpdos1.i/17060603.b/17060606.d
 Level 7: /chem/hpdos1.i/17060603.b/17060607.d

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
1 Dichlorodifluoromethane	2.43862	2.21722	2.14282	2.48912	2.30074	1.95123	2.25700	8.794
2 Chloromethane	1.51670	1.36577	1.28327	1.66862	1.44729	1.23883	1.42000	11.195
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	1.15696	1.03824	1.00931	1.11913	0.95411	0.92118	1.03300	8.881
4 Methanol	1.25346	1.16123	1.09867	1.29715	1.16982	0.97297	1.15900	9.942
5 Vinyl Chloride	0.71266	0.66882	0.65695	0.81333	0.77441	0.72917	0.72590	8.310
6 1,3-Butadiene	++++	++++	++++	++++	++++	++++	++++	++++
7 Butane	0.34398	0.31603	0.30881	0.37911	0.38102	0.37213	0.35020	9.197
8 Bromomethane	0.37120	0.34556	0.34262	0.42377	0.41003	0.38728	0.38010	8.751
9 Chloroethane	0.69294	0.74027	0.73558	0.80065	0.78056	0.85420	0.76740	7.396
10 Ethanol	2.33627	2.28573	2.21551	2.45731	2.10420	2.08464	2.24700	6.338
11 Acetonitrile	3.28791	3.10332	2.96812	3.46874	3.10207	2.89528	3.13800	6.718
12 Acetone	5.45540	4.89912	4.61756	5.24640	4.33599	3.90917	4.74400	12.153
13 Trichlorofluoromethane	2.04790	1.83001	1.79202	2.17301	2.08433	2.13406	2.01000	7.985
14 Pentane	4.26438	3.85542	3.71679	4.44576	3.80975	3.47097	3.92718	9.209
15 1,1-Dichloroethene	1.02274	0.91480	0.91574	1.10362	1.12103	1.20364	1.04700	11.181
16 Methylene Chloride	1.23125	1.06542	1.03565	1.21823	1.23680	1.31207	1.18300	9.154
17 1,1,2-trichloro-1,1,2,2-tetrafluoroethane	0.94001	0.82539	0.82920	0.99190	1.03530	1.12834	0.95840	12.402
18 Propanenitrile	1.92391	1.79091	1.70988	1.99267	1.73228	1.58660	1.78900	8.294
19 Propanol	2.10040	1.88320	1.80504	2.08617	1.55076	1.36782	1.79890	16.264
20 1,1-Dichloroethane	2.23981	2.03770	1.98200	2.33671	2.27178	2.26540	2.18890	6.552
21 2-Butanone	1.19644	1.10909	1.08435	1.28664	1.18454	1.14876	1.16800	6.172
22 cis-1,2-Dichloroethene	1.12732	1.02685	1.01888	1.20742	1.27325	1.30987	1.16100	10.640
24 Hexane	2.88095	2.52056	2.41983	2.73619	2.15002	1.70990	2.40300	17.636
25 Chloroform	2.07444	1.85421	1.81943	2.12416	2.11530	2.10292	2.01500	6.925
26 Tetrahydrofuran	0.86957	0.81350	0.80200	0.96237	0.96959	0.99783	0.90250	9.439
27 1,2-Dichloroethane	0.43891	0.40298	0.38542	0.47386	0.47183	0.52574	0.44980	11.461

E01 263

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

HNF-4073
Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
28 1,1,1-Trichloroethane	0.45189	0.40828	0.39368	0.47799	0.46542	0.48342	0.44680	8.369
29 Butanenitrile	1.20704	1.11050	1.04656	1.21895	0.93633	0.91047	1.07200	12.271
30 1-Butanol	0.20749	0.19006	0.17665	0.23326	0.19447	0.21209	0.20230	9.761
31 Benzene	1.25728	1.14460	1.11280	1.33554	1.34939	1.53041	1.28800	11.873
32 Carbon Tetrachloride	0.40288	0.36319	0.35398	0.44031	0.45646	0.51784	0.42240	14.653
33 Cyclohexane	0.57805	0.49512	0.46019	0.55230	0.46170	0.45591	0.50050	10.513
35 1,2-Dichloropropane	0.37408	0.33321	0.31771	0.39037	0.38123	0.41983	0.36940	10.220
36 Trichloroethene	0.33845	0.30906	0.29949	0.36774	0.36606	0.39292	0.34560	10.560
37 Heptane	0.47230	0.43007	0.41365	0.50164	0.43896	0.40409	0.44350	8.350
38 cis-1,3-Dichloropropene	0.42950	0.40459	0.39475	0.49761	0.47756	0.50569	0.45160	10.688
39 4-Methyl-2-Pentanone	0.44922	0.41369	0.39148	0.47706	0.38758	0.40368	0.42050	8.428
40 Pyridine	0.74450	0.65035	0.61730	0.81950	0.71325	0.74466	0.71490	10.163
41 trans-1,3-Dichloropropene	0.28504	0.27757	0.26849	0.34413	0.33239	0.35709	0.31080	12.276
42 Pentanenitrile	0.37851	0.35454	0.33769	0.41598	0.35567	0.36492	0.36790	7.368
43 1,1,2-Trichloroethane	0.27063	0.24933	0.24070	0.30528	0.29478	0.31256	0.27890	10.737
44 Toluene	0.96561	0.87608	0.87112	1.04495	0.89074	0.75183	0.90010	10.972
45 1,2-Dibromoethane	0.38994	0.35145	0.35511	0.43452	0.37184	0.31318	0.36930	11.069
46 Octane	0.48174	0.44086	0.44653	0.54029	0.45429	0.36995	0.45560	12.217
47 Bromoform	0.43323	0.41873	0.42953	0.55635	0.51617	0.44458	0.46640	12.043
48 Trichloroethylene	0.32676	0.29200	0.29846	0.37138	0.32923	0.26300	0.31350	11.946
50 Chlorobenzene	1.09890	0.96828	0.96251	1.15541	0.96969	0.79105	0.99100	12.799
51 Hexanenitrile	0.59961	0.55446	0.54595	0.63118	0.43524	0.34496	0.51860	20.835
52 Ethylbenzene	1.76694	1.63023	1.61026	1.93511	1.53765	1.24094	1.62000	14.384
53 p/m-Xylene	0.70370	0.64289	0.63834	0.77037	0.58102	0.42493	0.62690	18.843
54 Cyclohexanone	0.28661	0.26115	0.24924	0.31865	0.24845	0.21561	0.26330	13.487
55 Styrene	2.17696	2.10051	2.12953	2.53465	2.16265	1.86392	2.16100	9.983
56 1,1,2,2-Tetrachloroethane	1.49708	1.34361	1.32572	1.51752	1.14624	0.90150	1.28900	18.046
57 o-Xylene	1.50299	1.41727	1.42008	1.69164	1.35059	1.06866	1.40900	14.486
58 Nonane	3.09792	2.83073	2.76713	3.03283	1.96312	1.55904	2.54200	24.791
60 1-Ethyl-2-Methyl-Benzene	3.23089	3.19082	3.16107	3.78398	3.00123	2.43646	3.13400	13.835
61 1,3,5-Trimethylbenzene	2.85800	2.75168	2.72974	3.24772	2.57358	2.12440	2.71400	13.533
62 1,2,4-Trimethylbenzene	2.77520	2.74984	2.71140	3.24214	2.56270	2.15471	2.69900	13.028
63 Decane	1.95316	1.82047	1.76343	1.90270	1.18211	0.97712	1.60000	25.837
64 1,3-Dichlorobenzene	1.59354	1.58350	1.61639	2.00362	1.70320	1.43165	1.65500	11.593

E01 264

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

HNF-4073
Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
65 1,4-Dichlorobenzene	1.57185	1.56049	1.59150	1.98394	1.64309	1.39866	1.62500	11.949
66 1,2-Dichlorobenzene	1.43440	1.40496	1.42115	1.76383	1.47400	1.28979	1.46500	10.861
67 Undecane	0.31703	0.34344	0.34966	0.43709	0.35929	0.32633	0.35550	12.055
68 1,2,4-Trichlorobenzene	0.33583	0.39450	0.43207	0.50291	0.57264	0.56758	0.46760	20.567
69 Dodecane	0.34700	0.38982	0.42963	0.48048	0.41909	0.39707	0.41050	10.882
70 Hexachloro-1,3-butadiene	0.37281	0.35925	0.36522	0.41551	0.38933	0.34633	0.37470	6.554
71 Tridecane	0.26054	0.31961	0.34992	0.30368	0.22299	0.19515	0.27530	21.620
72 Tetradecane	0.01457	0.02319	0.02140	0.02540	0.01595	0.01452	0.01917	24.807

Pacific Northwest National Laboratory

Data file : /chem/hpdos1.i/18122602.b/18122602.D
Lab Smp Id: CCV Client Smp ID: 200mL
Inj Date : 08-NOV-1998 21:52
Operator : Alex Inst ID: hpdos1.i
Smp Info : CCV; 200mL; 54934-151-01
Misc Info :
Comment :
Method : /chem/hpdos1.i/18122602.b/InCal2_53097.m
Meth Date : 01-Feb-1999 13:57 john Quant Type: ISTD
Cal Date : 08-NOV-1998 21:52 Cal File: 18122602.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all1.sub
Target Version: 3.10

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng)	ON-COL (ng)
1 Dichlorodifluoromethane	85.00	4.657	4.657 (0.340)		9261315	108.0	118.1
2 Chloromethane	50.00	5.034	5.034 (0.368)		3443200	45.10	69.77
3 12dichloro1122-tetrafluoroeth	85.00	5.249	5.249 (0.384)		6336590	153.0	176.5
4 Methanol	31.00	5.389	5.389 (0.394)		6519209	118.0	161.8 (Q)
5 Vinyl Chloride	62.00	5.540	5.540 (0.405)		2238098	55.80	88.71
7 Butane	43.00	5.960	5.960 (0.436)		1775453	94.90	145.9
8 Bromomethane	94.00	6.434	6.434 (0.470)		1456156	84.80	110.2
9 Chloroethane	64.00	6.778	6.778 (0.495)		892342	57.60	33.46
10 Ethanol	31.00	6.983	6.983 (0.510)		5931078	113.0	75.94 (M)
11 Acetonitrile	41.00	7.446	7.446 (0.544)		6330186	119.0	58.04 (Q)
12 Acetone	43.00	7.930	7.930 (0.580)		18196729	122.0	110.4
13 Trichlorofluoromethane	101.00	8.318	8.318 (0.608)		7601309	123.0	108.8
14 Pentane	43.00	8.985	8.985 (0.657)		10207278	81.20	74.79
15 1,1-Dichloroethene	96.00	9.534	9.534 (0.697)		2864816	86.60	78.73
16 Methylene Chloride	84.00	9.718	9.718 (0.710)		2653424	75.80	64.54
17 112trichloro122trifluoroethane	151.00	10.202	10.202 (0.746)		5480442	167.0	164.5
18 Propanenitrile	54.00	10.966	10.966 (0.802)		10035376	179.0	161.4
19 Propanol	31.00	10.956	10.956 (0.801)		6545175	101.0	104.7
20 1,1-Dichloroethane	63.00	11.849	11.849 (0.866)		6447318	88.40	84.75
21 2-Butanone	72.00	12.495	12.495 (0.913)		4690486	128.0	115.5 (Q)
22 cis-1,2-Dichloroethene	96.00	13.367	13.367 (0.977)		3263582	86.60	80.88
* 23 Bromochloromethane (IS)	49.00	13.680	13.680 (1.000)		4170688	120.0	(QM)
24 Hexane	57.00	13.733	13.733 (1.004)		11510857	163.0	137.8
25 Chloroform	83.00	13.906	13.906 (1.017)		7193559	107.0	102.7
26 Tetrahydrofuran	72.00	14.649	14.649 (1.071)		2692695	91.20	85.84 (Q)
27 1,2-Dichloroethane	62.00	15.316	15.316 (0.887)		4803862	88.40	87.22
28 1,1,1-Trichloroethane	97.00	15.822	15.822 (0.916)		6059269	119.0	110.7
29 Butanenitrile	41.00	15.811	15.811 (0.916)		14838557	114.0	113.0
30 1-Butanol	56.00	16.285	16.285 (0.943)		2736178	128.0	110.4

HNF-4073
Rev. 0

Compounds	QUANT SIG				RESPONSE	AMOUNTS	
	MASS	RT	EXP RT	REL RT		CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
31 Benzene	78.00	16.705	16.705	(0.968)	11337320	69.70	71.88 (Q)
32 Carbon Tetrachloride	117.00	16.996	16.996	(0.984)	7024855	137.0	135.8
33 Cyclohexane	41.00	17.254	17.254	(0.999)	7243015	129.1	118.2 (Q)
* 34 Difluorobenzene (IS)	114.00	17.265	17.265	(1.000)	11877995	97.00	(QM)
35 1,2-Dichloropropane	63.00	18.277	18.277	(1.059)	4507839	101.0	99.66
36 Trichloroethene	95.00	18.718	18.718	(1.084)	4854105	117.0	114.7 (Q)
37 Heptane	71.00	19.214	19.214	(1.113)	5788102	119.0	106.6
38 cis-1,3-Dichloropropene	75.00	20.398	20.398	(1.181)	4651900	89.20	84.12
39 4-Methyl-2-Pentanone	43.00	20.409	20.409	(1.182)	8971875	161.0	174.2
40 Pyridine	79.00	20.602	20.602	(1.193)	2342410	104.0	26.76 (Q)
41 trans-1,3-Dichloropropene	75.00	21.464	21.464	(1.243)	3042436	89.20	79.94
42 Pentanenitrile	54.00	21.496	21.496	(1.245)	4880166	108.0	108.3
43 1,1,2-Trichloroethane	83.00	21.905	21.905	(1.269)	4002426	119.0	117.2
44 Toluene	92.00	22.551	22.551	(0.847)	7749634	82.30	83.72 (Q)
45 1,2-Dibromoethane	107.00	24.080	24.080	(0.905)	6065764	168.0	159.7
46 Octane	85.00	24.618	24.618	(0.925)	3439612	78.10	73.41
47 Bromoform	173.00	28.279	28.279	(1.063)	5714790	118.0	119.1 (Q)
48 Tetrachloroethylene	164.00	25.114	25.114	(0.944)	4936505	148.0	153.1 (Q)
* 49 D5-Chlorobenzene (IS)	117.00	26.610	26.610	(1.000)	11415684	111.0	(Q)
50 Chlorobenzene	112.00	26.718	26.718	(1.004)	10086461	101.0	98.97
51 Hexanenitrile	41.00	26.976	26.976	(1.014)	8744280	154.0	164.0
52 Ethylbenzene	91.00	27.590	27.590	(1.037)	16048478	94.80	96.32
53 p/m-Xylene	106.00	28.021	28.021	(1.053)	11374965	190.0	176.4 (Q)
54 Cyclohexanone	55.00	28.440	28.440	(1.069)	2917009	108.9	107.7 (Q)
55 Styrene	104.00	28.936	28.936	(0.951)	6506088	93.00	74.14 (Q)
56 1,1,2,2-Tetrachloroethane	83.00	29.162	29.162	(0.959)	7850976	150.0	150.0
57 o-Xylene	106.00	29.237	29.237	(0.961)	5389499	94.80	94.20 (Q)
58 Nonane	57.00	29.679	29.679	(0.976)	9700882	92.80	93.98
* 59 1-Bromo-4-Fluorobenzene (IS)	95.00	30.422	30.422	(1.000)	7309302	180.0	(Q)
60 1-Ethyl-2-Methyl-Benzene	105.00	32.629	32.629	(1.073)	14196205	107.0	111.6
61 1,3,5-Trimethylbenzene	105.00	32.855	32.855	(1.080)	11899544	107.0	108.8 (Q)
62 1,2,4-Trimethylbenzene	105.00	34.114	34.114	(1.121)	11980559	107.0	109.3 (Q)
63 Decane	43.00	34.362	34.362	(1.130)	9828028	154.0	151.3
64 1,3-Dichlorobenzene	146.00	34.631	34.631	(1.138)	9527231	131.0	141.8
65 1,4-Dichlorobenzene	146.00	34.836	34.836	(1.145)	9326933	131.0	141.3
66 1,2-Dichlorobenzene	146.00	35.956	35.956	(1.182)	8490363	131.0	142.7
67 Undecane	71.00	38.690	38.690	(1.272)	1470978	111.0	101.9
68 1,2,4-Trichlorobenzene	180.00	42.189	42.189	(1.387)	3634985	162.0	191.4 (QM)
69 Dodecane	71.00	42.717	42.717	(1.404)	1745256	113.0	104.7
70 Hexachloro-1,3-butadiene	225.00	44.020	44.020	(1.447)	4253045	233.0	279.5
71 Tridecane	57.00	46.474	46.474	(1.528)	1575869	95.10	141.0
72 Tetradecane	57.00	50.178	50.178	(1.649)	34936	81.20	44.88 (M)

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

E01 267

Data File: /chem/hpdos1.i/18122602.b/18122602.D

Page 1

Date : 08-NOV-1998 21:52

Client ID: 200mL

Instrument: hpdos1.i

Sample Info: CCV; 200mL; 54934-151-01

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

E01 268

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCV; 200mL; 54934-151-01

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2 53097.m
 File : 18122602.D
 Injection Date : 08-NOV-1998 21:52 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCV
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CCALIB_5

VolumeFactor: 100 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.657	4.657	9261315	118.06	1.1806	218.73	
Chloromethane	23	50.49	5.034	5.034	3443200	69.77	0.6977	309.52	
1,2-dichloro1,1,2,2-tetrafluoroethane	23	170.92	5.249	5.249	6336590	176.49	1.7649	231.30	
Methanol	23	32.04	5.389	5.389	6519209	161.84	1.6184	1131.46	
Vinyl Chloride	23	62.50	5.540	5.540	2238098	88.71	0.8871	317.94	
Butane	23	58.12	5.960	5.960	1775453	145.87	1.4587	562.20	
Bromomethane	23	94.94	6.434	6.434	1456156	110.23	1.1023	260.07	
Chloroethane	23	64.51	6.778	6.778	892342	33.46	0.3346	116.17	
Ethanol	23	46.01	6.983	6.983	5931078	75.95	0.7595	369.74	
Acetonitrile	23	41.05	7.446	7.446	6330186	58.04	0.5804	316.72	
Acetone	23	58.08	7.930	7.930	18196729	110.36	1.1036	425.64	
Trichlorofluoromethane	23	137.37	8.318	8.318	7601309	108.81	1.0881	177.43	
Pentane	23	72.15	8.985	8.985	10207278	74.79	0.7479	232.19	
1,1-Dichloroethene	23	96.94	9.534	9.534	2864816	78.73	0.7873	181.92	
Methylene Chloride	23	84.93	9.718	9.718	2653424	64.54	0.6454	170.21	
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.202	10.202	5480442	164.53	1.6453	196.68	
Propanenitrile	23	55.08	10.966	10.966	10035376	161.40	1.6140	656.37	
Propanol	23	60.10	10.956	10.956	6545175	104.69	1.0469	390.18	
1,1-Dichloroethane	23	98.96	11.849	11.849	6447318	84.75	0.8475	191.83	
2-Butanone	23	72.11	12.495	12.495	4690486	115.54	1.1554	358.92	
cis-1,2-Dichloroethene	23	96.94	13.367	13.367	3263582	80.88	0.8088	186.89	
Hexane	23	86.18	13.733	13.733	11510857	137.82	1.3782	358.24	
Chloroform	23	119.38	13.906	13.906	7193559	102.72	1.0272	192.73	
Tetrahydrofuran	23	72.11	14.649	14.649	2692695	85.84	0.8584	266.67	
1,2-Dichloroethane	34	98.96	15.316	15.316	4803862	87.22	0.8722	197.42	
1,1,1-Trichloroethane	34	133.40	15.822	15.822	6059269	110.75	1.1075	185.96	
Butanenitrile	34	69.11	15.811	15.811	14838557	113.04	1.1304	366.38	
1-Butanol	34	74.12	16.285	16.285	2736178	110.45	1.1045	333.80	
Benzene	34	78.11	16.705	16.705	11337320	71.88	0.7188	206.14	
Carbon Tetrachloride	34	153.82	16.996	16.996	7024855	135.81	1.3581	197.78	
Cyclohexane	34	84.16	17.254	17.254	7243015	118.18	1.1818	314.55	
1,2-Dichloropropane	34	112.99	18.277	18.277	4507839	99.66	0.9966	197.56	
Trichloroethene	34	131.39	18.718	18.718	4854105	114.70	1.1470	195.55	

02/01/99 13:58

18122602.D

Page 1

E01 269

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.214	19.214	5788102	106.58	1.0658	238.26	
cis-1,3-Dichloropropene	34	110.97	20.398	20.398	4651900	84.12	0.8412	169.80	
4-Methyl-2-Pentanone	34	100.16	20.409	20.409	8971875	174.24	1.7424	389.67	
Pyridine	34	79.10	20.602	20.602	2342410	26.76	0.2676	75.77	
trans-1,3-Dichloropropene	34	110.97	21.464	21.464	3042436	79.94	0.7994	161.37	
Pentanenitrile	34	83.13	21.496	21.496	4880166	108.33	1.0833	291.89	
1,1,2-Trichloroethane	34	133.40	21.905	21.905	4002426	117.19	1.1719	196.79	
Toluene	49	92.14	22.551	22.551	7749634	83.72	0.8372	203.52	
1,2-Dibromoethane	49	187.86	24.080	24.080	6065764	159.71	1.5971	190.43	
Octane	49	114.23	24.618	24.618	3439612	73.41	0.7341	143.95	
Bromoform	49	175.00	28.279	28.279	5714790	119.14	1.1914	152.50	
Tetrachloroethylene	49	165.83	25.114	25.114	4936505	153.11	1.5311	206.82	
Chlorobenzene	49	112.56	26.718	26.718	10086461	98.97	0.9897	196.95	
Hexanenitrile	49	97.13	26.976	26.976	8744280	163.95	1.6395	378.10	
Ethylbenzene	49	106.17	27.590	27.590	16048478	96.33	0.9633	203.23	
p/m-Xylene	49	106.17	28.021	28.021	11374965	176.43	1.7643	372.24	
Cyclohexanone	49	98.14	28.440	28.440	2917009	107.72	1.0772	245.87	
Styrene	59	104.15	28.936	28.936	6506088	74.14	0.7414	159.46	
1,1,2,2-Tetrachloroethane	59	167.85	29.162	29.162	7850976	149.99	1.4999	200.17	
o-Xylene	59	106.17	29.237	29.237	5389499	94.20	0.9420	198.74	
Nonane	59	128.26	29.679	29.679	9700882	93.98	0.9398	164.13	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629	32.629	14196205	111.55	1.1155	207.90	
1,3,5-Trimethylbenzene	59	120.19	32.855	32.855	11989544	108.79	1.0879	202.75	
1,2,4-Trimethylbenzene	59	120.19	34.114	34.114	11980559	109.31	1.0931	203.73	
Decane	59	142.28	34.362	34.362	9828028	151.27	1.5127	238.15	
1,3-Dichlorobenzene	59	147.00	34.631	34.631	9527231	141.76	1.4176	216.02	
1,4-Dichlorobenzene	59	147.00	34.836	34.836	9326933	141.35	1.4135	215.38	
1,2-Dichlorobenzene	59	147.00	35.956	35.956	8490363	142.72	1.4272	217.48	
Undecane	59	156.31	38.690	38.690	1470978	101.90	1.0190	146.02	
1,2,4-Trichlorobenzene	59	181.45	42.189	42.189	3634985	191.44	1.9144	236.33	
Dodecane	59	170.34	42.717	42.717	1745256	104.70	1.0470	137.68	
Hexachloro-1,3-butadiene	59	260.76	44.020	44.020	4253045	279.52	2.7952	240.12	
Tridecane	59	184.36	46.474	46.474	1575869	140.96	1.4096	171.27	
Tetradecane	59	198.34	50.178	50.178	34936	44.88	0.4488	50.69	
Bromochloromethane (IS)	23	129.38	13.680	13.680	4170688	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.265	17.265	11877995	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.610	26.610	11415684	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.422	7309302	180.00	1.8000	231.72	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/01/99 13:58

18122602.D

Page 2

E01 271

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCV; 200mL; 54934-151-01

02/01/99 13:58

18122602.D
E01 272

Page 3

Sample Info : CCV; 200mL; 54934-151-01

Date : 09-NOV-1998 00:03

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Date : 09-NOV-1998 00:03

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

12 Acetone

E01 275

Date : 09-NOV-1998 00:03

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

E01 276

Date : 09-NOV-1998 00:03

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB; 200mL Nitrogen

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

E01 277

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

HNF-4073
Rev. 0

Instrument ID : hpdos1.1
 Method : InCal2_53097.m
 File : 18122603.D
 Injection Date : 09-NOV-1998 00:03 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCB
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.657				0.0007	0.13	U
Chloromethane	23	50.49	5.034				0.0006	0.27	U
1,2-dichloro-1,1,2,2-tetrafluoroethane	23	170.92	5.249				0.0033	0.43	U
Methanol	23	32.04	5.389				0.0032	2.20	U
Vinyl Chloride	23	62.50	5.540				0.0004	0.14	U
Butane	23	58.12	5.960				0.0006	0.23	U
Bromomethane	23	94.94	6.434				0.0013	0.31	U
Chloroethane	23	64.51	6.778				0.0014	0.47	U
Ethanol	23	46.01	6.983				0.0010	0.49	U
Acetonitrile	23	41.05	7.446				0.0010	0.55	U
Acetone	23	58.08	7.930	8.006	85090	0.53	0.0027	1.02	J
Trichlorofluoromethane	23	137.37	8.318				0.0012	0.20	U
Pentane	23	72.15	8.985				0.0009	0.29	U
1,1-Dichloroethene	23	96.94	9.534				0.0009	0.22	U
Methylene Chloride	23	84.93	9.718	9.729	15450	0.41	0.0021	0.54	J
1,1,2-trichloro-1,2,2,2-tetrafluoroethane	23	187.38	10.202				0.0010	0.12	U
Propanenitrile	23	55.08	10.966				0.0009	0.39	U
Propanol	23	60.10	10.956				0.0007	0.26	U
1,1-Dichloroethane	23	98.96	11.849				0.0005	0.11	U
2-Butanone	23	72.11	12.495				0.0007	0.22	U
cis-1,2-Dichloroethene	23	96.94	13.367				0.0009	0.20	U
Hexane	23	86.18	13.733				0.0008	0.21	U
Chloroform	23	119.38	13.906				0.0006	0.12	U
Tetrahydrofuran	23	72.11	14.649				0.0004	0.12	U
1,2-Dichloroethane	34	98.96	15.316				0.0005	0.12	U
1,1,1-Trichloroethane	34	133.40	15.822				0.0008	0.13	U
Butanenitrile	34	69.11	15.811				0.0009	0.28	U
1-Butanol	34	74.12	16.285				0.0008	0.24	U
Benzene	34	78.11	16.705				0.0004	0.11	U
Carbon Tetrachloride	34	153.82	16.996				0.0009	0.12	U
Cyclohexane	34	84.16	17.254				0.0009	0.24	U
1,2-Dichloropropane	34	112.99	18.277				0.0008	0.15	U
Trichloroethene	34	131.39	18.718				0.0006	0.10	U

02/01/99 13:58

18122603.D

Page 1

E01 278

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.214				0.0004	0.10	U
cis-1,3-Dichloropropene	34	110.97	20.398				0.0006	0.12	U
4-Methyl-2-Pentanone	34	100.16	20.409				0.0009	0.19	U
Pyridine	34	79.10	20.602				0.0046	1.32	U
trans-1,3-Dichloropropene	34	110.97	21.464				0.0004	0.09	U
Pentanenitrile	34	83.13	21.496				0.0011	0.28	U
1,1,2-Trichloroethane	34	133.40	21.905				0.0007	0.12	U
Toluene	49	92.14	22.551				0.0005	0.12	U
1,2-Dibromoethane	49	187.86	24.080				0.0013	0.16	U
Octane	49	114.23	24.618				0.0006	0.12	U
Bromoform	49	175.00	28.279				0.0029	0.38	U
Tetrachloroethylene	49	165.83	25.114				0.0011	0.14	U
Chlorobenzene	49	112.56	26.718				0.0006	0.13	U
Hexanenitrile	49	97.13	26.976				0.0013	0.30	U
Ethylbenzene	49	106.17	27.590				0.0007	0.15	U
p/m-Xylene	49	106.17	28.021				0.0033	0.69	U
Cyclohexanone	49	98.14	28.440				0.0015	0.33	U
Styrene	59	104.15	28.936				0.0005	0.12	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162				0.0011	0.14	U
o-Xylene	59	106.17	29.237				0.0007	0.15	U
Nonane	59	128.26	29.679				0.0004	0.07	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629				0.0004	0.08	U
1,3,5-Trimethylbenzene	59	120.19	32.855				0.0006	0.12	U
1,2,4-Trimethylbenzene	59	120.19	34.114				0.0008	0.12	U
Decane	59	142.28	34.362				0.0004	0.07	U
1,3-Dichlorobenzene	59	147.00	34.631				0.0004	0.07	U
1,4-Dichlorobenzene	59	147.00	34.836				0.0004	0.07	U
1,2-Dichlorobenzene	59	147.00	35.956				0.0004	0.07	U
Undecane	59	156.31	38.690				0.0070	1.01	U
1,2,4-Trichlorobenzene	59	181.45	42.189				0.0007	0.09	U
Dodecane	59	170.34	42.717				0.0024	0.32	U
Hexachloro-1,3-butadiene	59	260.76	44.020	44.117	14719	0.92	0.0046	0.39	J
Tridecane	59	184.36	46.474				0.0015	0.18	U
Tetradecane	59	198.34	50.178				0.0011	0.12	U
Bromochloromethane (IS)	23	129.38	13.680	13.669	4487447	120.00	0.6000	103.88	
Difluorobenzene (IS)	34	114.00	17.265	17.244	15358365	97.00	0.4850	95.30	
DS-Chlorobenzene (IS)	49	117.00	26.610	26.600	11472613	111.00	0.5550	106.26	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.422	6435826	180.00	0.9000	115.86	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/01/99 13:58

18122603.D

HNF-4073
Rev. 0

Page 2

E01 280

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

HNF-4073

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Rev. 0

Sample Info : CCB; 200mL Nitrogen

02/01/99 13:58

18122603.D

Page 4

F01 282

Report Date : 01-Feb-1999 13:48

Page 1

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122602.b/InCal2_53097.m
 Quant Method : ISTD Target Version : 3.10
 Last Update : 20-Jan-1999 08:11 Number of Cpnds : 72
 Data Type : MS DATA

Global Integrator : HP RTE
 Chromat Events

Values

```

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Initial:Thresh Units      0.000000
Initial:Area Thresh      40000.000000
Initial:Max Peaks        150.000000
Initial:Bunching          1.000000
Initial:Smoothing         1.000000
Initial:Start Thresh      0.100000
Initial:Stop Thresh       0.000000
Initial:Baseline Reset    5.000000
Initial:Set Valley        100.000000
  
```

Compound	RT	RT Window	RF	Mass
1 Dichlorodifluoromethane	4.657	4.157-5.157	2.257	85.00
	4.657	4.157-5.157	0.000	87.00
	4.657	4.157-5.157	0.000	120.91
2 Chloromethane	5.034	4.534-5.534	1.420	50.00
	5.034	4.534-5.534	0.000	52.00
	5.034	4.534-5.534	0.000	50.49
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	5.249	4.749-5.749	1.033	85.00
	5.249	4.749-5.749	0.000	135.00
	5.249	4.749-5.749	0.000	170.92
4 Methanol	5.389	4.889-5.889	1.159	31.00
	5.389	4.889-5.889	0.000	30.00
	5.389	4.889-5.889	0.000	32.04
5 Vinyl Chloride	5.540	5.040-6.040	0.726	62.00
	5.540	5.040-6.040	0.000	64.00
	5.540	5.040-6.040	0.000	62.50
6 1,3-Butadiene	5.670	5.170-6.170	0.000	54.00
	5.670	5.170-6.170	0.000	53.00
	5.670	5.170-6.170	0.000	54.00
7 Butane	5.960	5.460-6.460	0.350	43.00
	5.960	5.460-6.460	0.000	58.00
	5.960	5.460-6.460	0.000	58.12
8 Bromomethane	6.434	5.934-6.934	0.380	94.00
	6.434	5.934-6.934	0.000	96.00
	6.434	5.934-6.934	0.000	94.94

Rev. 0

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122602.b/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
9 Chloroethane	6.778	6.278-7.278	0.767	64.00
	6.778	6.278-7.278	0.000	66.00
	6.778	6.278-7.278	0.000	64.51
10 Ethanol	6.983	6.483-7.483	2.247	31.00
	6.983	6.483-7.483	0.000	45.00
	6.983	6.483-7.483	0.000	46.01
11 Acetonitrile	7.446	6.946-7.946	3.138	41.00
	7.446	6.946-7.946	0.000	39.00
	7.446	6.946-7.946	0.000	41.05
12 Acetone	7.930	7.430-8.430	4.744	43.00
	7.930	7.430-8.430	0.000	58.00
	7.930	7.430-8.430	0.000	58.08
13 Trichlorofluoromethane	8.318	7.818-8.818	2.010	101.00
	8.318	7.818-8.818	0.000	103.00
	8.318	7.818-8.818	0.000	137.37
14 Pentane	8.985	8.485-9.485	3.927	43.00
	8.985	8.485-9.485	0.000	57.00
	8.985	8.485-9.485	0.000	72.15
15 1,1-Dichloroethene	9.534	9.034-10.034	1.047	96.00
	9.534	9.034-10.034	0.000	61.00
	9.534	9.034-10.034	0.000	96.94
16 Methylene Chloride	9.718	9.218-10.218	1.183	84.00
	9.718	9.218-10.218	0.000	49.00
	9.718	9.218-10.218	0.000	84.93
17 1,1,2-trichloro-2,2,2-trifluoroethane	10.202	9.702-10.702	0.958	151.00
	10.202	9.702-10.702	0.000	103.00
	10.202	9.702-10.702	0.000	187.38
18 Propanenitrile	10.966	10.466-11.466	1.789	54.00
	10.966	10.466-11.466	0.000	52.00
	10.966	10.466-11.466	0.000	55.08
19 Propanol	10.956	10.456-11.456	1.799	31.00
	10.956	10.456-11.456	0.000	42.00
	10.956	10.456-11.456	0.000	60.10
20 1,1-Dichloroethane	11.849	11.349-12.349	2.189	63.00
	11.849	11.349-12.349	0.000	65.00
	11.849	11.349-12.349	0.000	98.96
21 2-Butanone	12.495	11.995-12.995	1.168	72.00
	12.495	11.995-12.995	0.000	43.00
	12.495	11.995-12.995	0.000	72.11
22 cis-1,2-Dichloroethene	13.367	12.867-13.867	1.161	96.00
	13.367	12.867-13.867	0.000	98.00
	13.367	12.867-13.867	0.000	96.94

E01 284

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122602.b/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
* 23 Bromochloromethane (IS)	13.680	13.180-14.180	37300	49.00
	13.680	13.180-14.180	0.000	128.00
	13.680	13.180-14.180	0.000	129.38
24 Hexane	13.733	13.233-14.233	2.403	57.00
	13.733	13.233-14.233	0.000	43.00
	13.733	13.233-14.233	0.000	86.18
25 Chloroform	13.906	13.406-14.406	2.015	83.00
	13.906	13.406-14.406	0.000	85.00
	13.906	13.406-14.406	0.000	119.38
26 Tetrahydrofuran	14.649	14.149-15.149	0.902	72.00
	14.649	14.149-15.149	0.000	42.00
	14.649	14.149-15.149	0.000	72.11
27 1,2-Dichloroethane	15.316	14.816-15.816	0.450	62.00
	15.316	14.816-15.816	0.000	98.00
	15.316	14.816-15.816	0.000	98.96
28 1,1,1-Trichloroethane	15.822	15.322-16.322	0.447	97.00
	15.822	15.322-16.322	0.000	99.00
	15.822	15.322-16.322	0.000	133.40
29 Butanenitrile	15.811	15.311-16.311	1.072	41.00
	15.811	15.311-16.311	0.000	52.00
	15.811	15.311-16.311	0.000	69.11
30 1-Butanol	16.285	15.785-16.785	0.202	56.00
	16.285	15.785-16.785	0.000	41.00
	16.285	15.785-16.785	0.000	74.12
31 Benzene	16.705	16.205-17.205	1.288	78.00
	16.705	16.205-17.205	0.000	77.00
	16.705	16.205-17.205	0.000	78.11
32 Carbon Tetrachloride	16.996	16.496-17.496	0.422	117.00
	16.996	16.496-17.496	0.000	119.00
	16.996	16.496-17.496	0.000	153.82
33 Cyclohexane	17.254	16.754-17.754	0.500	41.00
	17.254	16.754-17.754	0.000	56.00
	17.254	16.754-17.754	0.000	84.16
* 34 Difluorobenzene (IS)	17.265	16.765-17.765	135555	114.00
	17.265	16.765-17.765	0.000	114.00
	17.265	16.765-17.765	0.000	114.00
35 1,2-Dichloropropane	18.277	17.777-18.777	0.369	63.00
	18.277	17.777-18.777	0.000	112.00
	18.277	17.777-18.777	0.000	112.99
36 Trichloroethene	18.718	18.218-19.218	0.346	95.00
	18.718	18.218-19.218	0.000	130.00
	18.718	18.218-19.218	0.000	131.39

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122602.b/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
37 Heptane	19.214	18.714-19.714	0.444	71.00
	19.214	18.714-19.714	0.000	57.00
	19.214	18.714-19.714	0.000	100.20
38 cis-1,3-Dichloropropene	20.398	19.898-20.898	0.452	75.00
	20.398	19.898-20.898	0.000	39.00
	20.398	19.898-20.898	0.000	110.97
39 4-Methyl-2-Pentanone	20.409	19.909-20.909	0.420	43.00
	20.409	19.909-20.909	0.000	58.00
	20.409	19.909-20.909	0.000	100.16
40 Pyridine	20.602	20.102-21.102	0.715	79.00
	20.602	20.102-21.102	0.000	52.00
	20.602	20.102-21.102	0.000	79.10
41 trans-1,3-Dichloropropene	21.464	20.964-21.964	0.311	75.00
	21.464	20.964-21.964	0.000	77.00
	21.464	20.964-21.964	0.000	110.97
42 Pentanenitrile	21.496	20.996-21.996	0.368	54.00
	21.496	20.996-21.996	0.000	55.00
	21.496	20.996-21.996	0.000	83.13
43 1,1,2-Trichloroethane	21.905	21.405-22.405	0.279	83.00
	21.905	21.405-22.405	0.000	97.00
	21.905	21.405-22.405	0.000	133.40
44 Toluene	22.551	22.051-23.051	0.900	92.00
	22.551	22.051-23.051	0.000	91.00
	22.551	22.051-23.051	0.000	92.14
45 1,2-Dibromoethane	24.080	23.580-24.580	0.369	107.00
	24.080	23.580-24.580	0.000	109.00
	24.080	23.580-24.580	0.000	187.86
46 Octane	24.618	24.118-25.118	0.456	85.00
	24.618	24.118-25.118	0.000	57.00
	24.618	24.118-25.118	0.000	114.23
47 Bromoform	28.279	27.779-28.779	0.466	173.00
	28.279	27.779-28.779	0.000	171.00
	28.279	27.779-28.779	0.000	175.00
48 Tetrachloroethylene	25.114	24.614-25.614	0.314	164.00
	25.114	24.614-25.614	0.000	129.00
	25.114	24.614-25.614	0.000	165.83
* 49 D5-Chlorobenzene (IS)	26.610	26.110-27.110	114768	117.00
	26.610	26.110-27.110	0.000	119.00
	26.610	26.110-27.110	0.000	117.00
50 Chlorobenzene	26.718	26.218-27.218	0.991	112.00
	26.718	26.218-27.218	0.000	114.00
	26.718	26.218-27.218	0.000	112.56

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122602.b/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
51 Hexanenitrile	26.976	26.476-27.476	0.519	41.00
	26.976	26.476-27.476	0.000	54.00
	26.976	26.476-27.476	0.000	97.13
52 Ethylbenzene	27.590	27.090-28.090	1.620	91.00
	27.590	27.090-28.090	0.000	106.00
	27.590	27.090-28.090	0.000	106.17
53 p/m-Xylene	28.021	27.521-28.521	0.627	106.00
	28.021	27.521-28.521	0.000	91.00
	28.021	27.521-28.521	0.000	106.17
54 Cyclohexanone	28.440	27.940-28.940	0.263	55.00
	28.440	27.940-28.940	0.000	98.00
	28.440	27.940-28.940	0.000	98.14
55 Styrene	28.936	28.436-29.436	2.161	104.00
	28.936	28.436-29.436	0.000	78.00
	28.936	28.436-29.436	0.000	104.15
56 1,1,2,2-Tetrachloroethane	29.162	28.662-29.662	1.289	83.00
	29.162	28.662-29.662	0.000	85.00
	29.162	28.662-29.662	0.000	167.85
57 o-Xylene	29.237	28.737-29.737	1.409	106.00
	29.237	28.737-29.737	0.000	91.00
	29.237	28.737-29.737	0.000	106.17
58 Nonane	29.679	29.179-30.179	2.542	57.00
	29.679	29.179-30.179	0.000	71.00
	29.679	29.179-30.179	0.000	128.26
* 59 1-Bromo-4-Fluorobenzene (I	30.422	29.922-30.922	48307	95.00
	30.422	29.922-30.922	0.000	174.00
	30.422	29.922-30.922	0.000	174.00
60 1-Ethyl-2-Methyl-Benzene	32.629	32.129-33.129	3.134	105.00
	32.629	32.129-33.129	0.000	120.00
	32.629	32.129-33.129	0.000	120.19
61 1,3,5-Trimethylbenzene	32.855	32.355-33.355	2.714	105.00
	32.855	32.355-33.355	0.000	120.00
	32.855	32.355-33.355	0.000	120.19
62 1,2,4-Trimethylbenzene	34.114	33.614-34.614	2.699	105.00
	34.114	33.614-34.614	0.000	120.00
	34.114	33.614-34.614	0.000	120.19
63 Decane	34.362	33.862-34.862	1.600	43.00
	34.362	33.862-34.862	0.000	57.00
	34.362	33.862-34.862	0.000	142.28
64 1,3-Dichlorobenzene	34.631	34.131-35.131	1.655	146.00
	34.631	34.131-35.131	0.000	111.00
	34.631	34.131-35.131	0.000	147.00

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122602.b/InCal2_53097.m

Compound	RT	RT Window	RF	Mass
65 1,4-Dichlorobenzene	34.836	34.336-35.336	1.625	146.00
	34.836	34.336-35.336	0.000	111.00
	34.836	34.336-35.336	0.000	147.00
66 1,2-Dichlorobenzene	35.956	35.456-36.456	1.465	146.00
	35.956	35.456-36.456	0.000	111.00
	35.956	35.456-36.456	0.000	147.00
67 Undecane	38.690	38.190-39.190	0.355	71.00
	38.690	38.190-39.190	0.000	85.00
	38.690	38.190-39.190	0.000	156.31
68 1,2,4-Trichlorobenzene	42.189	41.689-42.689	0.468	180.00
	42.189	41.689-42.689	0.000	182.00
	42.189	41.689-42.689	0.000	181.45
69 Dodecane	42.717	42.217-43.217	0.410	71.00
	42.717	42.217-43.217	0.000	85.00
	42.717	42.217-43.217	0.000	170.34
70 Hexachloro-1,3-butadiene	44.020	43.520-44.520	0.375	225.00
	44.020	43.520-44.520	0.000	227.00
	44.020	43.520-44.520	0.000	260.76
71 Tridecane	46.474	45.974-46.974	0.275	57.00
	46.474	45.974-46.974	0.000	71.00
	46.474	45.974-46.974	0.000	184.36
72 Tetradecane	50.178	49.678-50.678	0.019	57.00
	50.178	49.678-50.678	0.000	71.00
	50.178	49.678-50.678	0.000	198.34

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

E01 2859

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

4 Methanol

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Acetonitrile

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

12 Acetone

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpds01.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanenitrile

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

E01 304

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

29 Butanenitrile

E01 307

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

30 1-Butanol

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

33 Cyclohexane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

36 Trichloroethene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

37 Heptane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

39 4-Methyl-2-Pentanone

E01 313

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

40 Pyridine

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

43 1,1,2-Trichloroethane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

44 Toluene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

46 Octane

E01 318

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

50 Chlorobenzene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

51 Hexanenitrile

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdsl1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

52 Ethylbenzene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdcsl.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

53 p/n-Xylene

Date: 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

54 Cyclohexanone

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

56 1,1,2,2-Tetrachloroethane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

HNF-4073

Column phase: DB-1

Column diameter: 0.32

Rev. 0

57 o-Xylene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

58 Nonane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

60 1-Ethyl-2-Methyl-Benzene

E01 327

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

61 1,3,5-Trimethylbenzene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

62 1,2,4-Trimethylbenzene

E01 329

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

63 Decane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

64 1,3-Dichlorobenzene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

65 1,4-Dichlorobenzene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

66 1,2-Dichlorobenzene

601333
001 122

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

67 Undecane

E01 334

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

68 1,2,4-Trichlorobenzene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

69 Dodecane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

71 Tridecane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

72 Tetradecane

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127,C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	WILEY138.1	115912	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	34	5	CO2	44

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	78	C3H6	42

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	64	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	7	C3H8	44

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.l	131	50	CH3NO2	61
Monoethanolamine	141-43-5	nbs75k.l	62369	7	C2H7NO	61
Monoethanolamine	141-43-5	nbs75k.l	133	4	C2H7NO	61

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.l	62260	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.l	62259	90	C3H6	42
Propene	115-07-1	nbs75k.l	62258	83	C3H6	42

E01 344

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127,C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	62265	3	C2H4O	44
Ethylene oxide	75-21-8	nbs75k.1	37	9	C2H4O	44
Propane	74-98-6	nbs75k.1	62269	7	C3H8	44

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

1-Propene, 2-methyl-

CAS Number

Library

Entry

Quality

Formula

Weight

1-Propene, 2-methyl-

115-11-7

nbs75k.1

62306

90

C4H8

56

1-Propene, 2-methyl-

115-11-7

nbs75k.1

62305

90

C4H8

56

1-Propene, 2-methyl-

115-11-7

WILEY138.1

116022

90

C4H8

56

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62309	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	86	C4H8	56
1-Butene	106-98-9	nbs75k.1	62308	86	C4H8	56

E01 347

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (E)-	624-64-6	nbs75k.1	75	74	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, ethyl-	1191-96-4	nbs75k.1	227	91	C5H10	70
1-Pentene	109-67-1	nbs75k.1	230	91	C5H10	70
1-Pentene	109-67-1	nbs75k.1	62466	91	C5H10	70

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	91	CEH10	70
Cyclopropane, 1,1-dimethyl-	1630-94-0	nbs75k.1	235	91	CEH10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	90	CEH10	70

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (E)-	646-04-8	nbs75k.1	233	90	CEH10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	91	CEH10	70
2-Pentene, (Z)-	627-20-3	nbs75k.1	62456	91	CEH10	70

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Spiropentane	157-40-4	nbs75k.1	62415	91	C ₅ H ₈	68
Spiropentane	157-40-4	nbs75k.1	187	83	C ₅ H ₈	68
1-Pentyne	627-19-0	nbs75k.1	190	76	C ₅ H ₈	68

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl formate	107-31-3	nbs75k.l	62350	9	C2H4O2	60
Methyl formate	107-31-3	nbs75k.l	114	12	C2H4O2	60
.beta.-D-Glucopyranoside, methyl 3,6-anh	3056-46-0	nbs75k.l	16574	12	C7H12O5	176

E01 353

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 4-methyl-	691-37-2	nbs75k.1	599	38	C6H12	84
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	47	C4H8	56
2-Butene, (Z)-	590-18-1	nbs75k.1	77	47	C4H8	56

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Silanol, trimethyl-	1066-40-6	nbs75k.1	907	72	C3H10OSi	90
Silanol, trimethyl-	1066-40-6	WILEY138.1	117352	72	C3H10OSi	90
Silanol, trimethyl-	1066-40-6	nbs75k.1	62980	46	C3H10OSi	90

E01 355

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2-methyl-	107-83-5	nbs75k.1	733	90	C6H14	86
Pentane, 2-methyl-	107-83-5	nbs75k.1	62863	87	C6H14	86
Pentane, 2-methyl-	107-83-5	WILEY138.1	117115	87	C6H14	86

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	WILEY138.1	116382	72	C4H8O	72
Butanal	123-72-8	WILEY138.1	116385	72	C4H8O	72
Butanal	123-72-8	nbs75k.1	62488	50	C4H8O	72

HWF-4073
R0

Data File: /chem/hpdos1.i/18122602.b/18122604.D

Page 70

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 3-methyl-	96-14-0	nbs75k.1	62867	83	C6H14	86
Butane, 2,2,3-trimethyl-	464-06-2	nbs75k.1	63436	64	C7H16	100
Pentane, 3-methyl-	96-14-0	nbs75k.1	734	47	C6H14	86

R01 358-A

HNF-4073
20

Data File: /chem/hpdos1.i/18122602.b/18122604.D

Page 71

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62755	95	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	nbs75k.1	62754	78	C6H12	84

E01 358-B

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Hexadiene, (Z)-	7318-67-4	nbs75k.1	486	58	C6H10	82
1,4-Hexadiene	592-45-0	nbs75k.1	471	76	C6H10	82
2,4-Hexadiene	592-46-1	nbs75k.1	62675	76	C6H10	82

E01 359

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	38	C6H12	84
2-Hexene	592-43-8	nbs75k.1	589	70	C6H12	84
2-Hexene	592-43-8	nbs75k.1	62758	38	C6H12	84

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	WILEY138.1	116888	87	C6H12	84
2-Hexene	592-43-8	nbs75k.1	62758	86	C6H12	84
3-Hexene, (E)-	13269-52-8	nbs75k.1	584	86	C6H12	84

EC1 261

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrous acid, butyl ester	544-16-1	WILEY138.1	118379	43	C4H9NO2	103
Nitrous acid, butyl ester	544-16-1	WILEY138.1	118380	32	C4H9NO2	103
Nitrous acid, butyl ester	544-16-1	nbs75k.1	1816	28	C4H9NO2	103

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	62768	87	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	64	C6H12	84
2-Hexene, 5-methyl-, (E)-	7385-82-2	nbs75k.1	63265	53	C7H14	98

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, methyl-	96-37-7	nbs75k.1	594	86	C6H12	84
Cyclopentane, methyl-	96-37-7	nbs75k.1	62763	78	C6H12	84
Cyclobutane, ethyl-	4806-61-5	nbs75k.1	604	72	C6H12	84

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1,2-dimethyl-3-methylene-,	5070-00-8	nbs75k.1	491	36	C6H10	82
Cyclopentane, methylene-	1528-30-9	nbs75k.1	62693	64	C6H10	82
1-Pentyne, 3-methyl-	922-59-8	nbs75k.1	500	45	C6H10	82

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexene, 2-methyl-, (E)-	692-24-0	nbs75k.1	1320	93	C7H14	98
3-Hexene, 2-methyl-, (E)-	692-24-0	nbs75k.1	63228	87	C7H14	98
2-Pentene, 3-ethyl-	816-79-5	nbs75k.1	1342	87	C7H14	98

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C7 Alkane (mw 100)						
Pentane, 2,4-dimethyl-	108-08-7	nbs75k.l	63424	43	C7H16	100
Pentane, 2,4-dimethyl-	108-08-7	nbs75k.l	1594	35	C7H16	100
2-Hexen-1-ol, acetate, (E)-	2497-18-9	nbs75k.l	66158	25	C8H14O2	142

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdcs1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanenitrile, 2-methylene-	1647-11-6	nbs75k.1	445	91	CEH7N	81
2-Pentenitrile	13284-42-9	nbs75k.1	447	76	CEH7N	81
2-Pentenitrile	13284-42-9	WILEY138.1	116729	64	CEH7N	81

E01 308

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	87	C7H14	98
Cyclohexane, 1-methyl-2-propyl-	4291-79-6	nbs75k.1	66074	90	C10H20	140
3-Heptene	592-78-9	nbs75k.1	63247	90	C7H14	98

E01 363

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C7 Alkane (mw 100)						
Butanal, 3-methyl-	590-86-3	nbs75k.1	688	50	C ₈ H ₁₆ O	86
Hexane	110-54-3	WILEY138.1	117111	46	C ₆ H ₁₄	86
1-Butanol, 3-methyl- (impure)	123-51-3	WILEY138.1	117278	42	C ₈ H ₁₈ O	88

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown CB Alkane (mw 114)						
1,3-Butadiene, 2,3-dimethyl-	513-81-5	nbs75k.1	468	43	C6H10	82
1-Hexene, 4-methyl-	3769-23-1	nbs75k.1	63246	38	C7H14	98
Cyclohexene	110-83-8	nbs75k.1	62694	38	C6H10	82

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene, 2-methyl-	6094-02-6	nbs75k.1	63261	78	C7H14	98
Oxirane, (1-methylethyl)-	1438-14-8	nbs75k.1	721	50	C5H10O	86
1-Heptene	592-76-7	nbs75k.1	63240	9	C7H14	98

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	WILEY138.1	117780	95	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	94	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117782	94	C7H14	98

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	95	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	91	C7H14	98

E01 374

HNF-4073
R0

Data File: /chem/hpdos1.i/18122602.b/18122604.D

Page 88

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	58	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	91	C7H14	98
3-Heptene	592-78-9	nbs75k.1	1339	91	C7H14	98

E01 375-A

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	97	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	97	C7H14	98

E01 375-B

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	81	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, ethyl-	1640-89-7	nbs75k.1	63257	14	C7H14	98
Cyclohexene, 1-methyl-	591-49-1	nbs75k.1	63132	53	C7H12	96
Bicyclo[3.1.0]hexan-3-one	1755-04-0	nbs75k.1	1089	38	C6H8O	96

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 nl; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Heptadiene	5675-22-9	nbs75k.1	1149	83	C7H12	96
2,3-Hexadiene, 2-methyl-	29212-09-7	nbs75k.1	1147	76	C7H12	96
2,3-Hexadiene, 2-methyl-	29212-09-7	WILEY138.1	622	76	C7H12	96

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	63274	72	C7H14	98
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	WILEY138.1	938	72	C7H14	98
Cyclopentane, 1,2,3-trimethyl-, (1.alpha.	2613-69-6	WILEY138.1	119104	72	C8H16	112

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

3-HEXENE, 3-ETHYL-
Cyclohexanone, 4-methyl-
Cyclohexanone, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	2667	50	C8H16	112
589-92-4	nbs75k.1	63958	59	C7H12O	112
589-92-4	WILEY138.1	119034	59	C7H12O	112

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	96	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	96	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	96	C7H12	96

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	63385	90	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63384	90	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63386	90	C6H12O	100

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	87	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	87	C8H16	112
2-Octene, (Z)-	7642-04-8	WILEY138.1	2640	87	C8H16	112

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	83	C ₈ H ₁₈	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119371	83	C ₈ H ₁₈	114
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	80	C ₈ H ₁₈	114

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal	66-25-1	nbs75k.1	1573	37	C6H12O	100
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62304	43	C4H8	56
1-Hexene	592-41-6	nbs75k.1	62754	38	C6H12	84

E01 385

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	91	C8H16	112
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	87	C5H10	70

E01 386

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown Alkene/Cycloalkane
1-Butene, 2-methyl-
1-Butene, 2-methyl-
1,4-Hexadiene, 2,5-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
563-46-2	nbs75k.1	62458	46	C5H10	70
563-46-2	WILEY138.1	116340	46	C5H10	70
927-97-9	nbs75k.1	2390	43	C8H14	110

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	87	C8H16	112
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	87	C8H16	112
ETHYL-2 METHYL-3 PENTENE-1	0-00-0	WILEY139.1	2685	86	C8H16	112

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	95	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	C8H16	112
2-Octene	111-67-1	WILEY138.1	119055	95	C8H16	112

E01 389

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C ₈ H ₁₆	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	87	C ₈ H ₁₆	112
1-PENTENE, 2-ETHYL-4-METHYL-	0-00-0	WILEY138.1	2686	80	C ₈ H ₁₆	112

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	91	C8H16	112
2-Octene, (Z)-	7642-04-8	WILEY138.1	2640	91	C8H16	112
3-Octene, (E)-	14919-01-8	nbs75k.1	64020	90	C8H16	112

E01 391

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	68	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64195	58	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	WILEY138.1	3101	58	C7H14O	114

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown CB Alkane (mw 114)
Pyrrolidine, 1-acetyl-
Pyrrolidine, 1-acetyl-
Oxepane, 2,2,4-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
4030-18-6	nbs75k.1	2784	23	C6H11NO	113
4030-18-6	WILEY138.1	2804	23	C6H11NO	113
23120-44-7	nbs75k.1	1525	9	C6H12O	100

E01 393

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	64173	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64172	90	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	3029	86	C7H14O	114

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	nbs75k.1	64164	64	C7H14O	114
2-Hexanone, 5-methyl-	110-12-3	nbs75k.1	64147	83	C7H14O	114
2-Hexanone, 5-methyl-	110-12-3	WILEY138.1	119321	83	C7H14O	114

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	59	C8H18O	130
n-Butyl ether	142-96-1	nbs75k.1	5535	59	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	6583	59	C8H18O	130

E01 396

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64381	83	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64382	78	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	3383	78	C7H16O	116

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanol, (S)-	6033-23-4	nbs75k.1	3355	64	C7H16O	116
2-Butanol, 3-methyl-	598-75-4	nbs75k.1	62960	64	C5H12O	88
2-Heptanol	543-49-7	nbs75k.1	64346	64	C7H16O	116

E01 398

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	nbs75k.1	4624	94	C ₈ H ₁₈	126
Cyclopropane, 1-methyl-2-pentyl-	41977-37-1	WILEY138.1	120623	94	C ₈ H ₁₈	126
Cyclopentane, 1,2-dimethyl-	2452-99-5	WILEY138.1	117817	58	C ₇ H ₁₄	98

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		WILEY138.1	6017	53	C ₈ H ₁₆ O	128
1H-1,2,4-Triazole-3,5-diamine	1455-77-2	WILEY138.1	117824	53	C ₂ H ₅ N ₅	99
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	45	C ₆ H ₁₃ BO ₂	128

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
1-Methyl-2-cyclopenten-1-ol	40459-88-9	WILEY138.1	844	56	C6H10O	98
1-Butene, 2,3,3-trimethyl-	594-56-9	nbs75k.1	63243	53	C7H14	98
Furan, 2-methoxy-	25414-22-6	nbs75k.1	1208	53	C5H6O2	98

E01 401

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		nbs75k.1	4896	64		128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	WILEY138.1	5771	64	C6H13BO2	128
1,1'-Bicyclohexyl-1,1'-diol	2888-11-1	nbs75k.1	22423	56	C12H22O2	198

E01 402

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
2(5H)-FURANONE, 4,5,5-TRIMETHYL-	0-00-0	WILEY138.1	5202	50	C7H10O2	126
3-Octen-2-one	1669-44-9	nbs75k.1	64901	35	C8H14O	126
3-Octen-2-one, (E)-	18402-82-9	WILEY138.1	5296	35	C8H14O	126

E01 403

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	5098	68	C8H16O	128
Hexanal, 2-ethyl-	123-05-7	WILEY138.1	120843	68	C8H16O	128
Heptane, 1-(1-butenyloxy)-, (E)-	56052-80-3	nbs75k.1	15313	64	C11H22O	170

E01 404

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	WILEY138.1	118931	94	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63907	72	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	2435	64	C7H13N	111

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65061	90	C8H16O	128
4-Octanone	589-63-9	nbs75k.1	5058	87	C8H16O	128
4-Octanone	589-63-9	WILEY138.1	120861	74	C8H16O	128

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

3-Heptene, 3-ethyl-

1-Decyn-4-ol

Cyclohexane, 1-ethyl-4-methyl-, trans-

CAS Number	Library	Entry	Quality	Formula	Weight
74764-46-8	nbs75k.1	4663	38	C ₉ H ₁₈	126
27907-00-2	nbs75k.1	10978	37	C ₁₀ H ₁₈ O	154
6236-88-0	nbs75k.1	64955	37	C ₉ H ₁₈	126

E01 407

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown C9 Alkene/Cycloalkane (mw 126)
Hexanoic acid, 3-hexenyl ester, (Z)-
1H-Pyrazole, 1-methyl-
1H-Imidazole, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
31501-11-8	nbs75k.1	22400	25	C12H22O2	198
930-36-9	nbs75k.1	62662	25	C4H6N2	82
622-36-6	nbs75k.1	458	17	C4H6N2	82

E01 408

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octanone	111-13-7	nbs75k.1	65043	90	C8H16O	128
2-Octanone	111-13-7	nbs75k.1	5038	90	C8H16O	128
2-Octanone	111-13-7	WILEY138.1	5937	90	C8H16O	128

E01 409

HNF 4073
R0

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E01 410

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	19899-39-9	WILEY138.1	9527	53	C10H20	140
Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2	nbs75k.1	7580	43	C10H20	140
1-Hexene, 3,3,5-trimethyl-	13427-43-5	nbs75k.1	4683	59	C9H18	126

E01 411

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
Furan, 2,5-dihydro-2,5-dimethyl-	59242-27-2	nbs75k.1	1246	25	C6H10O	98
1-Butene, 2-ethyl-3-methyl-	7357-93-9	nbs75k.1	1366	22	C7H14	98
Propane, 1-(ethenoxy)-2-methyl-	109-53-5	nbs75k.1	63414	17	C6H12O	100

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkane (mw 128)

Cyclopentanone, oxime

Cyclohexanemethanol, 4-methyl-, trans-

Cyclohexane, (1-methylethyl)-

CAS Number	Library	Entry	Quality	Formula	Weight
1192-28-5	nbs75k.1	63283	43	C5H9NO	99
3937-49-3	nbs75k.1	5117	17	C8H16O	128
696-29-7	nbs75k.1	64966	12	C9H18	126

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

HNF-4073

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon (mw=138)						
1,2,3,6-Tetrahydropyridine	694-05-3	nbs75k.1	62699	28	C5H9N	83
Hexanenitrile	628-73-9	nbs75k.1	63154	9	C6H11N	97
1,10-Dicyanodecane	4543-66-2	nbs75k.1	20789	9	C12H20N2	192

E01 414

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkene (mw 140)						
2-Octene	111-67-1	WILEY138.1	119054	80	CEH16	112
1-Octene, 3,7-dimethyl-	4984-01-4	nbs75k.1	66070	74	C10H20	140
1-Octene, 3,7-dimethyl-	4984-01-4	WILEY138.1	122505	74	C10H20	140

E01 415

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	65294	83	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	5518	83	C ₈ H ₁₈ O	130

E01 416

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	93	C11H24	156
Decane, 4-methyl-	2847-72-5	nbs75k.1	67323	90	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	15626	90	C11H24	156

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	7565	76	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	WILEY138.1	9503	76	C10H20	140
Cyclohexane, butyl-	1678-93-9	WILEY138.1	122508	68	C10H20	140

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
2-Ethyl-1-dodecanol
Heptane, 3-ethyl-2-methyl-
10-Methylnonadecane

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	nbs75k.1	26412	47	C14H30O	214
14676-29-0	nbs75k.1	66211	35	C10H22	142
0-00-0	nbs75k.1	39858	27	C20H42	282

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 nl; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Octanenitrile	124-12-9	nbs75k.1	4352	78	C8H15N	125
Octanenitrile	124-12-9	WILEY138.1	5025	78	C8H15N	125
1H-Imidazole, 4-methyl-	622-36-6	nbs75k.1	458	43	C4H6N2	82

E01 420

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Tetradecane

Heptadecane

Nonane, 2,5-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
629-59-4	nbs75k.1	69658	53	C14H30	198
629-78-7	nbs75k.1	71191	50	C17H36	240
17302-27-1	nbs75k.1	11616	50	C11H24	156

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Unknown C11 Alkane (mw 156)

Dodecane, 6-methyl-

Pentane, 2-bromo-

CAS Number	Library	Entry	Quality	Formula	Weight
		0	0		0
6044-71-9	nbs75k.1	19006	35	C13H28	184
107-81-3	nbs75k.1	9581	27	C5H11Br	150

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-	6975-98-0	nbs75k.1	67322	64	C11H24	156
Decane, 2-methyl-	6975-98-0	nbs75k.1	67320	64	C11H24	156
Heptadecane	629-78-7	nbs75k.1	71191	59	C17H36	240

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Ethyl-2,2,6-trimethylcyclohexane	0-00-0	nbs75k.1	11030	83	C11H22	154
5-Undecene, (E)-	764-97-6	nbs75k.1	67184	64	C11H22	154
Cyclopropane, 1-butyl-1-methyl-2-propyl-	41977-34-8	nbs75k.1	11034	59	C11H22	154

E01 427

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67314	81	C11H24	156
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	70	C11H24	156
Nonane, 3,7-dimethyl-	17302-32-8	nbs75k.1	11601	53	C11H24	156

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65956	95	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65955	95	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	7108	95	C10H18	138

E01 426

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon (mw=152)						
1-Pentadecyne	765-13-9	nbs75k.1	25014	59	C15H28	208
2-Ethyl-3-methylcyclopentene	0-00-0	nbs75k.1	2317	50	C8H14	110
Cyclopropane, 1-(1-methylethyl)-2-(2-met	56259-17-7	nbs75k.1	10431	47	C11H20	152

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
2(1H)-Pyrimidinone, 4-amino-	71-30-7	nbs75k.1	63896	38	C4H5N3O	111
2(1H)-Pyrimidinone, 4-amino-	71-30-7	nbs75k.1	2403	38	C4H5N3O	111
2(1H)-Pyrimidinone, 4-amino-	71-30-7	WILEY138.1	118915	38	C4H5N3O	111

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 nl; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C12 Alkene/Cycloalkane (mw 168)						
Oxazole, 2,4-dimethyl-	7208-05-1	nbs75k.1	1168	46	CSH7NO	97
Oxazole, 2,4-dimethyl-	7208-05-1	WILEY138.1	673	46	CSH7NO	97
Cyclopentane, (1-methylbutyl)-	4737-43-3	nbs75k.1	7570	43	C10H20	140

E01 429

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdcsl.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C12 Alkane (mw 170)						
Undecane, 5-methyl-	1632-70-8	nbs75k.1	15363	60	C12H26	170
Octadecane, 1-chloro-	3386-33-2	nbs75k.1	72489	46	C18H37Cl	288
Hexane, 2,3,5-trimethyl-	1069-53-0	nbs75k.1	5161	46	C9H20	128

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	15356	74	C12H26	170
Undecane, 3,8-dimethyl-	17301-30-3	nbs75k.1	19009	72	C13H28	184
Undecane, 5-methyl-	1632-70-8	nbs75k.1	15363	64	C12H26	170

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124046	94	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	89	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	WILEY138.1	124047	89	C11H20	152

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	67185	58	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	58	C11H22	154
Cyclohexane, (1,3-dimethylbutyl)-	61142-19-6	nbs75k.1	14770	52	C12H24	168

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	94	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	94	C11H20	152
TRANS-ANTI-1-METHYL-DECAHYDRONAPHTHALENE	0-00-0	WILEY138.1	13878	94	C11H20	152

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.1	15361	72	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	94	C12H26	170
Dodecane, 2-methyl-	1560-97-0	nbs75k.1	19039	64	C13H28	184

Data File: /chem/hpdos1.i/18122602.b/18122604.D

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14174	38	C12H22	166
Pulegone	89-82-7	nbs75k.1	66995	53	C10H16O	152
Cyclohexane, methylene-	1192-37-6	nbs75k.1	63139	50	C7H12	96

E01 436

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	nbs75k.1	14151	76	C12H22	166
cis,trans-1,10-Dimethylspiro[4,5]decane	0-00-0	nbs75k.1	14138	81	C12H22	166
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14152	58	C12H22	166

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69033	97	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	27745	97	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	96	C13H28	184

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.1	15361	72	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.1	15356	94	C12H26	170
Dodecane, 2-methyl-	1560-97-0	nbs75k.1	19039	64	C13H28	184

E01 439

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14174	38	C12H22	166
Pulegone	89-82-7	nbs75k.1	66995	53	C10H16O	152
Cyclohexane, methylene-	1192-37-6	nbs75k.1	63139	50	C7H12	96

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2,6-dimethyl-	1618-22-0	nbs75k.1	14151	76	C12H22	166
cis,trans-1,10-Dimethylspiro[4,5]decane	0-00-0	nbs75k.1	14138	81	C12H22	166
Naphthalene, decahydro-1,5-dimethyl-	66552-62-3	nbs75k.1	14152	58	C12H22	166

E01 441

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69033	97	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	27745	97	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	96	C13H28	184

Date : 09-NOV-1998 01:27

Client ID: postshutdown

Instrument: hpdos1.i

Sample Info: VP006-127.C295; postshutdown; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
trans,cis-1,8-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14144	45	C12H22	166
Cyclohexane, (2-ethyl-1-methyl-1-butenyl)	74810-42-7	nbs75k.1	17934	45	C13H24	180
trans,trans-1,8-Dimethylspiro[4.5]decane	0-00-0	nbs75k.1	14143	43	C12H22	166

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 11 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS E01-444 THRU PAGE E01- 868 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

Sample Info : VP006-127.C295; postshutdown; 200 mL; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122604.D
 Injection Date : 09-NOV-1998 01:27 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP006-127.C295
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.657	4.659	32494	0.37	0.0037	0.69	J
Chloromethane	23	50.49	5.034	5.036	10933	0.14	0.0014	0.62	J
1,1,2,2-tetrafluoroethane	23	170.92	5.249				0.0065	0.85	U
Methanol	23	32.04	5.389	5.391	1435047	25.39	0.2539	177.54	
Vinyl Chloride	23	62.50	5.540				0.0008	0.29	U
Butane	23	58.12	5.960	5.962	7376725	385.48	3.8548	1485.67	E
Bromomethane	23	94.94	6.434				0.0026	0.61	U
Chloroethane	23	64.51	6.778				0.0027	0.94	U
Ethanol	23	46.01	6.983	6.952	3569552	66.49	0.6649	323.69	
Acetonitrile	23	41.05	7.446	7.447	355905	6.54	0.0654	35.69	
Acetone	23	58.08	7.930	7.921	5658932	37.09	0.3709	143.05	
Trichlorofluoromethane	23	137.37	8.318	8.309	184259	2.91	0.0291	4.75	
Pentane	23	72.15	8.985	8.987	4466474	34.74	0.3474	107.84	
1,1-Dichloroethene	23	96.94	9.534				0.0019	0.44	U
Methylene Chloride	23	84.93	9.718	9.730	15844	0.44	0.0044	1.17	J
1,1,2,2-tetrachloroethane	23	187.38	10.202	10.204	10395	0.31	0.0031	0.37	J
Propanenitrile	23	55.08	10.966	10.925	690696	12.04	0.1204	48.98	
Propanol	23	60.10	10.956	10.936	397317	5.99	0.0599	22.34	
1,1-Dichloroethane	23	98.96	11.849				0.0010	0.23	U
2-Butanone	23	72.11	12.495	12.475	491567	13.11	0.1311	40.74	
cis-1,2-Dichloroethene	23	96.94	13.367				0.0017	0.39	U
Hexane	23	86.18	13.733	13.724	2876176	39.82	0.3982	103.49	
Chloroform	23	119.38	13.906	13.886	19832	0.29	0.0029	0.54	J
Tetrahydrofuran	23	72.11	14.649	14.650	88215	2.92	0.0292	9.07	
1,2-Dichloroethane	34	98.96	15.316				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.822				0.0016	0.27	U
Butanenitrile	34	69.11	15.811	15.781	2530633	16.07	0.1607	52.10	
1-Butanol	34	74.12	16.285	16.276	2295239	88.77	0.8877	268.27	
Benzene	34	78.11	16.705	16.696	294570	1.50	0.0150	4.29	
Carbon Tetrachloride	34	153.82	16.996				0.0017	0.25	U
Cyclohexane	34	84.16	17.254	17.245	120791	1.78	0.0178	4.74	J
1,2-Dichloropropane	34	112.99	18.277				0.0015	0.30	U
Trichloroethene	34	131.39	18.718	18.731	11356	0.23	0.0023	0.39	J

02/01/99 13:58

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Page 1

E01 414

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Heptane	34	100.20	19.214	19.215	5983294	101.70	1.0170	227.35	
cis-1,3-Dichloropropene	34	110.97	20.398				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.409	20.389	320494	4.75	0.0475	10.63	
Pyridine	34	79.10	20.602	20.636	270811	9.94	0.0994	28.15	
trans-1,3-Dichloropropene	34	110.97	21.464				0.0009	0.18	U
Pentanenitrile	34	83.13	21.496	21.465	1297160	23.73	0.2373	63.95	
1,1,2-Trichloroethane	34	133.40	21.905	21.928	53235	1.31	0.0131	2.20	J
Toluene	49	92.14	22.551	22.553	1346222	13.96	0.1396	33.94	
1,2-Dibromoethane	49	187.86	24.080				0.0026	0.31	U
Octane	49	114.23	24.618	24.620	1013771	22.48	0.2248	44.08	
Bromoform	49	175.00	28.279				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.114				0.0021	0.28	U
Chlorobenzene	49	112.56	26.718	26.752	46528	0.46	0.0046	0.91	J
Hexanenitrile	49	97.13	26.976	26.967	930953	16.01	0.1601	36.93	
Ethylbenzene	49	106.17	27.590	27.581	66988	0.39	0.0039	0.82	J
p/m-Xylene	49	106.17	28.021	27.990	43694	0.71	0.0071	1.50	J
Cyclohexanone	49	98.14	28.440	28.420	353971	12.91	0.1291	29.46	
Styrene	59	104.15	28.936				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162	29.131	109211	1.94	0.0194	2.59	J
o-Xylene	59	106.17	29.237	29.250	17840	0.29	0.0029	0.62	J
Nonane	59	128.26	29.679	29.680	1909385	17.01	0.1701	29.71	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629	32.630	19973	0.14	0.0014	0.26	J
1,3,5-Trimethylbenzene	59	120.19	32.855	32.846	16407	0.14	0.0014	0.25	J
1,2,4-Trimethylbenzene	59	120.19	34.114	34.116	28732	0.24	0.0024	0.45	J
Decane	59	142.28	34.362	34.353	4022197	58.71	0.5871	92.42	
1,3-Dichlorobenzene	59	147.00	34.631	34.633	11724	0.15	0.0015	0.23	J
1,4-Dichlorobenzene	59	147.00	34.836	34.848	13250	0.17	0.0017	0.26	J
1,2-Dichlorobenzene	59	147.00	35.956	35.957	16635	0.24	0.0024	0.36	J
Undecane	59	156.31	38.690	38.681	2385581	167.68	1.6768	240.29	
1,2,4-Trichlorobenzene	59	181.45	42.189	42.191	30741	1.28	0.0128	1.58	J
Dodecane	59	170.34	42.717	42.708	3681323	222.01	2.2201	291.95	
Hexachloro-1,3-butadiene	59	260.76	44.020	44.021	23373	1.19	0.0119	1.02	J
Tridecane	59	184.36	46.474	46.454	8335188	468.53	4.6853	569.27	E
Tetradecane	59	198.34	50.178	50.018	261942	567.08	5.6708	640.45	E
Bromochloromethane (IS)	23	129.38	13.680	13.670	4266086	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.265	17.245	14367281	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.610	26.601	11689211	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.423	7847265	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Carbon dioxide	23	44	124-38-9	3.929	2314299	8.98	0.0898	45.73	NJ
Propene	23	42	115-07-1	4.497	15450998	59.97	0.5997	319.86	NJ
Propane	23	44	74-98-6	4.551	9962148	38.67	0.3867	196.86	NJ
Methyl nitrite	23	61	624-91-9	4.842	1542311	5.99	0.0599	21.98	NJ
Cyclopropane	23	42	75-19-4	5.089	1178579	4.57	0.0457	24.40	NJ
Acetaldehyde	23	44	75-07-0	5.326	1464827	5.69	0.0569	28.95	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.757	22771820	88.39	0.8839	353.56	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
1-Butene	23	56	106-98-9	6.166	1929656	7.49	0.0749	29.96	NJ
2-Butene, (E)-	23	56	624-64-6	6.511	4296680	16.68	0.1668	66.71	NJ
Cyclopropane, ethyl-	23	70	1191-96-4	8.546	9950123	38.62	0.3862	123.59	NJ
1-Butene, 2-methyl-	23	70	563-46-2	8.793	2432602	9.44	0.0944	30.21	NJ
2-Pentene, (E)-	23	70	646-04-8	9.256	2462757	9.56	0.0956	30.59	NJ
Spiropentane	23	68	157-40-4	9.482	471335	1.83	0.0183	6.03	NJ
Methyl formate	23	60	107-31-3	9.654	3034265	11.78	0.1178	43.97	NJ
1-Pentene, 4-methyl-	23	84	691-37-2	11.496	1110968	4.31	0.0431	11.50	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.592	1668352	6.48	0.0648	16.12	NJ
Pentane, 2-methyl-	23	86	107-83-5	12.142	2473272	9.60	0.0960	25.00	NJ
Butanal	23	72	123-72-8	12.271	2945753	11.43	0.1143	35.57	NJ
Pentane, 3-methyl-	23	86	96-14-0	12.884	765418	2.97	0.0297	7.74	NJ
1-Hexene	23	84	592-41-6	13.132	26496399	102.85	1.0285	274.26	NJ
1,4-Hexadiene, (Z)-	23	82	7318-67-4	13.434	463119	1.80	0.0180	4.91	NJ
2-Hexene, (E)-	23	84	4050-45-7	13.929	4626834	17.96	0.1796	47.89	NJ
2-Hexene	23	84	592-43-8	14.467	1902411	7.38	0.0738	19.69	NJ
Nitrous acid, butyl ester	23	103	544-16-1	14.586	4192118	16.27	0.1627	35.39	NJ
1-Pentene, 2-methyl-	23	84	763-29-1	14.801	1220629	4.74	0.0474	12.63	NJ
Cyclopentane, methyl-	23	84	96-37-7	15.350	545257	2.12	0.0212	5.64	NJ
Cyclopropane, 1,2-dimethyl-3-methylene-,	34	82	5070-00-8	15.931	656748	1.96	0.0196	5.36	NJ
3-Hexene, 2-methyl-, (E)-	34	98	692-24-0	16.943	708681	2.12	0.0212	4.84	NJ
Unknown C7 Alkane (mw 100)	34	0		17.385	3814771	11.39	0.1139		J
Butanenitrile, 2-methylene-	34	81	1647-11-6	17.557	2934965	8.77	0.0877	24.24	NJ
3-Heptene, (E)-	34	98	14686-14-7	17.686	2751742	8.22	0.0822	18.78	NJ
Unknown C7 Alkane (mw 100)	34	0		17.902	3423183	10.22	0.1022		J
Unknown C8 Alkane (mw 114)	34	0		18.128	1165714	3.48	0.0348		J
1-Hexene, 2-methyl-	34	98	6094-02-6	18.440	820514	2.45	0.0245	5.60	NJ
1-Heptene	34	98	592-76-7	18.580	14879520	44.44	0.4444	101.57	NJ
3-Heptene	34	98	592-78-9	19.064	66929622	199.89	1.9989	456.89	NJ
2-Heptene	34	98	592-77-8	19.226	64174624	191.66	1.9166	438.08	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.441	76106752	227.30	2.2730	519.54	NJ
3-Heptene, (E)-	34	98	14686-14-7	19.947	58721640	175.38	1.7538	400.86	NJ
Cyclopentane, ethyl-	34	98	1640-89-7	21.282	1233253	3.68	0.0368	8.42	NJ
1,4-Heptadiene	34	96	5675-22-9	21.724	23566936	70.38	0.7038	164.23	NJ
Cyclopentane, 1,2-dimethyl-, cis-	34	98	1192-18-3	21.918	2798712	8.36	0.0836	19.11	NJ
3-HEXENE, 3-ETHYL-	49	112	0-00-0	22.230	2467009	8.04	0.0804	16.08	NJ
2-Heptyne	49	96	1119-65-9	22.843	24325193	79.26	0.7926	184.94	NJ
2-Hexanone	49	100	591-78-6	22.951	11323024	36.90	0.3690	82.65	NJ
2-Octene, (Z)-	49	112	7642-04-8	23.080	10699256	34.86	0.3486	69.73	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.285	46359881	151.06	1.5106	296.82	NJ
Hexanal	49	100	66-25-1	23.479	1062369	3.46	0.0346	7.75	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.952	51500168	167.81	1.6781	335.62	NJ
Unknown Alkene/Cycloalkane	49	0		24.297	3831881	12.49	0.1249		J
3-Heptene, 3-methyl-	49	112	7300-03-0	24.448	12430076	40.50	0.4050	81.00	NJ
2-Octene	49	112	111-67-1	24.749	5259049	17.14	0.1714	34.27	NJ
2-HEPTENE, 3-METHYL-	49	112	0-00-0	25.018	10265337	33.45	0.3345	66.90	NJ
2-Octene, (Z)-	49	112	7642-04-8	25.266	5263536	17.15	0.1715	34.30	NJ
3-Hexanone, 5-methyl-	49	114	623-56-3	25.589	3118591	10.16	0.1016	19.97	NJ
Unknown C8 Alkane (mw 114)	49	0		27.764	4442033	14.47	0.1447		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
3-Heptanone	49	114	106-35-4	28.108	121247451	395.08	3.9508	776.29	NJ
2-Heptanone	49	114	110-43-0	28.216	46318967	150.93	1.5093	296.56	J
Butane, 1,1'-oxybis-	49	130	142-96-1	28.431	12821785	41.78	0.4178	71.99	NJ
3-Heptanol	59	116	589-82-2	28.722	26592071	99.94	0.9994	193.00	NJ
2-Heptanol, (S)-	59	116	6033-23-4	28.851	3545579	13.33	0.1333	25.73	NJ
Cyclopropane, 1-methyl-2-pentyl-	59	126	41977-37-1	29.131	4277563	16.08	0.1608	28.58	NJ
1,3-Diethyl-1,4-epoxybutane	59	128		30.972	25347321	95.27	0.9527	166.72	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.091	33755900	126.87		1.2687	J
1,2-Diethyl-1,4-epoxybutane	59	128		31.177	29951072	112.46	1.1246	196.80	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.467	32906889	123.68	1.2368		J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.629	7879914	29.62	0.2962		J
Heptanenitrile	59	111	629-08-3	32.006	8381387	31.50	0.3150	63.57	NJ
4-Octanone	59	128	589-63-9	32.350	6337800	23.82	0.2382	41.69	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		32.555	2376910	8.93	0.0893		J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		32.770	1260528	4.74	0.0474		J
2-Octanone	59	128	111-13-7	33.072	3615018	13.59	0.1359	23.78	NJ
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	59	140	19899-39-9	33.201	2809891	10.56	0.1056	16.90	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		33.373	1130122	4.25	0.0425		J
Unknown C9 Alkane (mw 128)	59	0		33.502	1351982	5.08	0.0508		J
Unknown hydrocarbon (mw=138)	59	0		33.739	20477798	76.96	0.7696		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		33.858	3495840	13.14	0.1314		J
1-Hexanol, 2-methyl-	59	130	104-76-7	34.977	25560259	96.07	0.9607	165.53	NJ
Decane, 4-methyl-	59	156	2847-72-5	35.483	7597701	28.56	0.2856	41.00	NJ
Cyclohexane, (2-methylpropyl)-	59	140	1678-98-4	36.302	5525343	20.77	0.2077	33.23	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		36.592	2190993	8.23	0.0823		J
Octanenitrile	59	125	124-12-9	36.700	3225114	12.12	0.1212	21.72	NJ
Unknown C11 Alkane (mw 156)	59	0		36.894	2007079	7.54	0.0754		J
Unknown C11 Alkane (mw 156)	59	0		37.088	1893689	7.12	0.0712		J
Decane, 2-methyl-	59	156	6975-98-0	37.206	1220132	4.59	0.0459	6.58	NJ
1-Ethyl-2,2,6-trimethylcyclohexane	59	154	0-00-0	37.335	1802371	6.77	0.0677	9.85	NJ
Decane, 3-methyl-	59	156	13151-34-3	37.529	1537567	5.78	0.0578	8.30	NJ
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.820	3449705	12.97	0.1297	21.05	NJ
Unknown hydrocarbon (mw=152)	59	0		38.056	1202323	4.52	0.0452		J
Unknown hydrocarbon	59	0		38.218	4358605	16.38	0.1638		J
Unknown C12 Alkene/Cycloalkane (mw 168)	59	0		39.187	3483087	13.09	0.1309		J
Unknown C12 Alkane (mw 170)	59	0		39.510	2220349	8.35	0.0835		J
Undecane, 5-methyl-	59	170	1632-70-8	39.951	1338849	5.03	0.0503	6.63	NJ
Unknown Alkyl Decahydronaphthalene	59	0		40.242	2703618	10.16	0.1016		J
Cyclohexane, pentyl-	59	154	4292-92-6	40.684	1490534	5.60	0.0560	8.15	NJ
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.974	3292875	12.38	0.1238	18.24	NJ
Decane, 2,9-dimethyl-	59	170	1002-17-1	41.330	1625207	6.11	0.0611	8.05	NJ
Naphthalene, decahydro-1,5-dimethyl-	59	166	66552-62-3	43.106	863880	3.25	0.0325	4.38	NJ
Naphthalene, decahydro-2,6-dimethyl-	59	166	1618-22-0	43.224	790979	2.97	0.0297	4.01	NJ
Undecane, 2,6-dimethyl-	59	184	17301-23-4	43.332	6284609	23.62	0.2362	28.76	NJ
Unknown Alkyl Decahydronaphthalene	59	0		44.312	1176872	4.42	0.0442		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	30915834
Difluorobenzene (IS)	34	32478872
D5-Chlorobenzene (IS)	49	34065571

E01 4-17

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/01/99 13:58

18122604.D

Page 4

E01 448

HP MS 18122604.D

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18122604.D

E01 449

HP MS 18122604.D

HNF-4073
Rev. 0

Sample Info : VP006-127.C295; postshutdown; 200 ml; 2X

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

E01 451

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Dichlorodifluoromethane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

2 Chloromethane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

4 Methanol

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Acetonitrile

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017,C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

E01 458

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

E01 460

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

16 Methylene Chloride

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanenitrile

E01 463

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017,C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

21 2-Butanone

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

E01 466

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

29 Butanenitrile

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

30 1-Butanol

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

E01 471

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

33 Cyclohexane

E01 472

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

37 Heptane

E01 473

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

39 4-Methyl-2-Pentanone

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 Pyridine

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpds01.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

42 Pentanenitrile

E01 476

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

43 1,1,2-Trichloroethane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017,C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Toluene

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

46 Octane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

48 Tetrachloroethylene

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

51 Hexanenitrile

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

52 Ethylbenzene

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

54 Cyclohexanone

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

56 1,1,2,2-Tetrachloroethane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

58 Nonane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

63 Decane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

67 Undecane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235: 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

69 Dodecane

E01 488

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.1

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

71 Tridecane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

72 Tetradecane

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115913	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44

Date: 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	86	C3H6	42

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	74	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017,C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.1	62260	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	90	C3H6	42
Propene	115-07-1	nbs75k.1	62258	83	C3H6	42

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	WILEY138.1	115917	9	C2H4O	44
Isobutane	75-28-5	nbs75k.1	62335	12	C4H10	58
Propane, 2-methyl-	75-28-5	WILEY138.1	116081	12	C4H10	58

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	90	C4H8	56

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene	106-98-9	nbs75k.1	62307	86	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	86	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	86	C4H8	56

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (E)-	624-64-6	nbs75k.1	62301	74	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	90	C4H8	56

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235: 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butane, 2-methyl-	78-78-4	nbs75k.1	62517	86	C5H12	72
Butane, 2-methyl-	78-78-4	nbs75k.1	62518	56	C5H12	72
Propiolactone	57-57-8	nbs75k.1	254	38	C3H4O2	72

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	nbs75k.1	230	91	C5H10	70
1-Pentene	109-67-1	WILEY138.1	116331	91	C5H10	70
1-Pentene	109-67-1	nbs75k.1	62466	90	C5H10	70

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	91	C5H10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	62467	90	C5H10	70
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62457	90	C5H10	70

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (E)-	646-04-8	nbs75k.1	233	87	CEH10	70
1-Butene, 2-methyl-	563-46-2	WILEY138.1	116339	94	CEH10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	62467	91	CEH10	70

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Spiropentane	157-40-4	nbs75k.l	62414	50	C5H8	68
1-Pentyne	627-19-0	nbs75k.l	190	46	C5H8	68
Spiropentane	157-40-4	nbs75k.l	187	38	C5H8	68

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Pentene, (Z)-	627-20-3	nbs75k.1	224	78	C5H10	70
2-Butene, 2-methyl-	513-35-9	nbs75k.1	228	86	C5H10	70
2-Pentene	109-68-2	nbs75k.1	231	86	C5H10	70

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.1	230	90	C5H10	70
1-Pentene	109-67-1	WILEY138.1	116331	90	C5H10	70
Cyclopropane, ethyl-	1191-96-4	nbs75k.1	227	86	C5H10	70

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

1-Pentene, 4-methyl-
1-Propene, 2-methyl-
2-Butene, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
691-37-2	nbs75k.1	599	49	C6H12	84
115-11-7	nbs75k.1	62305	46	C4H8	56
624-64-6	nbs75k.1	62301	43	C4H8	56

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Silanol, trimethyl-
Silanol, trimethyl-
1,1-Dimethoxyoctane

CAS Number	Library	Entry	Quality	Formula	Weight
1066-40-6	nbs75k.1	62980	81	C3H10OSi	90
1066-40-6	nbs75k.1	907	64	C3H10OSi	90
0-00-0	nbs75k.1	16254	56	C10H22O2	174

F01 508

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2-methyl-	107-83-5	nbs75k.1	733	90	C6H14	86
Pentane, 2-methyl-	107-83-5	nbs75k.1	62863	87	C6H14	86
Pentane, 2-methyl-	107-83-5	WILEY138.1	106	87	C6H14	86

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62486	90	C4H8O	72
Butanal	123-72-8	WILEY138.1	116378	90	C4H8O	72
Butanal	123-72-8	WILEY138.1	116384	83	C4H8O	72

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdosl.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 3-methyl-	96-14-0	nbs75k.1	62868	78	C6H14	86
1-Hexene, 4-methyl-	3769-23-1	nbs75k.1	1338	64	C7H14	98
1-Butanol, 2-methyl-	137-32-6	nbs75k.1	62948	56	C6H12O	88

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdosl.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62755	95	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84

E01 512

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.1

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Hexadiene, (Z)-	7318-67-4	nbs75k.1	486	81	C6H10	82
1,3-Pentadiene, 2-methyl-	1118-58-7	nbs75k.1	482	81	C6H10	82
(Z),(Z)-CH3CH=CHCH=CHCH3	6108-61-8	nbs75k.1	493	81	C6H10	82

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017,C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene, (E)-	4050-45-7	nbs75k.1	62751	30	C6H12	84
Nitric acid, ethyl ester	625-58-1	nbs75k.1	63011	43	C2H5NO3	91
Nitric acid, ethyl ester	625-58-1	WILEY138.1	117401	43	C2H5NO3	91

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1,4-Pentadiene, 3-methyl-
Cyclopentene, 4-methyl-
Cyclopentene, 3-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
1115-08-8	nbs75k.1	494	90	C6H10	82
1759-81-5	nbs75k.1	473	90	C6H10	82
1120-62-3	nbs75k.1	62678	87	C6H10	82

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexene	592-43-8	nbs75k.1	62759	86	C6H12	84
2-Hexene, (E)-	4050-45-7	nbs75k.1	62752	64	C6H12	84
3-Hexene, (E)-	13269-52-8	nbs75k.1	62750	64	C6H12	84

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017,C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitrous acid, butyl ester	544-16-1	nbs75k.1	1816	17	C4H9NO2	103
Nitrous acid, butyl ester	544-16-1	WILEY138.1	118379	25	C4H9NO2	103
Acetic acid	64-19-7	WILEY138.1	116121	37	C2H4O2	60

E01 517

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	598	80	C6H12	84
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	62768	74	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	64	C6H12	84

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclobutane, ethyl-	4806-61-5	nbs75k.1	604	64	C6H12	84
Cyclobutane, ethyl-	4806-61-5	nbs75k.1	62775	59	C6H12	84
Cyclobutane	287-23-0	nbs75k.1	80	50	C4H8	56

E01 519

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopentane, methyl-	96-37-7	nbs75k.1	594	91	C6H12	84
Cyclohexane	110-82-7	nbs75k.1	62777	83	C6H12	84
Cyclohexane	110-82-7	nbs75k.1	62776	78	C6H12	84

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	62902	91	C4H8O2	88
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	62903	91	C4H8O2	88
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	803	87	C4H8O2	88

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2,4-dimethyl-	108-08-7	nbs75k.1	63424	50	C7H16	100
1-Hexene, 4-methyl-	3769-23-1	nbs75k.1	63246	43	C7H14	98
1-Hexene	592-41-6	nbs75k.1	62754	43	C6H12	84

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Butanenitrile, 2-methylene-
1,3-Dioxane
1,3-Dioxane

CAS Number	Library	Entry	Quality	Formula	Weight
1647-11-6	nbs75k.1	445	56	C6H7N	81
505-22-6	nbs75k.1	62910	50	C4H8O2	88
505-22-6	nbs75k.1	62909	50	C4H8O2	88

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)	14686-14-7	nbs75k.1	1339	22	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	83	C7H14	98
(Z)-(CH3)2CHCH2CH=CHCH3	13151-17-2	nbs75k.1	1353	68	C7H14	98

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235: 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
589-34-4	nbs75k.1	63422	72	C7H16	100
589-34-4	nbs75k.1	63423	59	C7H16	100
137-32-6	nbs75k.1	62949	47	C5H12O	88

Hexane, 3-methyl-

Hexane, 3-methyl-

1-Butanol, 2-methyl-

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C8 Alkane (mw 114)

1,3-DIOXOLANE, 2-CHLOROMETHYL-4-METHYL-

1,3-Dioxane

1,3-Dioxane

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	7703	50	C5H9ClO2	136
505-22-6	nbs75k.1	62910	43	C4H8O2	88
505-22-6	nbs75k.1	808	43	C4H8O2	88

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	WILEY138.1	117780	95	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	94	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117782	94	C7H14	98

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	91	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	90	C7H14	98

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	91	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	91	C7H14	98
3-Heptene	592-78-9	nbs75k.1	1339	91	C7H14	98

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	97	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	97	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Formic acid, butyl ester	592-84-7	nbs75k.1	63512	86	CEH1002	102
1-Butanol	71-36-3	nbs75k.1	62579	72	C4H10O	74
Formic acid, butyl ester	592-84-7	nbs75k.1	63511	64	CEH1002	102

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	96	C7H14	98
2-Heptene, (E)-	14686-13-6	WILEY138.1	117784	96	C7H14	98

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Heptadiene	5675-22-9	nbs75k.1	1149	83	C7H12	96
2,3-Hexadiene, 2-methyl-	29212-09-7	nbs75k.1	1147	76	C7H12	96
2,3-Hexadiene, 2-methyl-	29212-09-7	WILEY138.1	622	76	C7H12	96

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octene, (E)-	14850-23-8	nbs75k.1	64042	59	C8H16	112
Cyclohexanone, 4-methyl-	589-92-4	nbs75k.1	63958	58	C7H12O	112
4-Octene, (Z)-	7642-15-1	nbs75k.1	63990	53	C8H16	112

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	98	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	97	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	97	C7H12	96

E01 535

HNF-4073
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E01 536

Data File: /chem/hpdos1.i/18122602.b/18122605.D

Page 86

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: WP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	1556	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117990	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117993	86	C6H12O	100

E01 537-A

HNF-4073
R0

Data File: /chem/hpdos1.i/18122602.b/18122605.D

Page 87

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	72	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119059	83	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	80	C8H16	112

E01 537-B

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	91	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119371	91	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	90	C8H18	114

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64032	72	CEH16	112
Unknown C8 Alkene/Cycloalkane (mw 112)			0	0		0
Cyclopropane, 1,1-dimethyl-	1630-94-0	WILEY138.1	116342	87	CEH10	70

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C8 Alkene/Cycloalkane (mw 112)

1-Azabicyclo[3.1.0]hexane

4-Ethyl-2-hexene

3-Hexene, 2,3-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
285-76-7	nbs75k.1	517	50	C8H9N	83
19780-46-2	nbs75k.1	2685	50	C8H16	112
7145-23-5	nbs75k.1	2649	39	C8H16	112

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C8 Alkene/Cycloalkane (mw 112)

	CAS Number	Library	Entry	Quality	Formula	Weight
Oxonane	6573-50-8	nbs75k.1	5109	72	C8H16O	128
Oxonane	6573-50-8	WILEY138.1	6031	72	C8H16O	128
4-Heptenal, (Z)-	6728-31-0	nbs75k.1	63961	58	C7H12O	112

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
3-HEXENE, 3-ETHYL-	0-00-0	WILEY138.1	2676	87	C ₈ H ₁₆	112
2-PENTENE, 3-ETHYL-4-METHYL-	0-00-0	WILEY138.1	2691	86	C ₈ H ₁₆	112
2-PENTENE, 3-ETHYL-2-METHYL-	0-00-0	WILEY138.1	2690	86	C ₈ H ₁₆	112

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63998	95	C8H16	112
2-Octene	111-67-1	WILEY138.1	119055	95	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	C8H16	112

E01.543

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-HEPTENE, 3-METHYL-	0-00-0	WILEY138.1	2651	95	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64033	83	C8H16	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	83	C8H16	112

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	93	C8H16	112
2-Octene, (Z)-	7642-04-8	WILEY138.1	2640	93	C8H16	112
3-Octene, (E)-	14919-01-8	nbs75k.1	64021	90	C8H16	112

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	3065	64	C7H14O	114
3-Hexanone, 5-methyl-	623-56-3	nbs75k.1	64194	52	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64173	52	C7H14O	114

E01 546

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, pentyl-	2511-91-3	nbs75k.1	2656	83	C8H16	112
1-Hexene	592-41-6	nbs75k.1	62754	58	C6H12	84
Cyclobutane, 1,2-diethyl-	61141-83-1	nbs75k.1	64009	53	C8H16	112

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C8 Alkane (mw 114)

Cyclobutane, 1,2-diethyl-, cis-

Cyclobutane, 1,2-diethyl-, trans-

1-Hexene

CAS Number	Library	Entry	Quality	Formula	Weight
61141-50-2	nbs75k.1	2733	53	C8H16	112
19341-98-1	nbs75k.1	2701	50	C8H16	112
592-41-6	nbs75k.1	62753	50	C6H12	84

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C9 Alkane (mw 128)
Heptane, 2,6-dimethyl-
Heptane, 2,6-dimethyl-
6-Dodecanone

CAS Number	Library	Entry	Quality	Formula	Weight
1072-05-5	nbs75k.1	5156	50	C9H20	128
1072-05-5	nbs75k.1	65137	46	C9H20	128
6064-27-3	nbs75k.1	68998	38	C12H24O	184

001 5A9

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Furan, tetrahydro-2,2,5,5-tetramethyl-	15045-43-9	nbs75k.l	65056	9	C8H16O	128
Unknown C9 Alkene/Cycloalkane (mw 126)			0	0		0
Furan, tetrahydro-2,2,4,4-tetramethyl-	3358-28-9	nbs75k.l	5062	33	C8H16O	128

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	WILEY138.1	119309	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64174	90	C7H14O	114

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119301	90	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	64165	83	C7H14O	114
2-Hexanone, 5-methyl-	110-12-3	nbs75k.1	64147	78	C7H14O	114

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	64	C8H18O	130
n-Butyl ether	142-96-1	nbs75k.1	65307	50	C8H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121219	50	C8H18O	130

E01 553

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64381	90	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	3383	83	C7H16O	116
3-Hexanol, 5-methyl-	623-55-2	nbs75k.1	64371	83	C7H16O	116

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
Cyclohexane, 1-ethyl-4-methyl-, trans-	6236-88-0	nbs75k.1	4672	38	C9H18	126
1-Ethyl-3-methylcyclohexane (c,t)	3728-55-0	nbs75k.1	4658	38	C9H18	126
2-Cyclopenten-1-one, 3,4,4-trimethyl-	30434-65-2	nbs75k.1	4178	38	C8H12O	124

E01 555

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		WILEY138.1	117824	53		128
1-Ethylcyclohexanol	1940-18-7	WILEY138.1	6017	53	C8H16O	128
1,1'-Bicyclohexyl-1,1'-diol	2888-11-1	nbs75k.1	22423	50	C12H22O2	198

E01 556

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)

1-Hexyn-3-ol

trans-4,4-Dimethyl-2-hexene

1-Methyl-2-cyclopenten-1-ol

CAS Number	Library	Entry	Quality	Formula	Weight
105-31-7	nbs75k.1	1263	64	C6H10O	98
19550-83-5	nbs75k.1	2688	59	C8H16	112
40459-88-9	WILEY138.1	844	56	C6H10O	98

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		WILEY138.1	33981	56		128
Glycocyanidine	503-86-6	nbs75k.1	1373	64	C3H5N3O	99
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	64	C6H13BO2	128

E01 558

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

2(5H)-FURANONE, 4,5,5-TRIMETHYL-

3-Octen-2-one, (E)-

Oxazole, trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
0-00-0	WILEY138.1	5202	50	C7H10O2	126
18402-82-9	nbs75k.1	4533	40	C8H14O	126
20662-84-4	WILEY138.1	2343	40	C6H9NO	111

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	5098	43	C ₉ H ₁₆ O	128
Hexanal, 2-ethyl-	123-05-7	WILEY138.1	120843	43	C ₉ H ₁₆ O	128
2-Butene, 1-butoxy-, (E)-	56052-72-3	nbs75k.1	5125	38	C ₈ H ₁₆ O	128

E01 560

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.1	66211	45	C10H22	142
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.1	66212	42	C10H22	142
Tridecane, 2,2,4,10,12,12-hexamethyl-7-(	3035-75-4	nbs75k.1	53459	40	C28H58	394

E01 561

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63907	83	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63908	78	C7H13N	111
Heptanenitrile	629-08-3	nbs75k.1	63909	53	C7H13N	111

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Octanone	589-63-9	nbs75k.1	65060	50	C ₈ H ₁₆ O	128
4-Octanone	589-63-9	nbs75k.1	5058	43	C ₈ H ₁₆ O	128
4-Octanone	589-63-9	nbs75k.1	65062	38	C ₈ H ₁₆ O	128

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkane (mw 142)						
Octane, 4-ethyl-	15869-86-0	nbs75k.l	8095	64	C10H22	142
Nonane, 2,5-dimethyl-	17302-27-1	nbs75k.l	11616	42	C11H24	156
Heptane, 3-ethyl-2-methyl-	14676-29-0	nbs75k.l	66211	38	C10H22	142

E01 564

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)
Nonane, 2-methyl-
Hexane, 2-methyl-
Nonane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
871-83-0	nbs75k.1	66220	38	C10H22	142
591-76-4	nbs75k.1	63434	35	C7H16	100
871-83-0	nbs75k.1	8093	32	C10H22	142

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	13427-43-5	nbs75k.1	7580	55		126
2-Octene, 2,6-dimethyl-	4057-42-5	nbs75k.1	66054	70	C10H20	140
2-Octene, 2,6-dimethyl-	4057-42-5	WILEY138.1	122507	70	C10H20	140

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
1,2-Nonadiene	22433-33-6	nbs75k.1	4223	33	C9H16	124
1,2-Nonadiene	22433-33-6	WILEY138.1	120434	33	C9H16	124
Hexanenitrile	628-73-9	nbs75k.1	63154	9	C6H11N	97

E01 567

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
2-Decene, (Z)-	20348-51-0	nbs75k.l	66058	64	C10H20	140
Cyclopropane, 1-heptyl-2-methyl-	74663-91-5	nbs75k.l	11088	80	C11H22	154
trans-3-Decene	19150-21-1	nbs75k.l	7561	78	C10H20	140

E01 568

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)
1H-Indene, octahydro-, cis-
Bicyclo[3.3.1]nonane
1H-Indene, octahydro-5-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
4551-51-3	nbs75k.1	64811	93	C9H16	124
280-65-9	nbs75k.1	64809	46	C9H16	124
19744-64-0	nbs75k.1	7074	38	C10H18	138

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.1

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	5518	78	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121193	78	C8H18O	130

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
3-Decanethiol
1-Decanol, 2-ethyl-
Cyclodecane, methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
56009-26-8	nbs75k.1	16276	55	C10H22S	174
21078-65-9	nbs75k.1	19527	49	C12H26O	186
13151-43-4	nbs75k.1	11079	42	C11H22	154

E01 571-E01 570

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	67323	90	C11H24	156
Decane, 4-methyl-	2847-72-5	WILEY138.1	15626	90	C11H24	156
Nonane, 2,6-dimethyl-	17302-28-2	nbs75k.1	11598	78	C11H24	156

E01 572

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown hydrocarbon

1-Decanol, 5,9-dimethyl-

Butanoic acid, 3-hydroxy-3-methyl-

3-Heptanol

CAS Number	Library	Entry	Quality	Formula	Weight
91482-38-1	nbs75k.1	19520	25	C12H26O	186
625-08-1	nbs75k.1	3506	17	CFH10O3	118
589-82-2	nbs75k.1	3383	16	C7H16O	116

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	7565	74	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	WILEY138.1	9503	74	C10H20	140
Cyclohexane, butyl-	1678-93-9	WILEY138.1	122508	74	C10H20	140

E01 574

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkene/Cycloalkane (mw 154)						
1-Heptadecene	6765-39-5	nbs75k.1	31657	72	C17H34	238
5-Eicosene, (E)-	74685-30-6	nbs75k.1	39520	72	C20H40	280
trans-1,3-Diethylcyclopentane	0-00-0	nbs75k.1	4618	46	C9H18	126

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

1,15-Pentadecanediol

CAS Number

Library

Entry

Quality

Formula

Weight

7-Azabicyclo[4.1.0]heptane, 1-methyl-

0-00-0

nbs75k.1

32774

90

C15H32O2

244

1-Eicosyne

25022-25-7

nbs75k.1

2429

60

C7H13N

111

765-27-5

nbs75k.1

39228

58

C20H38

278

E01 576

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
Undecane, 5,6-dimethyl-
Dodecane, 3-methyl-
Nonanal

CAS Number	Library	Entry	Quality	Formula	Weight
17615-91-7	nbs75k.1	19004	43	C13H28	184
17312-57-1	nbs75k.1	19011	38	C13H28	184
124-19-6	nbs75k.1	66173	38	C9H18O	142

E01 577

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Nonane, 3-methyl-5-propyl-

Hexane, 3,3-dimethyl-

Hexane, 3,3-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
31081-18-2	nbs75k.1	19054	72	C13H28	184
563-16-6	nbs75k.1	64223	72	C8H18	114
563-16-6	nbs75k.1	3095	64	C8H18	114

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Ethyl-2,2,6-trimethylcyclohexane	0-00-0	nbs75k.1	11030	94	C11H22	154
Cyclohexane, 1,1-dimethyl-2-propyl-	81983-71-3	nbs75k.1	11086	87	C11H22	154
Cyclopropane, 1-butyl-1-methyl-2-propyl-	41977-34-8	nbs75k.1	11034	59	C11H22	154

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3-methyl-	13151-34-3	nbs75k.1	67315	50	C11H24	156
Unknown C11 Alkene/Cycloalkane (mw 154)			0	0		0
Octane, 3-ethyl-2,7-dimethyl-	62183-55-5	nbs75k.1	15359	53	C12H26	170

E01 580

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65955	98	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	7108	97	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.1	65956	96	C10H18	138

E01 581

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 152)

4,7-Methano-1H-inden-1-ol, octahydro-

Cyclohexene, 1-ethyl-

Cyclohexane, ethylidene-

CAS Number	Library	Entry	Quality	Formula	Weight
55255-97-5	nbs75k.1	10376	87	C10H16O	152
1453-24-3	nbs75k.1	2370	46	C8H14	110
1003-64-1	nbs75k.1	2350	46	C8H14	110

E01 582

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown hydrocarbon

5-Undecene, (E)-

1-Undecene

1-Undecene

CAS Number	Library	Entry	Quality	Formula	Weight
764-97-6	nbs75k.1	67184	64	C11H22	154
821-95-4	nbs75k.1	67190	60	C11H22	154
821-95-4	nbs75k.1	67189	55	C11H22	154

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown hydrocarbon (mw=166)
Cyclooctyl bromide
4-Octene, 2,3,6-trimethyl-
Triallylsilane

CAS Number	Library	Entry	Quality	Formula	Weight
1556-09-8	nbs75k.1	20204	49	C ₈ H ₁₅ Br	190
63830-65-9	nbs75k.1	11063	43	C ₁₁ H ₂₂	154
0-00-0	nbs75k.1	10280	38	C ₉ H ₁₆ Si	152

E01 584

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C11 Alkene/Cycloalkane (mw 154)

17-Pentatriacontene

Octadecane, 1-(ethenylloxy)-

5-Eicosene, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
6971-40-0	nbs75k.1	58705	58	C35H70	491
930-02-9	nbs75k.1	42184	49	C20H40O	296
74685-30-6	nbs75k.1	39520	38	C20H40	280

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C11 Alkene/Cycloalkane (mw 154)
2,6-Dimethyldecane
Octane, 2-methyl-
Tetratetracontane

CAS Number	Library	Entry	Quality	Formula	Weight
13150-81-7	nbs75k.1	15357	59	C12H26	170
3221-61-2	nbs75k.1	65117	59	C8H20	128
7098-22-8	nbs75k.1	74745	53	C44H90	619

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkene/Cycloalkane (mw 154)						
Cyclohexanone, 5-methyl-2-(1-methylethen	29606-79-9	nbs75k.1	10359	64	C10H16O	152
Cyclohexanone, 2-methyl-5-(1-methylethen	5948-04-9	nbs75k.1	66973	55	C10H16O	152
Ethylidenecyclooctane	19780-51-9	nbs75k.1	65945	53	C10H18	138

E01 587

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Nonane, 5-methyl-5-propyl-

Ether, hexyl pentyl-

Nonane, 3,7-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
17312-75-3	nbs75k.1	19057	59	C13H28	184
32357-83-8	nbs75k.1	15858	59	C11H24O	172
17302-32-8	nbs75k.1	11601	59	C11H24	156

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.l	67009	94	C11H20	152
Pulegone	69-82-7	nbs75k.l	66994	87	C10H16O	152
Cyclohexanone, 5-methyl-2-(1-methylethyl)	15932-80-6	nbs75k.l	10356	83	C10H16O	152

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	67185	93	C11H22	154
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	87	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	87	C11H22	154

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.l	67009	97	C11H20	152
Unknown Alkyl Decahydronaphthalene			0	0		0
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.l	67008	97	C11H20	152

E01 591 ~~E01 629~~

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	67185	93	C11H22	154
Cyclohexane, pentyl-	4292-92-6	nbs75k.1	11044	87	C11H22	154
n-Amylcyclohexane	29949-27-7	nbs75k.1	11054	87	C11H22	154

E01 592

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	97	C11H20	152
Unknown Alkyl Decahydronaphthalene			0	0		0
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	97	C11H20	152

E01 593

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C12 Alkene/Cycloalkane (mw 168)
Butane, 1-bromo-3-methyl-
1-Nonene, 4,6,8-trimethyl-
Cyclohexane, 1,2,3-trimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
107-82-4	nbs75k.1	66676	38	C5H11Br	150
54410-98-9	nbs75k.1	14791	35	C12H24	168
1678-97-3	nbs75k.1	4646	30	C9H18	126

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C12 Alkane (mw 170)						
Decane, 2,9-dimethyl-	1002-17-1	nbs75k.l	15361	78	C12H26	170
Undecane, 2-methyl-	7045-71-8	nbs75k.l	15356	72	C12H26	170
Dodecane, 2-methyl-	1560-97-0	nbs75k.l	19039	64	C13H28	184

E01 595

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 3-methyl-	1002-43-3	nbs75k.l	15362	78	C12H26	170
Dodecane, 3-methyl-	17312-57-1	nbs75k.l	69025	64	C13H28	184
Undecane, 2,9-dimethyl-	17301-26-7	nbs75k.l	18994	59	C13H28	184

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Spiro[3,5]nonan-1-one, 5-methyl-, trans-	65147-56-0	nbs75k.1	10377	68	C10H16O	152
Cyclohexanone, 5-methyl-2-(1-methylethyl)	15932-80-6	nbs75k.1	10356	53	C10H16O	152
Cyclohexene, 1-pentyl-	15232-95-6	nbs75k.1	10428	49	C11H20	152

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69033	97	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	WILEY138.1	27745	97	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	96	C13H28	184

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
1,4 Benzodioxan-6-amine	22013-33-8	nbs75k.l	9985	47	C8H9NO2	151
cis,trans-1,10-Dimethylspiro[4,5]decane	0-00-0	nbs75k.l	14138	43	C12H22	166
Cyclododecene	1501-82-2	nbs75k.l	14161	39	C12H22	166

Date : 09-NOV-1998 02:52

Client ID: 200 ml

Sample Info: VP006-017.C235; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	18489	95	C13H26	182
Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	nbs75k.1	68867	93	C13H26	182
1.alpha.,2.beta.,3.alpha.,4.beta.-Tetram	2532-67-4	nbs75k.1	4632	58	C9H18	126

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-017.C235; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2 53097.m
 File : 18122605.D
 Injection Date : 09-NOV-1998 02:52 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP006-017.C235
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.657	4.667	30403	0.36	0.0036	0.68	J
Chloromethane	23	50.49	5.034	5.044	10030	0.14	0.0014	0.60	J
12dichloro1122-tetrafluoroeth	23	170.92	5.249				0.0065	0.85	U
Methanol	23	32.04	5.389	5.410	942609	17.55	0.1755	122.70	
Vinyl Chloride	23	62.50	5.540				0.0008	0.29	U
Butane	23	58.12	5.960	5.959	6443391	354.28	3.5428	1365.42	E
Bromomethane	23	94.94	6.434				0.0026	0.61	U
Chloroethane	23	64.51	6.778				0.0027	0.94	U
Ethanol	23	46.01	6.983	6.950	2237915	43.86	0.4386	213.53	
Acetonitrile	23	41.05	7.446	7.456	140608	2.72	0.0272	14.84	
Acetone	23	58.08	7.930	7.930	2843208	19.61	0.1961	75.63	
Trichlorofluoromethane	23	137.37	8.318	8.317	166573	2.77	0.0277	4.52	
Pentane	23	72.15	8.985	8.985	3104152	25.40	0.2540	78.86	
1,1-Dichloroethene	23	96.94	9.534				0.0019	0.44	U
Methylene Chloride	23	84.93	9.718	9.717	14642	0.43	0.0043	1.13	J
112trichloro122trifluoroethane	23	187.38	10.202	10.201	11175	0.35	0.0035	0.42	J
Propanenitrile	23	55.08	10.966	10.934	292185	5.36	0.0536	21.80	
Propanol	23	60.10	10.956	10.944	303453	4.82	0.0482	17.95	
1,1-Dichloroethane	23	98.96	11.849				0.0010	0.23	U
2-Butanone	23	72.11	12.495	12.484	254947	7.16	0.0716	22.23	
cis-1,2-Dichloroethene	23	96.94	13.367				0.0017	0.39	U
Hexane	23	86.18	13.733	13.722	1804447	26.28	0.2628	68.32	
Chloroform	23	119.38	13.906	13.884	14503	0.22	0.0022	0.42	J
Tetrahydrofuran	23	72.11	14.649	14.659	56358	1.96	0.0196	6.10	
1,2-Dichloroethane	34	98.96	15.316				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.822				0.0016	0.27	U
Butanenitrile	34	69.11	15.811	15.779	1055501	6.54	0.0654	21.19	
1-Butanol	34	74.12	16.285	16.274	1190711	44.91	0.4491	135.74	
Benzene	34	78.11	16.705	16.694	150895	0.75	0.0075	2.15	J
Carbon Tetrachloride	34	153.82	16.996				0.0017	0.25	U
Cyclohexane	34	84.16	17.254	17.254	62543	0.90	0.0090	2.39	J
1,2-Dichloropropane	34	112.99	18.277				0.0015	0.30	U
Trichloroethene	34	131.39	18.718				0.0012	0.20	U

02/02/99 10:31

18122605.D

Page 1

E01 601

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
Heptane	34	100.20	19.214	19.213	3862786	64.04	0.6404	143.15	
cis-1,3-Dichloropropene	34	110.97	20.398				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.409	20.387	156534	2.26	0.0226	5.07	
Pyridine	34	79.10	20.602	20.753	50794	1.82	0.0182	5.15	J
trans-1,3-Dichloropropene	34	110.97	21.464				0.0009	0.18	U
Pentanenitrile	34	83.13	21.496	21.474	474281	8.46	0.0846	22.80	
1,1,2-Trichloroethane	34	133.40	21.905	21.915	30436	0.73	0.0073	1.23	J
Toluene	49	92.14	22.551	22.551	607208	6.31	0.0631	15.33	
1,2-Dibromoethane	49	187.86	24.080				0.0026	0.31	U
Octane	49	114.23	24.618	24.618	527778	11.72	0.1172	22.98	
Bromoform	49	175.00	28.279				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.114	25.113	8469	0.25	0.0025	0.34	J
Chlorobenzene	49	112.56	26.718				0.0013	0.26	U
Hexanenitrile	49	97.13	26.976	26.954	248464	4.28	0.0428	9.87	
Ethylbenzene	49	106.17	27.590	27.579	37951	0.22	0.0022	0.46	J
p/m-Xylene	49	106.17	28.021				0.0065	1.37	U
Cyclohexanone	49	98.14	28.440	28.397	73213	2.67	0.0267	6.10	J
Styrene	59	104.15	28.936				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162	29.118	54075	1.04	0.0104	1.38	J
o-Xylene	59	106.17	29.237				0.0014	0.30	U
Nonane	59	128.26	29.679	29.678	999880	9.58	0.0958	16.74	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.855				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.114				0.0013	0.24	U
Decane	59	142.28	34.362	34.351	2360954	37.06	0.3706	58.35	
1,3-Dichlorobenzene	59	147.00	34.631				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.836				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.956				0.0009	0.14	U
Undecane	59	156.31	38.690	38.679	1392509	105.27	1.0527	150.86	
1,2,4-Trichlorobenzene	59	181.45	42.189				0.0014	0.17	U
Dodecane	59	170.34	42.717	42.706	1776388	115.23	1.1523	151.53	
Hexachloro-1,3-butadiene	59	260.76	44.020	44.019	9209	0.51	0.0051	0.43	J
Tridecane	59	184.36	46.474	46.463	2214648	133.90	1.3390	162.69	
Tetradecane	59	198.34	50.178	50.048	25026	58.28	0.5828	65.81	
Bromochloromethane (IS)	23	129.38	13.680	13.668	4054480	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.265	17.254	14730961	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.610	26.599	11671371	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.421	7295715	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Carbon dioxide	23	44	124-38-9	3.927	4534698	21.73	0.2173	110.60	NJ
Propene	23	42	115-07-1	4.495	15266075	73.14	0.7314	390.08	NJ
Propane	23	44	74-98-6	4.549	12036932	57.67	0.5767	293.59	NJ
Cyclopropane	23	42	75-19-4	5.098	1038302	4.97	0.0497	26.53	NJ
Acetaldehyde	23	44	75-07-0	5.324	1415142	6.78	0.0678	34.52	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.766	20126394	96.43	0.9643	385.71	NJ
1-Butene	23	56	106-98-9	6.175	1494718	7.16	0.0716	28.65	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2-Butene, (E) -	23	56	624-64-6	6.519	3399114	16.29	0.1629	65.14	NJ
Butane, 2-methyl-	23	72	78-78-4	8.027	1266008	6.07	0.0607	18.87	NJ
1-Butene, 2-methyl-	23	70	563-46-2	8.543	6807228	32.61	0.3261	104.36	NJ
1-Butene, 2-methyl-	23	70	563-46-2	8.802	1636079	7.84	0.0784	25.08	NJ
2-Pentene, (E) -	23	70	646-04-8	9.265	1579293	7.57	0.0757	24.21	NJ
Spiropentane	23	68	157-40-4	9.491	214749	1.03	0.0103	3.39	NJ
2-Pentene, (Z) -	23	70	627-20-3	9.652	2020294	9.68	0.0968	30.97	NJ
1-Pentene	23	70	109-67-1	9.792	2262620	10.84	0.1084	34.69	NJ
1-Pentene, 4-methyl-	23	84	691-37-2	11.504	761690	3.65	0.0365	9.73	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.590	1113118	5.33	0.0533	13.27	NJ
Pentane, 2-methyl-	23	86	107-83-5	12.139	1755964	8.41	0.0841	21.91	NJ
Butanal	23	72	123-72-8	12.279	1511227	7.24	0.0724	22.53	NJ
Pentane, 3-methyl-	23	86	96-14-0	12.882	413997	1.98	0.0198	5.17	NJ
1-Hexene	23	84	592-41-6	13.141	16676447	79.90	0.7990	213.06	NJ
1,4-Hexadiene, (Z) -	23	82	7318-67-4	13.431	261292	1.25	0.0125	3.42	NJ
2-Hexene, (E) -	23	84	4050-45-7	13.937	4361055	20.89	0.2089	55.72	NJ
1,4-Pentadiene, 3-methyl-	23	82	1115-08-8	14.379	732360	3.51	0.0351	9.58	NJ
2-Hexene	23	84	592-43-8	14.476	1106230	5.30	0.0530	14.13	NJ
Nitrous acid, butyl ester	23	103	544-16-1	14.594	2021927	9.69	0.0969	21.07	NJ
1-Pentene, 2-methyl-	23	84	763-29-1	14.799	741466	3.55	0.0355	9.47	NJ
Cyclobutane, ethyl-	23	84	4806-61-5	15.057	339824	1.63	0.0163	4.34	NJ
Cyclopentane, methyl-	23	84	96-37-7	15.348	319556	1.53	0.0153	4.08	NJ
1,3-Dioxolane, 2-methyl-	34	88	497-26-7	15.509	1145413	3.41	0.0341	8.67	NJ
Pentane, 2,4-dimethyl-	34	100	108-08-7	17.404	1895007	5.64	0.0564	12.63	NJ
Butanenitrile, 2-methylene-	34	81	1647-11-6	17.566	2946807	8.77	0.0877	24.24	NJ
3-Heptene, (E)	34	98	14686-14-7	17.684	1457202	4.34	0.0434	9.91	NJ
Hexane, 3-methyl-	34	100	589-34-4	17.921	1633954	4.86	0.0486	10.89	NJ
Unknown C8 Alkane (mw 114)	34	0		18.126	1672268	4.97	0.0497		J
1-Heptene	34	98	592-76-7	18.578	8462208	25.17	0.2517	57.54	NJ
3-Heptene	34	98	592-78-9	19.062	43516794	129.46	1.2946	295.91	NJ
(Z)-3-Heptene	34	98	7642-10-6	19.245	30989149	92.19	0.9219	210.72	NJ
2-Heptene	34	98	592-77-8	19.439	50377716	149.87	1.4987	342.56	NJ
Formic acid, butyl ester	34	102	592-84-7	19.611	730559	2.17	0.0217	4.77	NJ
2-Heptene, (E) -	34	98	14686-13-6	19.934	36645654	109.02	1.0902	249.18	NJ
1,4-Heptadiene	34	96	5675-22-9	21.722	11775930	35.03	0.3503	81.74	NJ
4-Octene, (E) -	49	112	14850-23-8	22.228	1500812	4.87	0.0487	9.74	NJ
2-Heptyne	49	96	1119-65-9	22.841	11465503	37.19	0.3719	86.78	NJ
2-Hexanone	49	100	591-78-6	22.949	3339589	10.83	0.1083	24.26	NJ
2-Octene, (E) -	49	112	13389-42-9	23.078	5966774	19.35	0.1935	38.71	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.283	25945963	84.16	0.8416	165.36	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.950	27410237	88.91	0.8891	177.82	J
Unknown C8 Alkene/Cycloalkane (mw 112)	49	0		24.090	2009111	6.52	0.0652		J
Unknown C8 Alkene/Cycloalkane (mw 112)	49	0		24.295	1801117	5.84	0.0584		J
3-HEXENE, 3-ETHYL-	49	112	0-00-0	24.466	6482586	21.03	0.2103	42.05	NJ
2-Octene	49	112	111-67-1	24.747	2767574	8.98	0.0898	17.95	NJ
2-HEPTENE, 3-METHYL-	49	112	0-00-0	25.027	5543569	17.98	0.1798	35.96	NJ
2-Octene, (Z) -	49	112	7642-04-8	25.275	2684383	8.71	0.0871	17.41	NJ
3-Hexanone, 5-methyl-	49	114	623-56-3	25.587	1020628	3.31	0.0331	6.50	NJ
Cyclopropane, pentyl-	49	112	2511-91-3	25.802	389102	1.26	0.0126	2.52	NJ

02/02/99 10:31

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E01 603

Page 3

HNF-4073
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Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown C8 Alkane (mw 114)	49	0		25.802	389102	1.26	0.0126		J
Unknown C9 Alkane (mw 128)	49	0		26.222	646497	2.10	0.0210		J
Furan, tetrahydro-2,2,5,5-tetramethyl-	49	128	15045-43-9	27.772	1643429	5.33	0.0533	9.33	J
3-Heptanone	49	114	106-35-4	28.074	56794534	184.22	1.8422	361.97	NJ
2-Heptanone	49	114	110-43-0	28.203	15165796	49.19	0.4919	96.66	NJ
Butane, 1,1'-oxybis-	49	130	142-96-1	28.429	5213199	16.91	0.1691	29.14	NJ
3-Heptanol	59	116	589-82-2	28.731	4297478	19.60	0.1960	37.84	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		29.495	496970	2.27	0.0227		J
1,3-Diethyl-1,4-epoxybutane	59	128		30.970	7797828	35.56	0.3556	62.23	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		31.088	11951153	54.50	0.5450		J
1,2-Diethyl-1,4-epoxybutane	59	128		31.175	10370310	47.29	0.4729	82.75	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.465	13842648	63.12	0.6312		J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.616	2685883	12.25	0.1225		J
Heptane, 3-ethyl-2-methyl-	59	142	14676-29-0	31.918	406501	1.85	0.0185	2.92	J
Heptanenitrile	59	111	629-08-3	32.014	1760469	8.03	0.0803	16.20	NJ
4-Octanone	59	128	589-63-9	32.359	1070275	4.88	0.0488	8.54	NJ
Unknown C10 Alkane (mw 142)	59	0		32.434	750418	3.42	0.0342		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		32.779	709022	3.23	0.0323		J
1R,2T,4T,5C-TETRAMETHYLCYCLOHEXANE	59	126	13427-43-5	33.199	3319538	15.14	0.1514	26.91	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		33.737	5874859	26.79	0.2679		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		33.855	1893414	8.63	0.0863		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		34.663	570897	2.60	0.0260		J
1-Hexanol, 2-ethyl-	59	130	104-76-7	34.975	7471454	34.07	0.3407	58.70	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		35.309	358462	1.63	0.0163		J
Decane, 4-methyl-	59	156	2847-72-5	35.481	4760229	21.71	0.2171	31.17	NJ
Unknown hydrocarbon	59	0		36.020	1271114	5.55	0.0555		J
Cyclohexane, (2-methylpropyl)-	59	140	1678-98-4	36.310	3349633	15.27	0.1527	24.44	NJ
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		36.590	1187347	5.41	0.0541		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		36.709	457877	2.09	0.0209		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		36.924	1153854	5.26	0.0526		J
Unknown C12 Alkane (mw 170)	59	0		37.128	1068843	4.87	0.0487		J
1-Ethyl-2,2,6-trimethylcyclohexane	59	154	0-00-0	37.344	1240299	5.66	0.0566	8.23	NJ
Decane, 3-methyl-	59	156	13151-34-3	37.516	725596	3.31	0.0331	4.75	J
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.828	1858632	8.48	0.0848	13.76	NJ
Unknown C11 Alkene/Cycloalkane (mw 152)	59	0		38.044	765012	3.49	0.0349		J
Unknown hydrocarbon	59	0		38.237	834061	3.80	0.0380		J
Unknown hydrocarbon (mw=166)	59	0		38.410	767714	3.50	0.0350		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		39.185	1553393	7.08	0.0708		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		39.508	1225809	5.59	0.0559		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		39.799	894373	4.08	0.0408		J
Unknown C12 Alkane (mw 170)	59	0		39.949	716162	3.27	0.0327		J
Unknown Alkyl Decahydronaphthalene	59	0		40.240	1567307	7.15	0.0715		J
Cyclohexane, pentyl-	59	154	4292-92-6	40.681	905395	4.13	0.0413	6.01	NJ
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.983	2047346	9.34	0.0934	13.76	J
Unknown C12 Alkene/Cycloalkane (mw 168)	59	0		41.166	333841	1.52	0.0152		J
Unknown C12 Alkane (mw 170)	59	0		41.327	910016	4.15	0.0415		J
Undecane, 3-methyl-	59	170	1002-43-3	41.629	369188	1.68	0.0168	2.22	NJ
Unknown Alkyl Decahydronaphthalene	59	0		43.104	578249	2.64	0.0264		J
Undecane, 2,6-dimethyl-	59	184	17301-23-4	43.341	3224838	14.71	0.1471	17.90	NJ

HNF- 4073
20

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown Alkyl Decahydronaphthalene	59	0		44.331	502903	2.29	0.0229		J
Cyclohexane, 2-butyl-1,1,3-trimethyl-	59	182	54676-39-0	44.654	715136	3.26	0.0326	4.01	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	25046703
Difluorobenzene (IS)	34	32606013
D5-Chlorobenzene (IS)	49	34221287
1-Bromo-4-Fluorobenzene (IS)	59	39473989

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

E01 604-B

HNF-4073
Rev. 0

02/02/99 10:31

18122605.D

Page 5

E01 605

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-017.C235; 200 ml; 2X

02/02/99 10:31

18122605.D

F01 606

Page 6

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-017.C235; 200 ml; 2X

Data File: /chem/hpdos1.i/18122602.b/18122606.D

Page 1

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

E01 608

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

1 Dichlorodifluoromethane

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

E01 610

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: BB-1

HNF-4073
Rev. 0

4 Methanol

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

7 Butane

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

10 Ethanol

E01 613

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

12 Acetone

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

E01 C16

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

E01 C17

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009,C143; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

18 Propanenitrile

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

E01 622

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

26 Tetrahydrofuran

E01 623

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

29 Butanenitrile

E01 624

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

30 1-Butanol

E01 625

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

31 Benzene

E01 626

HNF-403
20

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E01 627

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

37 Heptane

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

39 4-Methyl-2-Pentanone

E01 624

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143: 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

E01 630

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

44 Toluene

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

46 Octane

E01-632

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

48 Tetrachloroethylene

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

51 Hexanenitrile

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

54 Cyclohexanone

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

58 Nonane

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

63 Decane

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

67 Undecane

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

69 Dodecane

E01 639

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

71 Tridecane

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality Formula

Weight

Unknown

0

0

0

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115913	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009,C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62260	78	C3H6	42

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143: 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	56	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VF006-009.C143; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.1	131	64	CH3NO2	61
Monoethanolamine	141-43-5	nbs75k.1	62369	4	C2H7NO	61
Ethylenediamine	107-15-3	nbs75k.1	120	4	C2H8N2	60

HPF-402
R0

Data File: /chem/hpdos1.i/18122602.b/18122606.D

Page 39

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009,C143; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane	75-19-4	nbs75k.1	62260	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	90	C3H6	42
Propene	115-07-1	nbs75k.1	62258	83	C3H6	42

E01 646 - B

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	62265	83	C2H4O	44
Acetaldehyde	75-07-0	nbs75k.1	36	83	C2H4O	44
Acetaldehyde	75-07-0	nbs75k.1	62264	83	C2H4O	44

E01 647

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009,C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	87	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	87	C4H8	56

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl formate	107-31-3	nbs75k.1	114	40	C2H4O2	60
Methyl formate	107-31-3	nbs75k.1	62349	40	C2H4O2	60
Methyl formate	107-31-3	nbs75k.1	62350	9	C2H4O2	60

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Butene, (E)-	624-64-6	nbs75k.l	75	43	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.l	62306	46	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.l	62305	43	C4H8	56

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, ethyl-	1191-96-4	nbs75k.1	62460	80	C5H10	70
1-Pentene	109-67-1	nbs75k.1	230	83	C5H10	70
1-Pentene	109-67-1	nbs75k.1	62466	80	C5H10	70

E01 651

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Silanol, trimethyl-	1066-40-6	nbs75k.l	907	64	C3H10OSi	90
Silanol, trimethyl-	1066-40-6	nbs75k.l	62980	47	C3H10OSi	90
Threonine	72-19-5	nbs75k.l	64491	2	C4H9NO3	119

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62490	91	C4H8O	72
Butanal	123-72-8	WILEY138.1	116384	91	C4H8O	72
Butanal	123-72-8	WILEY138.1	116385	87	C4H8O	72

E01 653

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	62902	91	C4H8O2	88
1,3-Dioxolane, 2-methyl-	497-26-7	WILEY138.1	117215	91	C4H8O2	88
1,3-Dioxolane, 2-methyl-	497-26-7	nbs75k.1	62903	87	C4H8O2	88

Date: 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Dioxane	505-22-6	nbs75k.1	62910	38	C4H8O2	88
1,3-Dioxane, 2-methyl-	626-68-6	WILEY138.1	1391	58	C5H10O2	102
Monomethyl malonate	0-00-0	nbs75k.1	3455	50	C4H6O4	118

E01 655

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexane, 3-methyl-	589-34-4	nbs75k.1	63423	70	C7H16	100
Hexane, 3-methyl-	589-34-4	nbs75k.1	63421	49	C7H16	100
Heptane, 3,4-dimethyl-	922-28-1	nbs75k.1	65136	49	C9H20	128

E01 656

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Dioxane, 2-methyl-	626-68-6	WILEY138.1	1391	64	C5H10O2	102
1,3-Dioxane	505-22-6	nbs75k.1	62910	56	C4H8O2	88
1,3-Dioxane	505-22-6	nbs75k.1	808	56	C4H8O2	88

E01 657

~~E01 656~~

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	93	C7H14	98
1-Heptene	592-76-7	nbs75k.1	1335	68	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	64	C7H14	98

E01 658

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	95	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	90	C7H14	98

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	93	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	93	C7H14	98

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Formic acid, butyl ester	592-84-7	nbs75k.1	63513	90	C5H10O2	102
Formic acid, butyl ester	592-84-7	nbs75k.1	63512	83	C5H10O2	102
1-Butanol	71-36-3	nbs75k.1	62579	56	C4H10O	74

E01 661

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

2-Heptene, (E)-

14686-13-6

nbs75k.1

1347

93

C7H14

98

2-Heptene

592-77-8

nbs75k.1

1337

95

C7H14

98

2-Heptene

592-77-8

nbs75k.1

63245

93

C7H14

98

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, methyl-	108-87-2	nbs75k.1	63236	91	C7H14	98
Cyclohexane, methyl-	108-87-2	nbs75k.1	1326	87	C7H14	98
Cyclohexane, methyl-	108-87-2	nbs75k.1	63235	86	C7H14	98

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C7 Alkene/Cycloalkane (mw 96)						
2-Butenal, 2-ethenyl-	20521-42-0	nbs75k.1	1092	53	C6H8O	96
1,4-Hexadiene, 4-methyl-	1116-90-1	nbs75k.1	63147	47	C7H12	96
2,4-Hexadiene, 3-methyl-	28823-42-9	nbs75k.1	1130	38	C7H12	96

E01 664

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.l	63138	93	C7H12	96
2-Heptyne	1119-65-9	nbs75k.l	1141	87	C7H12	96
Bicyclo[4.1.0]heptane	286-08-8	nbs75k.l	1131	72	C7H12	96

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	63384	46	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63386	46	C6H12O	100
Oxirane, 2-methyl-2-(1-methylethyl)-	72221-03-5	nbs75k.1	1530	43	C6H12O	100

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-009.C143; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	90	CH ₂ H ₁₈	114
Hexane, 2,4-dimethyl-	589-43-5	nbs75k.1	64213	64	CH ₂ H ₁₈	114
Hexane, 2,4-dimethyl-	589-43-5	nbs75k.1	3089	64	CH ₂ H ₁₈	114

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009,C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.l	2703	87	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.l	64032	78	C8H16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.l	64033	74	C8H16	112

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	64171	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	WILEY138.1	3091	91	C7H14O	114

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	nbs75k.1	64165	86	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	64164	86	C7H14O	114
2-Hexanone, 5-methyl-	110-12-3	nbs75k.1	64143	72	C7H14O	114

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	3383	83	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64384	83	C7H16O	116
3-Hexanol, 5-methyl-	623-55-2	nbs75k.1	64371	78	C7H16O	116

E01 671

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		nbs75k.l	22401	59	C12H22O2	198
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.l	4896	59	C6H13BO2	128
1,4-Dioxaspiro[4.5]decane	177-10-6	nbs75k.l	7954	50	C8H14O2	142

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
2-Pentene, 4,4-dimethyl-, (E)-	690-08-4	nbs75k.l	63250	45	C7H14	98
4-Hydroxy-4-methylpentanone	0-00-0	nbs75k.l	3236	42	C6H12O2	116
1,4-Pentadien-3-ol	922-65-6	nbs75k.l	554	42	C5H8O	84

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		nbs75k.1	1373	64		128
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	56	C6H13BO2	128
1-Hydroxycyclohexanecarboxylic acid	1123-28-0	nbs75k.1	8343	45	C7H12O3	144

E01 674

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

2,4,4-Trimethylbut-2-enolide

3-Hepten-2-one, 4-methyl-

3-Octen-2-one

CAS Number	Library	Entry	Quality	Formula	Weight
4182-41-6	nbs75k.1	4477	32	C7H10O2	126
22319-25-1	nbs75k.1	4573	28	C8H14O	126
1669-44-9	nbs75k.1	64901	27	C8H14O	126

E01 675

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009,C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Cycloalkane						
N-tert-Butylmethanamine	14610-37-8	nbs75k.1	772	50	CEH13N	87
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	65087	42	CEH16O	128
1,3-Cyclobutanediol, 2,2,4,4-tetramethyl	3010-96-6	nbs75k.1	66315	40	CEH16O2	144

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown hydrocarbon

Nonane, 2-methyl-

Octane, 2,7-dimethyl-

Nonane, 2-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
871-83-0	nbs75k.1	66220	53	C10H22	142
1072-16-8	nbs75k.1	66209	53	C10H22	142
871-83-0	nbs75k.1	8093	50	C10H22	142

E01 677

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143: 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
3,4-Heptadiene	2454-31-1	nbs75k.1	1112	25	C7H12	96
Metronidazole	443-48-1	nbs75k.1	68275	25	C6H9N3O3	171
1-Pentyne	627-19-0	nbs75k.1	62419	18	C5H8	68

E01 678

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown hydrocarbon

1-Hexanol, 2-ethyl-

1-Hexanol, 2-ethyl-

1-Hexanol, 2-ethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
104-76-7	nbs75k.1	5518	72	C8H18O	130
104-76-7	nbs75k.1	65291	64	C8H18O	130
104-76-7	nbs75k.1	65289	64	C8H18O	130

E01 679

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.l	67324	53	C11H24	156
Octyl thioglycolate	7664-80-4	nbs75k.l	23726	64	C10H20O2S	204
Octane, 1,1'-oxybis-	629-82-3	nbs75k.l	71251	59	C16H34O	242

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C11 Alkane (mw 156)

Octacosane

1-Nonene, 4,6,8-trimethyl-

Pentacosane

CAS Number	Library	Entry	Quality	Formula	Weight
630-02-4	nbs75k.1	74211	47	C28H58	394
54410-98-9	nbs75k.1	14791	45	C12H24	168
629-99-2	nbs75k.1	49559	42	C25H52	352

HNF-4073
Rev. 0

E01 681

Date : 09-NOV-98 04:25

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP006-009.C143; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl-						
Undecane, 4,7-dimethyl-	17301-32-5	nbs75k.1	19020	72	C13H28	184
Dodecane, 1-iodo-	4292-19-7	nbs75k.1	41998	72	C12H25I	296
Undecane, 5,7-dimethyl-	17312-83-3	nbs75k.1	19013	59	C13H28	184

E01 682

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2K

Instrument: hpdcs1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Dodecane	112-40-3	nbs75k.l	68249	50	C12H26	170
Undecane, 4,7-dimethyl-	17301-32-5	nbs75k.l	19020	50	C13H28	184
1-Iodo-2-methylnonane	0-00-0	nbs75k.l	37255	50	C10H21I	268

Date : 09-NOV-98 04:25

Client ID: 200 ml

Sample Info: VP006-009.C143; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Octane, 5-ethyl-2-methyl-	62016-18-6	nbs75k.1	11608	72	C11H24	156
Octane, 6-ethyl-2-methyl-	62016-19-7	nbs75k.1	11609	72	C11H24	156
Pentacosane	629-99-2	nbs75k.1	73718	72	C25H52	352

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-009.C143; 200 mL; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2 53097.m
 File : 18122606.D
 Injection Date : 09-NOV-98 04:25 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP006-009.C143
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.657	4.667	31390	0.41	0.0041	0.76	J
Chloromethane	23	50.49	5.034	5.044	17813	0.26	0.0026	1.15	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.249				0.0065	0.85	U
Methanol	23	32.04	5.389	5.421	669461	13.51	0.1351	94.46	
Vinyl Chloride	23	62.50	5.540				0.0008	0.29	U
Butane	23	58.12	5.960	5.959	412347	24.57	0.2457	94.71	
Bromomethane	23	94.94	6.434				0.0026	0.61	U
Chloroethane	23	64.51	6.778				0.0027	0.94	U
Ethanol	23	46.01	6.983	6.950	1329350	28.24	0.2824	137.48	
Acetonitrile	23	41.05	7.446				0.0020	1.09	U
Acetone	23	58.08	7.930	7.930	1342399	10.03	0.1003	38.70	
Trichlorofluoromethane	23	137.37	8.318	8.317	159784	2.88	0.0288	4.70	
Pentane	23	72.15	8.985	8.995	376239	3.34	0.0334	10.36	
1,1-Dichloroethene	23	96.94	9.534				0.0019	0.44	U
Methylene Chloride	23	84.93	9.718	9.728	14847	0.47	0.0047	1.25	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.202	10.201	10444	0.35	0.0035	0.42	J
Propanenitrile	23	55.08	10.966	10.944	57809	1.15	0.0115	4.68	J
Propanol	23	60.10	10.956	10.955	328854	5.66	0.0566	21.09	
1,1-Dichloroethane	23	98.96	11.849				0.0010	0.23	U
2-Butanone	23	72.11	12.495	12.484	120991	3.68	0.0368	11.44	
cis-1,2-Dichloroethene	23	96.94	13.367				0.0017	0.39	U
Hexane	23	86.18	13.733	13.733	189697	3.00	0.0300	7.78	
Chloroform	23	119.38	13.906				0.0013	0.24	U
Trahydrofuran	23	72.11	14.649	14.659	32330	1.22	0.0122	3.79	
1,2-Dichloroethane	34	98.96	15.316				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.822				0.0016	0.27	U
Butanenitrile	34	69.11	15.811	15.800	224019	1.44	0.0144	4.68	J
1-Butanol	34	74.12	16.285	16.284	1058730	41.53	0.4153	125.50	
Benzene	34	78.11	16.705	16.693	33024	0.17	0.0017	0.49	J
Carbon Tetrachloride	34	153.82	16.996				0.0017	0.25	U
Cyclohexane	34	84.16	17.254				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.277				0.0015	0.30	U
Trichloroethene	34	131.39	18.718				0.0012	0.20	U

02/02/99 13:43

18122606.D

Page 1

E01 685

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.214	19.213	129852	2.24	0.0224	5.00	
cis-1,3-Dichloropropene	34	110.97	20.398				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.409	20.419	14857	0.22	0.0022	0.50	J
Pyridine	34	79.10	20.602				0.0093	2.63	U
trans-1,3-Dichloropropene	34	110.97	21.464				0.0009	0.18	U
Pentanenitrile	34	83.13	21.496	21.495	56258	1.04	0.0104	2.81	J
1,1,2-Trichloroethane	34	133.40	21.905				0.0014	0.24	U
Toluene	49	92.14	22.551	22.540	137497	1.53	0.0153	3.72	
1,2-Dibromoethane	49	187.86	24.080				0.0026	0.31	U
Octane	49	114.23	24.618	24.618	47708	1.14	0.0114	2.23	J
Bromoform	49	175.00	28.279				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.114	25.113	7608	0.24	0.0024	0.32	J
Chlorobenzene	49	112.56	26.718				0.0013	0.26	U
Hexanenitrile	49	97.13	26.976	26.986	17932	0.33	0.0033	0.76	J
Ethylbenzene	49	106.17	27.590				0.0014	0.30	U
p/m-Xylene	49	106.17	28.021				0.0065	1.37	U
Cyclohexanone	49	98.14	28.440	28.461	29989	1.17	0.0117	2.68	J
Styrene	59	104.15	28.936				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162				0.0021	0.28	U
o-Xylene	59	106.17	29.237				0.0014	0.30	U
Nonane	59	128.26	29.679	29.678	61970	0.66	0.0066	1.16	J
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.855				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.114				0.0013	0.24	U
Decane	59	142.28	34.362	34.361	362228	6.36	0.0636	10.01	
1,3-Dichlorobenzene	59	147.00	34.631				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.836				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.956				0.0009	0.14	U
Undecane	59	156.31	38.690	38.689	365933	30.92	0.3092	44.31	
1,2,4-Trichlorobenzene	59	181.45	42.189				0.0014	0.17	U
Dodecane	59	170.34	42.717	42.748	182977	13.27	0.1327	17.45	
Hexachloro-1,3-butadiene	59	260.76	44.020	44.008	6565	0.40	0.0040	0.35	J
Tridecane	59	184.36	46.474	46.560	148632	10.04	0.1004	12.20	
Tetradecane	59	198.34	50.178				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.680	13.668	3740602	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.265	17.243	14166334	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.610	26.599	10889651	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.421	6527052	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown	23	0		3.814	942383	7.22	0.0722		J
Carbon dioxide	23	44	124-38-9	3.929	3256578	24.97	0.2497	127.10	NJ
Propene	23	42	115-07-1	4.506	1966366	15.08	0.1508	80.40	NJ
Propane	23	44	74-98-6	4.549	1959411	15.02	0.1502	76.48	NJ
Methyl nitrite	23	61	624-91-9	4.850	324901	2.49	0.0249	9.15	NJ
Cyclopropane	23	42	75-19-4	5.098	333509	2.56	0.0256	13.64	NJ
Acetaldehyde	23	44	75-07-0	5.324	1574347	12.07	0.1207	61.45	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	----	-----	-----	----	-----	-----	-----	-----	-----
1-Propene, 2-methyl-	23	56	115-11-7	5.765	1331723	10.21	0.1021	40.84	NJ
Methyl formate	23	60	107-31-3	6.250	193272	1.48	0.0148	5.53	NJ
2-Butene, (E)-	23	56	624-64-6	6.455	109882	0.84	0.0084	3.37	NJ
Cyclopropane, ethyl-	23	70	1191-96-4	8.543	348177	2.67	0.0267	8.54	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.612	227033	1.74	0.0174	4.33	NJ
Butanal	23	72	123-72-8	12.279	839980	6.44	0.0644	20.03	NJ
1,3-Dioxolane, 2-methyl-	34	88	497-26-7	15.509	2602104	8.21	0.0821	20.90	NJ
1,3-Dioxane	34	88	505-22-6	17.566	5780318	18.24	0.1824	46.42	NJ
Hexane, 3-methyl-	34	100	589-34-4	17.910	411720	1.30	0.0130	2.91	NJ
1,3-Dioxane, 2-methyl-	34	102	626-68-6	18.125	2419523	7.63	0.0763	16.76	NJ
1-Heptene	34	98	592-76-7	18.578	247498	0.78	0.0078	1.78	NJ
3-Heptene	34	98	592-78-9	19.051	725443	2.29	0.0229	5.23	NJ
2-Heptene	34	98	592-77-8	19.428	950866	3.00	0.0300	6.86	NJ
Formic acid, butyl ester	34	102	592-84-7	19.611	1246620	3.93	0.0393	8.64	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.934	875278	2.76	0.0276	6.31	NJ
Cyclohexane, methyl-	34	98	108-87-2	20.742	140755	0.44	0.0044	1.02	NJ
Unknown C7 Alkene/Cycloalkane (mw 96)	34	0		21.721	226720	0.72	0.0072		J
2-Heptyne	49	96	1119-65-9	22.841	224254	0.79	0.0079	1.84	NJ
2-Hexanone	49	100	591-78-6	22.970	545267	1.92	0.0192	4.30	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.272	245727	0.87	0.0087	1.70	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.950	333654	1.18	0.0118	2.35	NJ
3-Heptanone	49	114	106-35-4	28.084	4951762	17.45	0.1745	34.28	NJ
2-Heptanone	49	114	110-43-0	28.224	835354	2.94	0.0294	5.78	NJ
3-Heptanol	59	116	589-82-2	28.752	492640	2.72	0.0272	5.26	NJ
1,3-Diethyl-1,4-epoxybutane	59	198		30.981	359368	1.99	0.0199	2.25	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.099	574067	3.17	0.0317		J
1,3-Diethyl-1,4-epoxybutane	59	128		31.174	577187	3.19	0.0319	5.58	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.487	1130521	6.25	0.0625		J
Unknown Cycloalkane	59	0		31.648	290217	1.60	0.0160		J
Unknown hydrocarbon	59	0		33.522	153024	0.85	0.0085		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		34.081	99629	0.55	0.0055		J
Unknown hydrocarbon	59	0		35.029	539356	2.98	0.0298		J
Decane, 4-methyl-	59	156	2847-72-5	35.503	157074	0.87	0.0087	1.25	NJ
Unknown C11 Alkene (mw 156)	59	0		36.956	173403	0.96	0.0096		J
Decane, 2-methyl-	59	156	7045-71-8	37.139	1244806	6.88	0.0688	9.88	J
Unknown hydrocarbon	59	0		37.397	596589	3.30	0.0330		J
Unknown hydrocarbon	59	0		38.959	273702	1.51	0.0151		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	15652361
Difluorobenzene (IS)	34	30744170
D5-Chlorobenzene (IS)	49	31501275
1-Bromo-4-Fluorobenzene (IS)	59	32566383

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

E01 687

HNF-4073
Rev. 0

02/02/99 13:43

18122606.D

Page 3

E01 688

Rev. 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-009.C143; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122606.D

HNF-4073
Rev. 0

Sample Info : VP006-009.C143; 200 ml; 2X

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

Date : 09-NOV-98 05:46

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP702-002.C428; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428: 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Methanol

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428: 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

7 Butane

Date : 09-NOV-98 05:46

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP702-002.C428; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

10 Ethanol

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

12 Acetone

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 Trichlorofluoromethane

E01 698

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

14 Pentane

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

16 Methylene Chloride

Date: 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

18 Propanenitrile

E01 702

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002,C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

21 2-Butanone

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

E01 705

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

E01 706

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Butanenitrile

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

30 1-Butanol

Date : 09-NOV-98 05:46

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: VP702-002.C428; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

31 Benzene

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

36 Trichloroethene

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002,C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

44 Toluene

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

48 Tetrachloroethylene

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
------------	---------	-------	---------	---------	--------

Unknown

0

0

0

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0,32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	34	7	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115913	7	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44

E01 716

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
Unknown		0	0		0

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Ethane, 1-chloro-1,1-difluoro-	75-68-3	nbs75k.1	1427	74	C2H3ClF2	100
Propane, 2,2-difluoro-	420-45-1	nbs75k.1	414	9	C3H6F2	80
Propane, 2,2-difluoro-	420-45-1	nbs75k.1	62639	4	C3H6F2	80

E01 718

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdosl.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	62264	9	C2H4O	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

E01 719

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2K

Instrument: hpdos1.1

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	53	C4H8	56
2-Oxetanone, 4,4-dimethyl-	1823-52-5	nbs75k.1	1450	53	CEH8O2	100
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	53	C4H8	56

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown hydrocarbon
Octane, 2,4,6-trimethyl-
Eicosane
Hexadecane

CAS Number	Library	Entry	Quality	Formula	Weight
62016-37-9	nbs75k.1	11606	64	C11H24	156
112-95-8	nbs75k.1	72323	50	C20H42	282
544-76-3	nbs75k.1	70789	47	C16H34	226

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexane, 3,3-dimethyl-	563-16-6	nbs75k.l	3095	59	C8H18	114
Decane, 5-propyl-	17312-62-8	nbs75k.l	19035	59	C13H28	184
Undecane, 3,8-dimethyl-	17301-30-3	nbs75k.l	19009	59	C13H28	184

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Unknown hydrocarbon

Nonadecane

1-Iodo-2-methylnonane

2,3-Dimethyldecane

CAS Number	Library	Entry	Quality	Formula	Weight
629-92-5	nbs75k.1	37469	83	C19H40	268
0-00-0	nbs75k.1	37255	80	C10H21I	268
0-00-0	nbs75k.1	15345	64	C12H26	170

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdosl.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

Unknown C12 Alkane (mw 170)

Nonadecane

Dodecane

Undecane, 4,7-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
629-92-5	nbs75k.1	37469	86	C19H40	268
112-40-3	nbs75k.1	15347	83	C12H26	170
17301-32-5	nbs75k.1	19020	72	C13H28	184

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown hydrocarbon

Octane, 6-ethyl-2-methyl-

Hexane, 3,3-dimethyl-

1-Iodo-2-methylnonane

CAS Number	Library	Entry	Quality	Formula	Weight
62016-19-7	nbs75k.1	11609	72	C11H24	156
563-16-6	nbs75k.1	64223	64	C8H18	114
0-00-0	nbs75k.1	37255	64	C10H21I	268

Date : 09-NOV-98 05:46

Client ID: 200 ml

Sample Info: VP702-002.C428; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Triacontane	638-68-6	nbs75k.1	55461	50	C30H62	422
Hexane, 2,3,5-trimethyl-	1069-53-0	nbs75k.1	5161	50	C24H50	128
Dotriacontane	544-85-4	nbs75k.1	74490	50	C32H66	451

Sample Info : VP702-002.C428; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122607.D
 Injection Date : 09-NOV-98 05:46 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-002.C428
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.657	4.669	39178	0.51	0.0051	0.94	J
Chloromethane	23	50.49	5.034	5.057	9671	0.14	0.0014	0.62	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.249				0.0065	0.85	U
Methanol	23	32.04	5.389	5.401	705232	14.17	0.1417	99.07	
Vinyl Chloride	23	62.50	5.540				0.0008	0.29	U
Butane	23	58.12	5.960	5.972	78773	4.67	0.0467	18.02	
Bromomethane	23	94.94	6.434				0.0026	0.61	U
Chloroethane	23	64.51	6.778				0.0027	0.94	U
Ethanol	23	46.01	6.983	6.941	461630	9.76	0.0976	47.54	
Acetonitrile	23	41.05	7.446				0.0020	1.09	U
Acetone	23	58.08	7.930	7.931	2931239	21.82	0.2182	84.14	
Trichlorofluoromethane	23	137.37	8.318	8.319	970158	17.43	0.1743	28.42	
Pentane	23	72.15	8.985	8.986	61146	0.54	0.0054	1.68	J
1,1-Dichloroethene	23	96.94	9.534				0.0019	0.44	U
Methylene Chloride	23	84.93	9.718	9.740	12490	0.40	0.0040	1.04	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.202	10.214	12093	0.41	0.0041	0.49	J
Propanenitrile	23	55.08	10.966	10.946	150751	2.99	0.0299	12.14	
Propanol	23	60.10	10.956	10.957	234219	4.01	0.0401	14.95	
1,1-Dichloroethane	23	98.96	11.849				0.0010	0.23	U
2-Butanone	23	72.11	12.495	12.496	131776	3.99	0.0399	12.40	
cis-1,2-Dichloroethane	23	96.94	13.367				0.0017	0.39	U
Hexane	23	86.18	13.733	13.734	36367	0.57	0.0057	1.49	J
Chloroform	23	119.38	13.906	13.885	43116	0.71	0.0071	1.34	J
Tetrahydrofuran	23	72.11	14.649	14.693	6169	0.23	0.0023	0.72	J
1,2-Dichloroethane	34	98.96	15.316				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.822				0.0016	0.27	U
Butanenitrile	34	69.11	15.811	15.802	346110	2.34	0.0234	7.57	
1-Butanol	34	74.12	16.285	16.308	103268	4.24	0.0424	12.82	
Benzene	34	78.11	16.705	16.695	23245	0.13	0.0013	0.36	J
Carbon Tetrachloride	34	153.82	16.996				0.0017	0.25	U
Cyclohexane	34	84.16	17.254				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.277				0.0015	0.30	U
Trichloroethene	34	131.39	18.718	18.719	6109	0.13	0.0013	0.22	J

02/02/99 14:00

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Page 1

E01 727

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.214				0.0009	0.20	U
cis-1,3-Dichloropropene	34	110.97	20.398				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.409				0.0017	0.38	U
Pyridine	34	79.10	20.602				0.0093	2.63	U
trans-1,3-Dichloropropene	34	110.97	21.464				0.0009	0.18	U
Pentanenitrile	34	83.13	21.496	21.497	16089	0.31	0.0031	0.84	J
1,1,2-Trichloroethane	34	133.40	21.905				0.0014	0.24	U
Toluene	49	92.14	22.551	22.552	18942	0.22	0.0022	0.54	J
1,2-Dibromoethane	49	187.86	24.080				0.0026	0.31	U
Octane	49	114.23	24.618				0.0012	0.24	U
Bromoform	49	175.00	28.279				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.114	25.104	61643	2.02	0.0202	2.73	J
Chlorobenzene	49	112.56	26.718				0.0013	0.26	U
Hexanenitrile	49	97.13	26.976				0.0026	0.60	U
Ethylbenzene	49	106.17	27.590				0.0014	0.30	U
p/m-Xylene	49	106.17	28.021				0.0065	1.37	U
Cyclohexanone	49	98.14	28.440				0.0029	0.66	U
Styrene	59	104.15	28.936				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162				0.0021	0.28	U
o-Xylene	59	106.17	29.237				0.0014	0.30	U
Nonane	59	128.26	29.679				0.0008	0.14	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.855				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.114				0.0013	0.24	U
Decane	59	142.28	34.362				0.0015	0.24	U
1,3-Dichlorobenzene	59	147.00	34.631				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.836				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.956				0.0009	0.14	U
Undecane	59	156.31	38.690				0.0141	2.02	U
1,2,4-Trichlorobenzene	59	181.45	42.189				0.0014	0.17	U
Dodecane	59	170.34	42.717				0.0049	0.64	U
Hexachloro-1,3-butadiene	59	260.76	44.020				0.0023	0.20	U
Tridecane	59	184.36	46.474				0.0030	0.36	U
Tetradecane	59	198.34	50.178				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.680	13.670	3756838	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.265	17.244	13523932	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.610	26.600	10430604	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.423	6227312	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown	23	0		3.814	1343763	10.99	0.1099		J
Carbon dioxide	23	44	124-38-9	3.929	6033210	49.36	0.4936	251.31	NJ
Unknown	23	0		4.102	761046	6.23	0.0623		J
Ethane, 1-chloro-1,1-difluoro-	23	100	75-68-3	4.971	112135	0.92	0.0092	2.06	NJ
Acetaldehyde	23	44	75-07-0	5.390	958714	7.84	0.0784	39.93	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.756	118823	0.97	0.0097	3.89	NJ
Unknown hydrocarbon	59	0		33.534	280387	1.65	0.0165		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Hexane, 3,3-dimethyl-	59	114	563-16-6	36.969	172432	1.02	0.0102	2.00	NJ
Unknown hydrocarbon	59	0		37.141	1683873	9.92	0.0992		J
Unknown C12 Alkane (mw 170)	59	0		37.410	741155	4.37	0.0437		J
Unknown hydrocarbon	59	0		38.971	240940	1.42	0.0142		J
Unknown hydrocarbon	59	0		39.186	182429	1.07	0.0107		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	14666035
Difluorobenzene (IS)	34	29455516
D5-Chlorobenzene (IS)	49	30408929
1-Bromo-4-Fluorobenzene (IS)	59	30550467

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/02/99 14:00

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Page 3

E01 730

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-002.C428; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-002.C428; 200 ml; 2X

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

E01 733

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

E01 734

E01 734

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Chloromethane

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdcsl.i

Sample Info: VP006-024.C277: amb.air 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

7 Butane

E01 736

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

13 Trichlorofluoromethane

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

16 Methylene Chloride

E01 740

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

17 112trichloro122trifluoroethane

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

E01 743

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

37 Heptane

E01 744

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Toluene

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

46 Octane

E01 746

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

54 Cyclohexanone

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

58 Nonane

E01 748

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

63 Decane

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

67 Undecane

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

69 Dodecane

E01 751

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

E01 752

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

71 Tridecane

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

72 Tetradecane

E01 754

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality Formula

Weight

Unknown

0

0

0

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	34	5	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115915	5	CO2	44

E01 756

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

HNF-4073

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62754	90	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	90	C6H12	84
1-Hexene	592-41-6	nbs75k.1	62755	80	C6H12	84

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	50	C7H14	98
3-Hexenal, (Z)-	6789-80-6	nbs75k.1	1285	50	C6H10O	98
Oxirane, (1-methylbutyl)-	53229-39-3	nbs75k.1	3012	40	C7H14O	114

E01 758

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98
3-Heptene, (E)-	14686-14-7	nbs75k.1	1352	91	C7H14	98

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	90	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	90	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	81	C7H14	98

F01 760

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	1337	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	95	C7H14	98

E01 761

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	90	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	95	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	94	C7H14	98

E01 762

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C9 Alkane (mw 128)

Cyclopropane, butyl-

Cycloheptane

3,5-Dimethyl-1-hexene

CAS Number	Library	Entry	Quality	Formula	Weight
930-57-4	nbs75k.1	1319	72	C7H14	98
291-64-5	nbs75k.1	63231	59	C7H14	98
0-00-0	nbs75k.1	2640	47	C8H16	112

E01 763

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	AS Number	Library	Entry	Quality	Formula	Weight
2-Butenal, 2-ethenyl-	20521-42-0	nbs75k.1	1092	49	C6H8O	96
1,4-Heptadiene	5675-22-9	nbs75k.1	1149	68	C7H12	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	58	C6H8O	96

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	97	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	95	C7H12	96
2-Octyne	2809-67-8	nbs75k.1	63876	90	C8H14	110

Date : 09-NOV-98 07:55

Client ID: amb,air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb,air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64023	46	C8H16	112
Cyclooctane	292-64-8	nbs75k.1	63992	74	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	64044	62	C8H16	112

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.l	3099	86	C8H18	114
Heptane, 3-methyl-	589-81-1	nbs75k.l	64227	78	C8H18	114
Hexane, 2,4-dimethyl-	589-43-5	nbs75k.l	64213	74	C8H18	114

E01 767

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	94	CEH16	112
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62458	80	CEH10	70
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.	4850-28-6	nbs75k.1	2684	80	CEH16	112

E01 768

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.1

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	64039	49	C8H16	112
3-Hexene, 2,3-dimethyl-	7145-23-5	nbs75k.1	2649	53	C8H16	112
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	46	C8H16	112

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene	111-67-1	nbs75k.1	63994	58	CEH16	112
Octane	111-65-9	nbs75k.1	64209	52	CEH18	114
Octane, 2-chloro-	628-61-5	nbs75k.1	9257	50	CEH17C1	148

Date: 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	42	C8H16	112
4-Octene, (Z)-	7642-15-1	nbs75k.1	2654	46	C8H16	112
3-Octene, (E)-	14919-01-8	nbs75k.1	64021	46	C8H16	112

E01 771

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C8 Alkene/Cycloalkane (mw 112)						
Heptane, 3-methylene-	1632-16-2	nbs75k.l	64031	64	C8H16	112
Butane, 2-cyclopropyl-	5750-02-7	nbs75k.l	1317	53	C7H14	98
trans-1-Butyl-2-methylcyclopropane	28851-70-6	nbs75k.l	2690	50	C8H16	112

E01 772

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	49	C8H16	112
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	49	C8H16	112
3-Octene, (Z)-	14850-22-7	nbs75k.1	2705	46	C8H16	112

E01 773

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	3002	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64151	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64150	90	C7H14O	114

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	64171	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64172	91	C7H14O	114

E01 775

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdosl.i

HNF-4073

Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	nbs75k.1	64164	90	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	64165	86	C7H14O	114
2-Hexanone, 5-methyl-	110-12-3	nbs75k.1	64147	86	C7H14O	114

E01 776

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4076

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	599-82-2	nbs75k.1	64381	59	C7H16O	116
3-Heptanol	599-82-2	nbs75k.1	3383	59	C7H16O	116
3-Hexanol, 5-methyl-	623-55-2	nbs75k.1	64371	53	C7H16O	116

E01 777

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C8 Alkane (mw 114)						
Formic acid, octyl ester	112-32-3	nbs75k.1	11985	53	C9H18O2	158
1-Nonanol	143-08-8	nbs75k.1	66369	53	C9H20O	144
1-Decanol	112-30-1	nbs75k.1	67467	50	C10H22O	158

E01 778

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		nbs75k.l	22401	72		128
Glycocyanidine	503-86-6	nbs75k.l	1373	64	C3H5N3O	99
1,4-Dioxaspiro[4.5]decane, 8-chloro-	55724-03-3	nbs75k.l	16603	58	C6H13ClO2	176

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C9 Alkene/Cycloalkane (mw 126)						
4-Hydroxy-4-methylpentanone	0-00-0	nbs75k.1	3236	42	C6H12O2	116
3-Octanol, 2-methyl-	26533-34-6	nbs75k.1	8549	39	C9H20O	144
1H-1,2,4-Triazole, 3-propyl-	19932-60-6	nbs75k.1	2412	38	C9H9N3	111

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdosl.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		nbs75k.1	8343	64		128
2,2'-Bioxepane	74793-02-5	nbs75k.1	22401	64	C12H22O2	198
1,4-Dioxaspiro[4.5]decane	177-10-6	nbs75k.1	7954	59	C8H14O2	142

E01 781

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C9 Alkene/Cycloalkane (mw 126)
Hexane, 2,4-dimethyl-
3-Octen-2-one, (E)-
Butane, 1-chloro-3-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
589-43-5	nbs75k.1	64212	37	C8H18	114
18402-82-9	nbs75k.1	4533	25	C8H14O	126
107-84-6	nbs75k.1	63665	25	C5H11Cl	106

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown hydrocarbon

Heptane, 1-(1-butenyloxy)-, (Z)-

Hexanal, 2-ethyl-

Heptane, 1-(1-butenyloxy)-, (E)-

CAS Number	Library	Entry	Quality	Formula	Weight
56052-79-0	nbs75k.1	15309	37	C11H22O	170
123-05-7	nbs75k.1	5098	35	C8H16O	128
56052-60-3	nbs75k.1	15313	32	C11H22O	170

E01 783

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptanenitrile	629-08-3	nbs75k.1	63907	40	C7H13N	111
7-Azabicyclo[4.1.0]heptane, 1-methyl-	25022-25-7	nbs75k.1	2429	50	C7H13N	111
cis-4-Decenal	21662-09-9	nbs75k.1	10956	37	C10H18O	154

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
4-Nonene, 3-methyl-, (Z)-	63830-69-3	nbs75k.1	7574	59	C10H20	140
2-Octene, 2,6-dimethyl-	4057-42-5	nbs75k.1	7538	53	C10H20	140
1-Hexene, 3,3,5-trimethyl-	13427-43-5	nbs75k.1	4683	50	C9H18	126

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown hydrocarbon

1,2-Nonadiene

2-Butyne

Propanenitrile

CAS Number	Library	Entry	Quality	Formula	Weight
22433-33-6	nbs75k.1	4223	28	C9H16	124
503-17-3	nbs75k.1	64	9	C4H6	54
107-12-0	nbs75k.1	62296	9	C3H5N	55

E01 786

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.1	5518	90	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121202	90	C8H18O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.1	121193	90	C8H18O	130

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
Cyclohexane, 2-propenyl-	2114-42-3	nbs75k.l	64813	64	C9H16	124
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.l	66067	64	C10H20	140
Cyclohexane, hexyl-	4292-75-5	nbs75k.l	68123	59	C12H24	168

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Tetradecane, 5-methyl-	25117-32-2	nbs75k.1	26003	50	C15H32	212
Hexane, 2,3,5-trimethyl-	1069-53-0	nbs75k.1	5161	50	C9H20	128
Heptane, 4-ethyl-	2216-32-2	nbs75k.1	65124	50	C9H20	128

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Nonadecane	629-92-5	nbs75k.1	37469	80	C19H40	268
Nonacosane	630-03-5	nbs75k.1	54526	64	C29H60	408
Nonane, 3-methyl-5-propyl-	31081-18-2	nbs75k.1	19054	64	C13H28	184

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match
Unknown hydrocarbon
Nonadecane
Dodecane, 5-methyl-
Undecane, 2,7-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
629-92-5	nbs75k.1	37469	72	C19H40	268
17453-93-9	nbs75k.1	19034	64	C13H28	184
17301-24-5	nbs75k.1	19060	64	C13H28	184

L01 731

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdosl.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
2-Cyclohexen-1-one, 4-(1-methylethyl)-	500-02-7	nbs75k.l	6971	72	C ₉ H ₁₄ O	138
Bicyclo[3.1.0]hexan-2-one, 5-(1-methylet	513-20-2	nbs75k.l	6997	58	C ₉ H ₁₄ O	138
Cyclohexane, 1-methyl-4-(1-methylethenyl	1124-25-0	nbs75k.l	7082	53	C ₁₀ H ₁₈	138

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown hydrocarbon

1-Eicosanol

1-Docosene

Hexadecanol

CAS Number

Library

Entry

Quality

Formula

Weight

629-96-9

nbs75k.1

72722

62

C20H42O

298

1599-67-3

nbs75k.1

72943

49

C22H44

308

29354-98-1

nbs75k.1

71254

47

C16H34O

242

E01 793

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Undecane, 5-methyl-	1632-70-8	nbs75k.1	68258	37	C12H26	170
Pentadecane, 1-bromo-	629-72-1	nbs75k.1	72545	47	C15H31Br	290
Heptane, 2,4-dimethyl-	2213-23-2	nbs75k.1	65121	38	C9H20	128

E01 794

~~E01 794~~

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277: amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 5-methyl-	1632-70-8	nbs75k.1	67315	53		170
Nonane, 3,7-dimethyl-	17302-32-8	nbs75k.1	11601	53	C11H24	156
Dodecane	112-40-3	nbs75k.1	68252	53	C12H26	170

E01 795

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Pulegone	89-82-7	nbs75k.1	66994	74	C10H16O	152
Pulegone	89-82-7	nbs75k.1	66992	74	C10H16O	152
Cyclohexanone, 5-methyl-2-(1-methylethyl)	15932-80-6	nbs75k.1	10356	72	C10H16O	152

E01 796

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C11 Alkene/Cycloalkane (mw 154)						
Cyclohexane, pentyl-	4292-92-6	nbs75k.l	67185	72	C11H22	154
Cyclohexane, 1,1'-methylenebis-	3178-23-2	nbs75k.l	17946	64	C13H24	180
Cyclohexane, (1-methylethyl)-	696-29-7	nbs75k.l	64965	64	C9H18	126

E01 797

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.l	67009	91	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.l	67008	81	C11H20	152
7-Octadecyne, 2-methyl-	35354-38-2	nbs75k.l	36681	47	C19H36	264

E01 798

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown Alkane

Undecane

Undecane, 2-methyl-

Tetracosane

CAS Number	Library	Entry	Quality	Formula	Weight
1120-21-4	nbs75k.1	67319	53	C11H24	156
7045-71-8	nbs75k.1	15356	53	C12H26	170
646-31-1	nbs75k.1	73543	50	C24H50	338

E01 799

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69033	86	C13H28	184
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	80	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	72	C13H28	184

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Octane	111-65-9	nbs75k.1	64207	47	C ₈ H ₁₈	114
Octane	111-65-9	nbs75k.1	3084	43	C ₈ H ₁₈	114
Oxirane, 2-methyl-3-propyl-, cis-	6124-90-9	nbs75k.1	1531	32	C ₆ H ₁₂ O	100

E01 801

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
1-Dotriacontanol	6624-79-9	nbs75k.1	57795	80	C32H66O	467
1-Pentadecanol	629-76-5	nbs75k.1	29675	74	C15H32O	228
1-Hexadecanol	36653-82-4	nbs75k.1	32424	64	C16H34O	242

E01 802

Date : 09-NOV-98 07:55

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane, 7-methyl-	26730-14-3	nbs75k.1	22538	64	C14H30	198
Decane, 2,6,7-trimethyl-	62108-25-2	nbs75k.1	19027	78	C13H28	184
Nonane, 3-methyl-	5911-04-6	nbs75k.1	8075	78	C10H22	142

E01 803

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2 53097.m
 File : 18122608.D
 Injection Date : 09-NOV-98 07:55 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP006-024.C277
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.657	4.668	32437	0.42	0.0042	0.78	J
Chloromethane	23	50.49	5.034	5.067	9905	0.14	0.0014	0.64	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.249				0.0065	0.85	U
Methanol	23	32.04	5.389				0.0063	4.40	U
Vinyl Chloride	23	62.50	5.540				0.0008	0.29	U
Butane	23	58.12	5.960	5.971	21854	1.29	0.0129	4.99	
Bromomethane	23	94.94	6.434				0.0026	0.61	U
Chloroethane	23	64.51	6.778				0.0027	0.94	U
Ethanol	23	46.01	6.983				0.0020	0.97	U
Acetonitrile	23	41.05	7.446				0.0020	1.09	U
Acetone	23	58.08	7.930	7.963	130665	0.97	0.0097	3.74	J
Trichlorofluoromethane	23	137.37	8.318	8.329	13816	0.25	0.0025	0.40	J
Pentane	23	72.15	8.985	8.986	21994	0.19	0.0019	0.60	J
1,1-Dichloroethene	23	96.94	9.534				0.0019	0.44	U
Methylene Chloride	23	84.93	9.718	9.739	11210	0.35	0.0035	0.94	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.202	10.202	9594	0.32	0.0032	0.39	J
Propanenitrile	23	55.08	10.966				0.0019	0.77	U
Propanol	23	60.10	10.956				0.0014	0.52	U
1,1-Dichloroethane	23	98.96	11.849				0.0010	0.23	U
2-Butanone	23	72.11	12.495				0.0014	0.43	U
cis-1,2-Dichloroethene	23	96.94	13.367				0.0017	0.39	U
Hexane	23	86.18	13.733	13.734	19155	0.30	0.0030	0.78	J
Chloroform	23	119.38	13.906				0.0013	0.24	U
Tetrahydrofuran	23	72.11	14.649				0.0008	0.25	U
1,2-Dichloroethane	34	98.96	15.316				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.822				0.0016	0.27	U
Butanenitrile	34	69.11	15.811				0.0017	0.55	U
1-Butanol	34	74.12	16.285				0.0016	0.48	U
Benzene	34	78.11	16.705	16.684	34909	0.20	0.0020	0.56	J
Carbon Tetrachloride	34	153.82	16.996				0.0017	0.25	U
Cyclohexane	34	84.16	17.254				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.277				0.0015	0.30	U
Trichloroethene	34	131.39	18.718				0.0012	0.20	U

02/02/99 14:07

18122608.D

Page 1

E01 804

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.214	19.214	81707	1.54	0.0154	3.44	
cis-1,3-Dichloropropene	34	110.97	20.398				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.409				0.0017	0.38	U
Pyridine	34	79.10	20.602				0.0093	2.63	U
trans-1,3-Dichloropropene	34	110.97	21.464				0.0009	0.18	U
Pentanenitrile	34	83.13	21.496				0.0021	0.57	U
1,1,2-Trichloroethane	34	133.40	21.905				0.0014	0.24	U
Toluene	49	92.14	22.551	22.541	36193	0.44	0.0044	1.06	J
1,2-Dibromoethane	49	187.86	24.080				0.0026	0.31	U
Octane	49	114.23	24.618	24.608	15010	0.39	0.0039	0.76	J
Bromoform	49	175.00	28.279				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.114				0.0021	0.28	U
Chlorobenzene	49	112.56	26.718				0.0013	0.26	U
Hexanenitrile	49	97.13	26.976				0.0026	0.60	U
Ethylbenzene	49	106.17	27.590				0.0014	0.30	U
p/m-Xylene	49	106.17	28.021				0.0065	1.37	U
Cyclohexanone	49	98.14	28.440	28.452	15691	0.67	0.0067	1.52	J
Styrene	59	104.15	28.936				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162				0.0021	0.28	U
o-Xylene	59	106.17	29.237				0.0014	0.30	U
Nonane	59	128.26	29.679	29.679	57080	0.64	0.0064	1.12	J
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.855				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.114				0.0013	0.24	U
Decane	59	142.28	34.362	34.362	209577	3.87	0.0387	6.10	
1,3-Dichlorobenzene	59	147.00	34.631				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.836				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.956				0.0009	0.14	U
Undecane	59	156.31	38.690	38.690	141957	12.63	0.1263	18.10	J
1,2,4-Trichlorobenzene	59	181.45	42.189				0.0014	0.17	U
Dodecane	59	170.34	42.717	42.706	416267	31.78	0.3178	41.80	
Hexachloro-1,3-butadiene	59	260.76	44.020	44.009	6136	0.40	0.0040	0.34	J
Tridecane	59	184.36	46.474	46.464	1589689	113.13	1.1313	137.46	
Tetradecane	59	198.34	50.178	50.124	21989	60.27	0.6027	68.07	
Bromochloromethane (IS)	23	129.38	13.680	13.680	3763400	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.265	17.244	12955009	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.610	26.600	10026080	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.422	6198132	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown	23	0		3.813	953025	8.93	0.0893		J
Carbon dioxide	23	44	124-38-9	3.928	3196931	29.96	0.2996	152.52	NJ
1-Hexene	23	84	592-41-6	13.163	117827	1.10	0.0110	2.94	NJ
1-Heptene	34	98	592-76-7	18.568	102094	0.35	0.0035	0.79	NJ
3-Heptene	34	98	592-78-9	19.063	841574	2.86	0.0286	6.54	NJ
3-Heptene, (E)-	34	98	14686-14-7	19.214	1306793	4.44	0.0444	10.15	NJ
2-Heptene	34	98	592-77-8	19.440	1206975	4.10	0.0410	9.37	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
2-Heptene, (E) -	34	98	14686-13-6	19.935	777716	2.64	0.0264	6.04	NJ
Unknown C9 Alkane (mw 128)	34	0		20.377	92045	0.31	0.0031		J
2-Butenal, 2-ethenyl-	34	96	20521-42-0	21.733	163897	0.56	0.0056	1.30	NJ
2-Heptyne	49	96	1119-65-9	22.853	214656	0.81	0.0081	1.89	NJ
2-Octene, (E) -	49	112	13389-42-9	23.068	136798	0.52	0.0052	1.03	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.284	769117	2.91	0.0291	5.71	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.951	868983	3.29	0.0329	6.57	NJ
3-Heptene, 3-methyl-	49	112	7300-03-0	24.446	141190	0.53	0.0053	1.07	NJ
2-Octene	49	112	111-67-1	24.597	336516	1.27	0.0127	2.54	NJ
2-Octene, (E) -	49	112	13389-42-9	24.737	85217	0.32	0.0032	0.64	NJ
Unknown C8 Alkene/Cycloalkane (mw 112)	49	0		25.028	194254	0.73	0.0073		J
2-Octene, (Z) -	49	112	7642-04-8	25.265	80503	0.30	0.0030	0.61	NJ
4-Heptanone	49	114	123-19-3	27.450	737220	2.79	0.0279	5.48	NJ
3-Heptanone	49	114	106-35-4	28.085	4639714	17.54	0.1754	34.47	NJ
2-Heptanone	49	114	110-43-0	28.215	1036490	3.92	0.0392	7.70	NJ
3-Heptanol	59	116	589-82-2	28.753	571388	3.34	0.0334	6.45	NJ
Unknown C8 Alkane (mw 114)	59	0		29.141	90367	0.53	0.0053		J
1,3-Diethyl-1,4-epoxybutane	59	128		30.982	649114	3.80	0.0380	6.64	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.111	794024	4.64	0.0464		J
1,2-Diethyl-1,4-epoxybutane	59	128		31.186	1037432	6.07	0.0607	10.62	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.488	829043	4.85	0.0485		J
Unknown hydrocarbon	59	0		31.638	276987	1.62	0.0162		J
Heptanenitrile	59	111	629-08-3	32.037	113148	0.66	0.0066	1.34	NJ
Unknown hydrocarbon	59	0		33.156	196754	1.15	0.0115		J
Unknown hydrocarbon	59	0		33.759	816154	4.77	0.0477		J
1-Hexanol, 2-ethyl-	59	130	104-76-7	34.998	2535285	14.83	0.1483	25.54	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		36.300	104696	0.61	0.0061		J
Unknown Alkane	59	0		36.946	154449	0.90	0.0090		J
Unknown hydrocarbon	59	0		37.140	562883	3.29	0.0329		J
Unknown hydrocarbon	59	0		37.398	209069	1.22	0.0122		J
Unknown Alkyl Decahydronaphthalene	59	0		37.829	141804	0.83	0.0083		J
Unknown hydrocarbon	59	0		39.186	165782	0.97	0.0097		J
Unknown hydrocarbon	59	0		39.520	133308	0.78	0.0078		J
Undecane, 5-methyl-	59	170	1632-70-8	39.950	97737	0.57	0.0057	0.75	NJ
Unknown Alkyl Decahydronaphthalene	59	0		40.252	191707	1.12	0.0112		J
Unknown C11 Alkene/Cycloalkane (mw 154)	59	0		40.704	110033	0.64	0.0064		J
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.973	287046	1.68	0.0168	2.47	NJ
Unknown Alkane	59	0		41.339	149459	0.87	0.0087		J
Undecane, 2,6-dimethyl-	59	184	17301-23-4	43.342	703901	4.12	0.0412	5.01	NJ
Unknown Alkane	59	0		43.665	133786	0.78	0.0078		J
Unknown Alkane	59	0		44.655	319144	1.87	0.0187		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	12804920
Difluorobenzene (IS)	34	28548592
D5-Chlorobenzene (IS)	49	29356390
1-Bromo-4-Fluorobenzene (IS)	59	30782111

U--Compound not detected
J--Estimated quantity used for detection below EQL or for TICs
E--Exceeds upper quantitation limit
N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/02/99 14:07

18122608.D

Page 3

E01 807

F01 808

Rev. 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-024.C277; amb.air 200 ml; 2X

Data File: /chem/hpdos1.i/18122602.b/18122609.D

Page 1

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

E01 810

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

1 Dichlorodifluoromethane

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

E01 812

HNF- 4073
E0

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E01 813

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

12 Acetone

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpds01.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

16 Methylene Chloride

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

E01 816

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

24 Hexane

F01 817

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

E01-818

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

37 Heptane

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

44 Toluene

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

46 Octane

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

58 Nonane

E01 822

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

63 Decane

E01 823

Date: 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

67 Undecane

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

69 Dodecane

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdcsl.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

71 Tridecane

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

72 Tetradecane

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Unknown

0

0

0

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Carbon dioxide	124-38-9	nbs75k.1	62263	5	CO2	44
Carbon dioxide	124-38-9	nbs75k.1	34	5	CO2	44
Carbon dioxide	124-38-9	WILEY138.1	115915	5	CO2	44

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

CAS Number

Library

Entry

Quality Formula

Weight

Unknown

0

0

0

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene		nbs75k.l	63245	50	C7H14	98
Cyclopropane, 1,1-dichloro-2-hexyl-	5685-42-7	nbs75k.l	21138	64	C9H16Cl2	194
1-Hexene, 3-methyl-	3404-61-3	nbs75k.l	1325	46	C7H14	98

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	63247	94	C7H14	98
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	91	C7H14	98

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	35	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	64	C7H14	98
Cyanoic acid, butyl ester	1768-24-7	nbs75k.1	1391	59	C5H9NO	99

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	1337	97	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98

E01 835

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	95	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277: amb.air 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.l	63138	97	C7H12	96
2-Heptyne	1119-65-9	nbs75k.l	1141	95	C7H12	96
2-Octyne	2809-67-8	nbs75k.l	63876	83	C8H14	110

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	64023	74	CEH16	112
Cyclooctane	292-64-8	nbs75k.1	63992	81	CEH16	112
4-Octene, (Z)-	7642-15-1	nbs75k.1	2654	74	CEH16	112

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	64	CEH18	114
Hexane, 2,4-dimethyl-	589-43-5	nbs75k.1	3089	81	CEH18	114
Hexane, 2,4-dimethyl-	589-43-5	nbs75k.1	64213	72	CEH18	114

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	91	C8H16	112
2-Butene, 2-methyl-	513-35-9	nbs75k.1	62462	90	C5H10	70
2-Pentene	109-68-2	nbs75k.1	231	86	C5H10	70

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	87	C ₈ H ₁₆	112
5-Methyl-3-heptene	0-00-0	nbs75k.1	2641	86	C ₈ H ₁₆	112
3-Ethyl-3-hexene	16789-51-8	nbs75k.1	2645	80	C ₈ H ₁₆	112

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64031	64	CEH16	112
1-Pentene, 3-ethyl-4-methyl-	61847-80-1	nbs75k.1	2732	59	CEH16	112
Heptane, 3-methylene-	1632-16-2	nbs75k.1	64033	45	CEH16	112

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64172	91	C7H14O	114
3-Heptanone	106-35-4	WILEY138.1	119309	91	C7H14O	114

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	nbs75k.1	64165	78	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	64162	64	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	3018	64	C7H14O	114

E01 844

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
n-Butyl ether	142-96-1	nbs75k.1	5535	38	C6H18O	130
Ethanol, 2-butoxy-	111-76-2	nbs75k.1	64440	33	C6H14O2	118
Hexane, 2,2,5,5-tetramethyl-	1071-81-4	nbs75k.1	66226	9	C10H22	142

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64383	64	C7H16O	116
3-Hexanol, 5-methyl-	623-55-2	nbs75k.1	64371	86	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64381	78	C7H16O	116

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		nbs75k.l	1373	59		128
1,4-Dioxaspiro[4.5]decane, 8-chloro-	55724-03-3	nbs75k.l	16603	52	C8H13ClO2	176
4-Methylthiazole	693-95-8	nbs75k.l	63278	50	C4H5NS	99

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C9 Alkene/Cycloalkane (mw 126)
1-Hexyn-3-ol
3-Hexen-2-one
6-Tetradecanol

CAS Number	Library	Entry	Quality	Formula	Weight
105-31-7	nbs75k.1	1263	59	C6H10O	98
763-93-9	nbs75k.1	1247	50	C6H10O	98
6836-39-1	nbs75k.1	26422	39	C14H30O	214

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		nbs75k.1	22423	64		128
2,2'-Bioxepane	74793-02-5	nbs75k.1	22401	64	C12H22O2	198
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	59	C6H13BO2	128

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277: amb.air 200 ml; 2K; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

1-Octene, 3,7-dimethyl-

3-Octen-2-one, (E)-

1-Heptadecanol

CAS Number

Library

Entry

Quality

Formula

Weight

4984-01-4

nbs75k.1

66070

25

C10H20

140

18402-82-9

nbs75k.1

4533

25

C8H14O

126

1454-85-9

nbs75k.1

71616

22

C17H36O

256

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)

Hexanal, 2-ethyl-

3-Heptanone, 6-methyl-

1-Propene, 1-methoxy-

Library	Entry	Quality	Formula	Weight
nbs75k.1	5098	43	C8H16O	128
nbs75k.1	5041	38	C8H16O	128
nbs75k.1	269	38	C4H8O	72

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Hexanenitrile	628-73-9	nbs75k.1	63154	45	C6H11N	97
Butanedinitrile, 2,3-dimethyl-	16411-13-5	nbs75k.1	2112	40	C6H8N2	108
1,2-Nonadiene	22433-33-6	nbs75k.1	4223	36	C9H16	124

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match
Unknown C10 Alkene/Cycloalkane (mw 140)
Cyclohexane, 1,4-dimethyl-, trans-
3-Heptene, 4-propyl-
3-Hexene, 3-ethyl-2,5-dimethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
2207-04-7	nbs75k.1	64008	53	C8H16	112
4485-13-6	nbs75k.1	7526	53	C10H20	140
62338-08-3	nbs75k.1	7530	47	C10H20	140

E01 853

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexanol, 2-ethyl-	104-76-7	nbs75k.l	5518	83	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.l	121201	83	C ₈ H ₁₈ O	130
1-Hexanol, 2-ethyl-	104-76-7	WILEY138.l	121193	83	C ₈ H ₁₈ O	130

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown hydrocarbon

Octane, 3,3-dimethyl-

Nonane, 2,6-dimethyl-

Decane, 4-methyl-

CAS Number

Library

Entry

Quality

Formula

Weight

4110-44-5

nbs75k.1

8088

53

C10H22

142

17302-28-2

nbs75k.1

11598

53

C11H24

156

2847-72-5

nbs75k.1

67323

53

C11H24

156

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	66067	38	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66057	58	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66056	58	C10H20	140

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-024.C277: amb.air 200 ml; 2X; rep

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Undecane, 4,7-dimethyl-	17301-32-5	nbs75k.1	19020	72	C13H28	184
Nonadecane	629-92-5	nbs75k.1	37469	72	C19H40	268
Pentadecane	629-62-9	nbs75k.1	26001	64	C15H32	212

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
1-Heptanol, 2-propyl-	10042-59-8	nbs75k.1	12078	64	C10H22O	158
Undecane, 2,7-dimethyl-	17301-24-5	nbs75k.1	19060	64	C13H28	184
Nonane, 4,5-dimethyl-	17302-23-7	nbs75k.1	11612	64	C11H24	156

E01 858

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.l	65956	95	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.l	65955	94	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.l	7108	93	C10H18	138

HNF-4015
R0

Data File: /chem/hpdos1.i/18122602.b/18122609.D

Page 50

Date: 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2K; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown Alkyl Decahydronaphthalene

Pulegone

Naphthalene, decahydro-2-methyl-

Pulegone

CAS Number	Library	Entry	Quality	Formula	Weight
69-82-7	nbs75k.1	66994	72	C10H16O	152
2958-76-1	nbs75k.1	67009	49	C11H20	152
69-82-7	nbs75k.1	66992	49	C10H16O	152

E01 860-A

HNP-401-2
RO

Data File: /chem/hpdos1.i/18122602.b/18122609.I

Page 51

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	91	C11H20	152
Cyclohexanone, 5-methyl-2-(1-methylethyl)	15932-80-6	nbs75k.1	10356	53	C10H16O	152
Pulegone	59-82-7	nbs75k.1	66992	49	C10H16O	152

E01 860-B

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

HNF-4073

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Undecane, 2,6-dimethyl-

17301-23-4

nbs75k.1

69033

80

C13H28

184

Dodecane, 6-methyl-

6044-71-9

nbs75k.1

19006

72

C13H28

184

Decane, 2,6,7-trimethyl-

62108-25-2

nbs75k.1

19027

64

C13H28

184

Date : 09-NOV-98 09:14

Client ID: amb.air 200 ml

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: VP006-024.C277; amb.air 200 ml; 2X; rep

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Tridecane, 7-methyl-	26730-14-3	nbs75k.1	22532	59	C14H30	198
Unknown Alkane			0	0		0
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	19058	72	C13H28	184

E01 862

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 18122609.D
 Injection Date : 09-NOV-98 09:14 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP006-024.C277
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.657	4.658	28885	0.37	0.0037	0.69	J
Chloromethane	23	50.49	5.034				0.0012	0.53	U
1,2-dichloro-1,1,2,2-tetrafluoroethane	23	170.92	5.249				0.0065	0.85	U
Methanol	23	32.04	5.389				0.0063	4.40	U
Vinyl Chloride	23	62.50	5.540				0.0008	0.29	U
Butane	23	58.12	5.960	5.961	19261	1.13	0.0113	4.36	J
Bromomethane	23	94.94	6.434				0.0026	0.61	U
Chloroethane	23	64.51	6.778				0.0027	0.94	U
Ethanol	23	46.01	6.983				0.0020	0.97	U
Acetonitrile	23	41.05	7.446				0.0020	1.09	U
Acetone	23	58.08	7.930	7.974	110328	0.81	0.0081	3.13	J
Trichlorofluoromethane	23	137.37	8.318				0.0024	0.39	U
Pentane	23	72.15	8.985				0.0019	0.59	U
1,1-Dichloroethene	23	96.94	9.534				0.0019	0.44	U
Methylene Chloride	23	84.93	9.718	9.729	10318	0.32	0.0032	0.85	J
1,1,2-trichloro-1,1,2,2-trifluoroethane	23	187.38	10.202	10.214	8808	0.29	0.0029	0.35	J
Propanenitrile	23	55.08	10.966				0.0019	0.77	U
Propanol	23	60.10	10.956				0.0014	0.52	U
1,1-Dichloroethane	23	98.96	11.849				0.0010	0.23	U
2-Butanone	23	72.11	12.495				0.0014	0.43	U
cis-1,2-Dichloroethene	23	96.94	13.367				0.0017	0.39	U
Hexane	23	86.18	13.733	13.735	19309	0.30	0.0030	0.78	J
Chloroform	23	119.38	13.906				0.0013	0.24	U
Tetrahydrofuran	23	72.11	14.649				0.0008	0.25	U
1,2-Dichloroethane	34	98.96	15.316				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.822				0.0016	0.27	U
Butanenitrile	34	69.11	15.811				0.0017	0.55	U
1-Butanol	34	74.12	16.285				0.0016	0.48	U
Benzene	34	78.11	16.705	16.695	34721	0.20	0.0020	0.58	J
Carbon Tetrachloride	34	153.82	16.996				0.0017	0.25	U
Cyclohexane	34	84.16	17.254				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.277				0.0015	0.30	U
Trichloroethene	34	131.39	18.718				0.0012	0.20	U

02/02/99 14:07

18122609.D

Page 1

E01 863

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.214	19.204	79191	1.54	0.0154	3.44	
cis-1,3-Dichloropropene	34	110.97	20.398				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.409				0.0017	0.38	U
Pyridine	34	79.10	20.602				0.0093	2.63	U
trans-1,3-Dichloropropene	34	110.97	21.464				0.0009	0.18	U
Pentanenitrile	34	83.13	21.496				0.0021	0.57	U
1,1,2-Trichloroethane	34	133.40	21.905				0.0014	0.24	U
Toluene	49	92.14	22.551	22.541	34770	0.42	0.0042	1.02	J
1,2-Dibromoethane	49	187.86	24.080				0.0026	0.31	U
Octane	49	114.23	24.618	24.619	15952	0.41	0.0041	0.81	J
Bromoform	49	175.00	28.279				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.114				0.0021	0.28	U
Chlorobenzene	49	112.56	26.718				0.0013	0.26	U
Hexanenitrile	49	97.13	26.976				0.0026	0.60	U
Ethylbenzene	49	106.17	27.590				0.0014	0.30	U
p/m-Xylene	49	106.17	28.021				0.0065	1.37	U
Cyclohexanone	49	98.14	28.440				0.0029	0.66	U
Styrene	59	104.15	28.936				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162				0.0021	0.28	U
o-Xylene	59	106.17	29.237				0.0014	0.30	U
Nonane	59	128.26	29.679	29.680	54756	0.62	0.0062	1.08	J
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.855				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.114				0.0013	0.24	U
Decane	59	142.28	34.362	34.352	205209	3.81	0.0381	6.00	
1,3-Dichlorobenzene	59	147.00	34.631				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.836				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.956				0.0009	0.14	U
Undecane	59	156.31	38.690	38.691	145355	13.01	0.1301	18.64	J
1,2,4-Trichlorobenzene	59	181.45	42.189				0.0014	0.17	U
Dodecane	59	170.34	42.717	42.718	435843	33.47	0.3347	44.01	
Hexachloro-1,3-butadiene	59	260.76	44.020	44.021	5801	0.38	0.0038	0.32	J
Tridecane	59	184.36	46.474	46.475	1443524	103.32	1.0332	125.53	
Tetradecane	59	198.34	50.178	50.147	24762	68.26	0.6826	77.09	
Bromochloromethane (IS)	23	129.38	13.680	13.670	3798322	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.265	17.244	12569741	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.610	26.600	10072089	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.423	6163022	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown	23	0		3.813	1306609	9.88	0.0988		J
Carbon dioxide	23	44	124-38-9	3.928	4968309	37.55	0.3755	191.19	NJ
Unknown	23	0		4.089	1019781	7.71	0.0771		J
1-Heptene	34	98		18.590	115112	0.40	0.0040	0.92	NJ
3-Heptene	34	98	592-78-9	19.053	862293	3.02	0.0302	6.89	NJ
(Z)-3-Heptene	34	98	7642-10-6	19.215	1312349	4.59	0.0459	10.49	NJ
2-Heptene	34	98	592-77-8	19.430	1157508	4.05	0.0405	9.25	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
2-Heptene, (E)-	34	98	14686-13-6	19.936	750693	2.62	0.0262	6.00	NJ
2-Heptyne	49	96	1119-65-9	22.854	230365	0.87	0.0087	2.02	NJ
2-Octene, (E)-	49	112	13389-42-9	23.069	130055	0.49	0.0049	0.98	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.284	732006	2.75	0.0275	5.41	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.952	887943	3.34	0.0334	6.68	NJ
3-Heptene, 3-methyl-	49	112	7300-03-0	24.447	157273	0.59	0.0059	1.18	NJ
Heptane, 3-methylene-	49	112	1632-16-2	25.029	136800	0.51	0.0051	1.03	NJ
3-Heptanone	49	114	106-35-4	28.075	4532583	17.05	0.1705	33.49	NJ
2-Heptanone	49	114	110-43-0	28.215	1012251	3.81	0.0381	7.48	NJ
n-Butyl ether	49	130	142-96-1	28.442	253655	0.95	0.0095	1.64	NJ
3-Heptanol	59	116	589-82-2	28.754	657068	3.85	0.0385	7.43	NJ
1,3-Diethyl-1,4-epoxybutane	59	128		30.982	636968	3.73	0.0373	6.53	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.101	873022	5.12	0.0512		J
1,2-Diethyl-1,4-epoxybutane	59	128		31.187	963477	5.65	0.0565	9.88	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.478	810329	4.75	0.0475		J
Unknown C9 Alkene/Cycloalkane (mw 126)	59	0		31.628	190542	1.12	0.0112		J
Unknown hydrocarbon	59	0		33.760	979760	5.74	0.0574		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	0		34.105	114560	0.67	0.0067		J
1-Hexanol, 2-ethyl-	59	130	104-76-7	34.998	2629322	15.41	0.1541	26.55	NJ
Unknown hydrocarbon	59	0		35.483	427861	2.51	0.0251		J
Cyclohexane, (2-methylpropyl)-	59	140	1678-98-4	36.312	158440	0.93	0.0093	1.49	NJ
Unknown hydrocarbon	59	0		37.130	493790	2.89	0.0289		J
Unknown hydrocarbon	59	0		37.389	233730	1.37	0.0137		J
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.830	216551	1.27	0.0127	2.06	NJ
Unknown Alkyl Decahydronaphthalene	59	0		40.242	179030	1.05	0.0105		J
Naphthalene, decahydro-2-methyl-	59	152	2958-76-1	40.985	267600	1.57	0.0157	2.31	NJ
Undecane, 2,6-dimethyl-	59	184	17301-23-4	43.342	799999	4.69	0.0469	5.71	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	15875622
Difluorobenzene (IS)	34	27740759
D5-Chlorobenzene (IS)	49	29516897
1-Bromo-4-Fluorobenzene (IS)	59	30720918

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/02/99 14:07

18122609.D

Page 3

501 886

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-024.C277; amb.air 200 ml; 2X; rep

02/02/99 14:07

18122609.D

Page 4

E01 867

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 18122609.D

HNF-4073
Rev. 0

Sample Info : VP006-024.C277; amb.air 200 ml; 2X; rep

02/02/99 14:07

18122609.D

E01 865

Page 5

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 12 OF 13

Document Information

Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS E01-869 THRU PAGE E02- 198 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

HNF-4073

Rev. 0

SUMMA INITIAL
CALIBRATION
BATCH FILE

19010802.b

Initial Calibration Case Narrative (batch file 19010802.b)

This analytical sequence was run to make the initial calibration of the system Entech 1 with standards received from SAS laboratory 55471-39-1 and 55471-42-1(10X). 100, 200 and 50 mL of Standard 55471-39-1 and 20, 50, and 250 mL of Standard 55471-42-1(55471-39-1 diluted 1:10 vv) were used for initial calibration. Four target compounds (3-methylhexane - 42.0%, 3-heptanone - 37.5%, 2-heptanone- 47.5% and 2-octanone - 96.2%) surpassed the 30% percent relative standard deviation (%RSD) acceptance criteria for initial calibration. These compounds showed nonlinear response and linear approximation of their calibration curves leads to significant errors of their quantitative determination.

After completing a valid BFB tune , the 12-hour clock criterion for an analytical sequence was not exceeded within the batch.

The tank sample's internal standard quant area % recoveries were within the acceptance criterion (50%<quant<200%) allowed by TVP-03, Rev. 1 .

02/08/99

Data File : C:\HPCHEM\1\DATA\19010801.B\19010801.D

Vial: 1

Acq On : 22 Nov 98 12:38 am

Operator: Alex

Sample : Tune Check BFB

Inst : System 1

Misc : Tune Check BFB 56391-5-01

Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\SUM1601.M

Title : exp

HNF-4073
Rev. 0

Peak Apex is scan: 2619

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.7	17824	PASS
75	95	30	66	42.5	38392	PASS
95	95	100	100	100.0	90336	PASS
96	95	5	9	6.9	6237	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	86.3	77944	PASS
175	174	4	9	7.7	5988	PASS
176	174	93	101	100.0	77920	PASS
177	176	5	9	6.3	4943	PASS

SAMPLE INFORMATION SUMMARY

HNF-4073
Rev. 0

BATCH: /chem/hpdos1.i/19010802.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
28122702.D	09-NOV-1998 21:02	Continuing Cal		1.00	hpdos1	sas_stdT014.m
19010802.D	22-NOV-1998 01:43	Cal Level 2		1.00	hpdos1	sas_stdT014.m
19010803.D	22-NOV-1998 02:56	Cal Level 1		1.00	hpdos1	sas_stdT014.m
19010804.D	22-NOV-1998 04:16	Cal Level 3		1.00	hpdos1	sas_stdT014.m
19010805.D	22-NOV-1998 05:42	Cal Level 4		1.00	hpdos1	sas_stdT014.m
19010806.D	22-NOV-1998 07:09	Cal Level 6		1.00	hpdos1	sas_stdT014.m
19010807.D	22-NOV-1998 08:43	Cal Level 7		1.00	hpdos1	sas_stdT014.m

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
28122702.D	GAS	VAPOR	CCV 100mL		St. 55471-39-1	
19010802.D	GAS	VAPOR	50 (10X) ml			
19010803.D	GAS	VAPOR	20 (10X) ml			
19010804.D	GAS	VAPOR	250 (10X) ml			SDGa07470
19010805.D	GAS	VAPOR	50ml			
19010806.D	GAS	VAPOR	100 ml			
19010807.D	GAS	VAPOR	200 ml			

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
28122702.D	all.sub		1038595	1038594	1038593	1038586
19010802.D	all.sub		1038587	1038594	1038593	1038586
19010803.D	all.sub		1038588	1038594	1038593	1038586
19010804.D	all.sub		1038589	1038594	1038593	1038586
19010805.D	all.sub		1038590	1038594	1038593	1038586
19010806.D	all.sub		1038591	1038594	1038593	1038586
19010807.D	all.sub		1038592	1038594	1038593	1038586

INTERNAL STANDARD AREA SUMMARY (as of 02/03/99 15:50)

Datafile	Internal Standard	RT	TotalArea	QuantArea	AreaRatio	Percent
19010802.D	Bromochloromethane (IS)	13.64	15066028	4671987	3.22	100.00
19010802.D	Difluorobenzene (IS)	17.21	33795271	13154467	2.57	100.00
19010802.D	Chlorobenzene-d5 (IS)	26.56	33473427	10848551	3.09	100.00
19010802.D	1-Bromo-4-Fluorobenzene (IS)	30.38	31780571	6384117	4.98	100.00
19010803.D	Bromochloromethane (IS)	13.64	13822956	4654809	2.97	99.63
19010803.D	Difluorobenzene (IS)	17.20	32268262	13482370	2.39	102.49
19010803.D	Chlorobenzene-d5 (IS)	26.55	32486596	10866386	2.99	100.16
19010803.D	1-Bromo-4-Fluorobenzene (IS)	30.37	31503420	6329607	4.98	99.15
19010804.D	Bromochloromethane (IS)	13.65	23130904	3539711	6.53	75.76
19010804.D	Difluorobenzene (IS)	17.21	38454490	12331507	3.12	93.74
19010804.D	Chlorobenzene-d5 (IS)	26.56	30391480	10467062	2.90	96.48
19010804.D	1-Bromo-4-Fluorobenzene (IS)	30.38	31576932	6303674	5.01	98.74
19010805.D	Bromochloromethane (IS)	13.66	30879276	3564454	8.66	76.29
19010805.D	Difluorobenzene (IS)	17.21	43434578	11056594	3.93	84.05
19010805.D	Chlorobenzene-d5 (IS)	26.56	29129575	10183143	2.86	93.87
19010805.D	1-Bromo-4-Fluorobenzene (IS)	30.38	32017162	6385877	5.01	100.03
19010806.D	Bromochloromethane (IS)	13.68	46803698	3845114	12.17	82.30
19010806.D	Difluorobenzene (IS)	17.21	58494951	11605083	5.04	88.22
19010806.D	Chlorobenzene-d5 (IS)	26.57	33429572	11756865	2.84	108.37
19010806.D	1-Bromo-4-Fluorobenzene (IS)	30.39	35207999	6994120	5.03	109.56
19010807.D	Bromochloromethane (IS)	13.69	67494960	3505186	19.26	75.03
19010807.D	Difluorobenzene (IS)	17.22	77028866	9715321	7.93	73.86
19010807.D	Chlorobenzene-d5 (IS)	26.57	31651161	11369596	2.78	104.80
19010807.D	1-Bromo-4-Fluorobenzene (IS)	30.39	34017326	6753551	5.04	105.79

HNF-4073
Rev. 0

HNF-4073
Rev. 0

Pacific Northwest National Laboratory

Data file : /chem/hpdos1.i/19010802.B/19010802.D
Lab Smp Id: ~~TST~~ System-6
Inj Date : 22-NOV-1998 01:43
Operator : ~~JCE~~ ~~Allen~~ ~~A.V.M.~~ Inst ID: hpdos1.i
Smp Info : Init. Cal; st. 55471-42-1(10x); 50 ml
Misc Info :
Comment :
Method : /chem/hpdos1.i/19010802.B/sas stdt014.m
Meth Date : 13-Jan-1999 16:38 john Quant Type: ISTD
Cal Date : 22-NOV-1998 01:43 Cal File: 19010802.D
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.10

Compounds	QUANT SIG				RESPONSE	AMOUNTS	
	MASS	RT	EXP RT	REL RT		CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
1 Propene	41.00	4.485	4.485	(0.329)	332477	3.10	2.70 (QM)
2 Propane	43.00	4.538	4.538	(0.333)	114181	3.10	2.82 (QM)
3 Dichlorodifluoromethane	85.00	4.646	4.646	(0.341)	811034	9.00	8.18
4 Chloromethane	50.00	5.034	5.034	(0.369)	273717	3.60	3.33
5 Butane	43.00	5.949	5.949	(0.436)	308781	4.20	3.94 (M)
6 Chloroethane	64.00	6.767	6.767	(0.496)	86150	4.40	3.61 (M)
7 Ethanol	31.00	6.918	6.918	(0.507)	170777	5.60	3.60 (M)
8 Trichlorofluoromethane	101.00	8.296	8.296	(0.608)	751527	10.1	10.4
9 Isopropyl Alcohol	45.00	8.307	8.307	(0.609)	897569	8.00	8.12 (M)
11 Furan	68.00	8.597	8.597	(0.630)	638841	8.90	8.90 (QM)
12 Acetone	58.00	7.908	7.908	(0.580)	192944	7.80	8.46 (QM)
13 Pentane	43.00	8.953	8.953	(0.657)	570182	5.10	5.02
14 Methylene Chloride	84.00	9.696	9.696	(0.711)	262528	5.90	5.79 (M)
15 1,1,2-trichloro-2,2,2-trifluoroethane	151.00	10.169	10.169	(0.746)	598155	13.5	13.5
16 Propanenitrile	54.00	10.912	10.912	(0.800)	211882	7.30	4.90 (M)
17 Propanol	31.00	10.902	10.902	(0.799)	710588	7.50	6.48 (M)
18 2-Methylpentane	43.00	12.097	12.097	(0.887)	779179	5.90	5.80 (M)
19 Butanal	72.00	12.247	12.247	(0.898)	157742	7.50	6.66 (M)
20 2-Butanone	43.00	12.441	12.441	(0.912)	1062153	9.10	7.68 (M)
21 1-Hexene	56.00	13.098	13.098	(0.961)	314970	5.70	5.39 (M)
* 22 Bromochloromethane (IS)	49.00	13.636	13.636	(1.000)	4671987	120	
23 Hexane	57.00	13.690	13.690	(1.004)	494513	5.90	5.96 (M)
24 Chloroform	83.00	13.841	13.841	(1.015)	630412	9.60	9.14
25 Tetrahydrofuran	72.00	14.605	14.605	(1.071)	266232	9.50	8.89 (QM)
26 Butanenitrile	41.00	15.746	15.746	(0.915)	673074	8.60	7.24 (M)
27 Benzene	78.00	16.651	16.651	(0.967)	977537	5.30	5.33
28 Carbon Tetrachloride	117.00	16.942	16.942	(0.984)	552884	10.7	11.0
* 29 Difluorobenzene (IS)	114.00	17.211	17.211	(1.000)	13154467	97.0	
30 2-Pentanone	43.00	17.318	17.318	(1.006)	1418395	10.9	10.1 (M)

E01 874

Compounds	QUANT SIG				RESPONSE	AMOUNTS	
	MASS	RT	EXP RT	REL RT		CAL-AMT (ng)	ON-COL (ng)
=====	====	==	=====	=====	=====	=====	=====
31 1-Butanol	31.00	17.211	17.211	(1.000)	593765	8.70	11.9 (QM)
32 3-Methylhexane	43.00	17.318	17.318	(1.006)	1116675	6.70	9.36 (M)
33 1,4-Dioxane	88.00	18.578	18.578	(1.079)	333403	11.7	10.2 (QM)
34 Heptane	71.00	19.170	19.170	(1.114)	324912	6.80	7.52 (M)
35 4-Methyl-2-Pentanone	43.00	20.365	20.365	(1.183)	1203881	12.1	11.0 (M)
36 1,1,2-Trichloroethane	83.00	21.851	21.851	(1.270)	292785	9.20	8.87 (M)
37 Toluene	92.00	22.508	22.508	(0.848)	570730	6.30	6.73
38 2-Hexanone	43.00	22.928	22.928	(0.863)	1025362	12.3	12.6 (M)
39 Octane	85.00	24.575	24.575	(0.925)	274902	7.90	8.51 (M)
40 Tetrachloroethylene	164.00	25.059	25.059	(0.944)	411302	10.9	12.4
* 41 Chlorobenzene-d5 (IS)	117.00	26.556	26.556	(1.000)	10848551	111	
42 Chlorobenzene	112.00	26.664	26.664	(1.004)	769948	7.20	7.75
43 Ethylbenzene	91.00	27.536	27.536	(1.037)	1064588	7.50	7.88
	91.00	27.977	27.536	(1.054)	1132627	7.50	8.38
44 p/m-Xylene	106.00	27.977	27.977	(1.054)	889581	15.0	16.1
	106.00	27.536	27.977	(1.037)	341812	15.0	6.19 (aQ)
45 3-Heptanone	57.00	28.053	28.053	(1.056)	752933	14.4	20.6 (M)
46 2-Heptanone	43.00	28.203	28.203	(0.928)	642064	13.9	10.2 (M)
48 Cyclohexanone	41.00	28.042	28.042	(0.923)	175243	12.1	13.4 (Q)
49 Styrene	104.00	28.892	28.892	(0.951)	587717	7.50	7.66
50 1,1,2,2-Tetrachloroethane	83.00	29.118	29.118	(0.959)	548696	12.5	11.6 (M)
51 o-Xylene	106.00	29.183	29.183	(0.961)	427199	7.30	7.73
52 Nonane	57.00	29.635	29.635	(0.976)	568719	8.10	8.22 (M)
* 53 1-Bromo-4-Fluorobenzene (IS)	95.00	30.378	30.378	(1.000)	6384117	180	
55 1,2,4-Trimethylbenzene	105.00	34.082	34.082	(1.122)	597793	9.00	8.42
124 2-Octanone	43.00	32.865	32.865	(1.082)	9047	15.4	0.265 (aQM)
126 Decane	43.00	34.319	34.319	(1.130)	530689	12.2	13.4 (M)

QC Flag Legend

- a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
- Q - Qualifier signal failed the ratio test.
- M - Compound response manually integrated.

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

Data file : /chem/hpdos1.i/19010802.b/19010803.D
Lab Smp Id: 20 (10X) ml
Inj Date : 22-NOV-1998 02:56
Operator : ~~Joe~~ *ACor A.V.N.* Inst ID: hpdos1.i
Smp Info : Init. Cal; st. 55471-42-1(10x); 20 ml
Misc Info :
Comment :
Method : /chem/hpdos1.i/19010802.b/sas_stdTO14.m
Meth Date : 04-Feb-1999 16:35 john Quant Type: ISTD
Cal Date : 22-NOV-1998 02:56 Cal File: 19010803.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.10

Compounds	QUANT SIG				AMOUNTS		
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
1 Propene	41.00	4.474	4.474	(0.328)	165715	1.22	1.35 (M)
2 Propane	43.00	4.528	4.528	(0.332)	51804	1.24	1.28 (QM)
3 Dichlorodifluoromethane	85.00	4.636	4.636	(0.340)	383627	3.60	3.88
4 Chloromethane	50.00	5.034	5.034	(0.369)	139349	1.45	1.70
5 Butane	43.00	5.928	5.928	(0.435)	153070	1.67	1.96 (M)
6 Chloroethane	64.00	6.767	6.767	(0.497)	64899	1.76	2.73 (M)
7 Ethanol	31.00	6.929	6.929	(0.509)	131188	2.24	2.78 (M)
8 Trichlorofluoromethane	101.00	8.285	8.285	(0.608)	372723	4.00	5.16
9 Isopropyl Alcohol	45.00	8.307	8.307	(0.610)	437565	3.18	3.97 (M)
11 Furan	68.00	8.598	8.598	(0.631)	294788	3.57	4.12 (QM)
12 Acetone	58.00	7.919	7.919	(0.581)	97614	3.11	4.30 (QM)
13 Pentane	43.00	8.953	8.953	(0.657)	277254	2.05	2.45
14 Methylene Chloride	84.00	9.696	9.696	(0.712)	122208	2.37	2.70 (M)
15 1,1,2-trichloro-1,2,2-trifluoroethane	151.00	10.159	10.159	(0.746)	305685	5.40	6.90
16 Propanenitrile	54.00	10.912	10.912	(0.801)	85150	2.92	1.98 (M)
17 Propanol	31.00	10.902	10.902	(0.800)	282869	2.99	2.59 (M)
18 2-Methylpentane	43.00	12.097	12.097	(0.888)	361156	2.35	2.70 (M)
20 2-Butanone	43.00	12.441	12.441	(0.913)	441853	3.63	3.21 (M)
21 1-Hexene	56.00	13.098	13.098	(0.961)	155541	2.27	2.67 (M)
* 22 Bromochloromethane (IS)	49.00	13.626	13.626	(1.000)	4654809	120	
23 Hexane	57.00	13.679	13.679	(1.004)	242224	2.36	2.93 (M)
24 Chloroform	83.00	13.830	13.830	(1.015)	395239	3.80	4.44
25 Tetrahydrofuran	72.00	14.605	14.605	(1.072)	121718	3.82	4.08 (QM)
26 Butanenitrile	41.00	15.747	15.747	(0.915)	253026	3.44	2.65 (M)
27 Benzene	78.00	16.640	16.640	(0.967)	477203	2.11	2.54
28 Carbon Tetrachloride	117.00	16.931	16.931	(0.984)	272542	4.29	5.27
* 29 Difluorobenzene (IS)	114.00	17.200	17.200	(1.000)	13482370	97.0	
31 1-Butanol	31.00	17.200	17.200	(1.000)	582610	3.49	11.4 (QM)
32 3-Methylhexane	43.00	17.319	17.319	(1.007)	545404	2.69	4.46 (M)

E01 876

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
33 1,4-Dioxane	88.00	18.578	18.578	(1.080)	178003	4.67	5.32(QM)
34 Heptane	71.00	19.149	19.149	(1.113)	145711	2.71	3.29(M)
35 4-Methyl-2-Pentanone	43.00	20.365	20.365	(1.184)	666460	4.83	5.92(M)
36 1,1,2-Trichloroethane	83.00	21.840	21.840	(1.270)	140756	3.70	4.16(M)
37 Toluene	92.00	22.497	22.497	(0.847)	273251	2.53	3.22
39 Octane	85.00	24.564	24.564	(0.925)	140025	3.17	4.33(M)
40 Tetrachloroethylene	164.00	25.049	25.049	(0.944)	202251	4.40	6.12
* 41 Chlorobenzene-d5 (IS)	117.00	26.545	26.545	(1.000)	10866386	111	
42 Chlorobenzene	112.00	26.653	26.653	(1.004)	378408	2.90	3.80
43 Ethylbenzene	91.00	27.525	27.525	(1.037)	520032	3.00	3.84
44 p/m-Xylene	106.00	27.956	27.956	(1.053)	428961	6.00	7.75
48 Cyclohexanone	41.00	28.053	28.053	(0.924)	42869	4.83	3.30(QM)
49 Styrene	104.00	28.871	28.871	(0.951)	271086	2.99	3.56
50 1,1,2,2-Tetrachloroethane	83.00	29.108	29.108	(0.959)	297014	5.00	6.35
51 o-Xylene	106.00	29.172	29.172	(0.961)	212425	2.90	3.88
52 Nonane	57.00	29.625	29.625	(0.976)	296992	3.24	4.33(M)
* 53 1-Bromo-4-Fluorobenzene (IS)	95.00	30.368	30.368	(1.000)	6329607	180	
55 1,2,4-Trimethylbenzene	105.00	34.071	34.071	(1.122)	196747	3.60	2.80
126 Decane	43.00	34.319	34.319	(1.130)	127369	4.86	3.24(M)

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

Data file : /chem/hpdos1.i/19010802.b/19010804.D
Lab Smp Id: 250(10X)ml
Inj Date : 22-NOV-1998 04:16
Operator : JCE Alex R.V.M. Inst ID: hpdos1.i
Smp Info : Init. Cal; st. 55471-42-1(10x); 250 ml
Misc Info :
Comment :
Method : /chem/hpdos1.i/19010802.b/sas stdT014.m
Meth Date : 04-Feb-1999 16:35 john Quant Type: ISTD
Cal Date : 22-NOV-1998 04:16 Cal File: 19010804.D
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.10

Compounds	QUANT SIG	AMOUNTS						
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT	ON-COL
		(ng)	(ng)	(ng)	(ng)	(ng)	(ng)	(ng)
1 Propene	41.00	4.485	4.485 (0.329)	1633246	15.3	17.5		
2 Propane	43.00	4.539	4.539 (0.333)	543254	15.5	17.7		
3 Dichlorodifluoromethane	85.00	4.647	4.647 (0.341)	3947308	45.0	52.6		
4 Chloromethane	50.00	5.034	5.034 (0.369)	1350246	18.2	21.7		
5 Butane	43.00	5.939	5.939 (0.435)	1541573	20.8	26.0		
6 Chloroethane	64.00	6.768	6.768 (0.496)	425958	22.0	23.6		
7 Ethanol	31.00	6.918	6.918 (0.507)	964652	28.0	26.8		
8 Trichlorofluoromethane	101.00	8.296	8.296 (0.608)	3155778	51.0	57.4		
9 Isopropyl Alcohol	45.00	8.318	8.318 (0.610)	3357468	39.8	40.1		
11 Furan	68.00	8.598	8.598 (0.630)	2724293	44.6	50.1		
12 Acetone	58.00	7.898	7.898 (0.579)	717580	38.8	41.6		
13 Pentane	43.00	8.953	8.953 (0.657)	2502490	25.6	29.1		
14 Methylene Chloride	84.00	9.696	9.696 (0.711)	1014673	29.6	29.5		
15 112trichloro122trifluoroethane	151.00	10.170	10.170 (0.746)	2487988	68.0	73.9		
16 Propanenitrile	54.00	10.902	10.902 (0.799)	1379995	36.5	42.1		
17 Propanol	31.00	10.891	10.891 (0.799)	3448424	37.4	41.5		
18 2-Methylpentane	43.00	12.108	12.108 (0.888)	3331735	29.4	32.7		
19 Butanal	72.00	12.237	12.237 (0.897)	728483	37.7	40.4		
20 2-Butanone	43.00	12.431	12.431 (0.912)	5231656	45.4	49.9(M)		
21 1-Hexene	56.00	13.098	13.098 (0.961)	1371420	28.4	31.0		
* 22 Bromochloromethane (IS)	49.00	13.637	13.637 (1.000)	3539711	120			
23 Hexane	57.00	13.690	13.690 (1.004)	2029959	29.5	32.3		
24 Chloroform	83.00	13.852	13.852 (1.016)	2681774	48.0	51.3		
25 Tetrahydrofuran	72.00	14.595	14.595 (1.070)	1171217	47.7	51.6		
26 Butanenitrile	41.00	15.736	15.736 (0.914)	3397838	43.0	39.0		
27 Benzene	78.00	16.651	16.651 (0.967)	4162389	26.4	24.2		
28 Carbon Tetrachloride	117.00	16.942	16.942 (0.984)	2285341	54.0	48.4		
* 29 Difluorobenzene (IS)	114.00	17.211	17.211 (1.000)	12331507	97.0			
30 2-Pentanone	43.00	17.308	17.308 (1.006)	6705131	54.7	50.9		

E01 878

Compounds	QUANT SIG				AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng)
-----	----	--	-----	-----	-----	ON-COL (ng)
31 1-Butanol	31.00	16.231	16.231	(0.943)	1542618	43.7
32 3-Methylhexane	43.00	17.879	17.879	(1.039)	2921473	33.6
33 1,4-Dioxane	88.00	18.568	18.568	(1.079)	1516478	58.3
34 Heptane	71.00	19.171	19.171	(1.114)	1308034	33.9
35 4-Methyl-2-Pentanone	43.00	20.355	20.355	(1.183)	5648406	60.3
36 1,1,2-Trichloroethane	83.00	21.851	21.851	(1.270)	1289217	46.0
37 Toluene	92.00	22.497	22.497	(0.847)	2638238	31.6
38 2-Hexanone	43.00	22.907	22.907	(0.863)	5119568	61.7
39 Octane	85.00	24.575	24.575	(0.925)	1269688	39.6
40 Tetrachloroethylene	164.00	25.060	25.060	(0.944)	1823802	55.0
* 41 Chlorobenzene-d5 (IS)	117.00	26.556	26.556	(1.000)	10467062	111
42 Chlorobenzene	112.00	26.664	26.664	(1.004)	3375733	36.2
43 Ethylbenzene	91.00	27.536	27.536	(1.037)	4806384	37.5
44 p/m-Xylene	106.00	27.978	27.978	(1.054)	3808208	75.0
45 3-Heptanone	57.00	28.031	28.031	(1.056)	4626493	71.8
46 2-Heptanone	43.00	28.161	28.161	(0.927)	5144921	69.6
48 Cyclohexanone	41.00	28.397	28.397	(0.935)	762299	60.4
49 Styrene	104.00	28.882	28.882	(0.951)	2887973	37.3
50 1,1,2,2-Tetrachloroethane	83.00	29.119	29.119	(0.959)	2846408	62.0
51 o-Xylene	106.00	29.183	29.183	(0.961)	1853911	36.3
52 Nonane	57.00	29.636	29.636	(0.976)	2655147	40.6
* 53 1-Bromo-4-Fluorobenzene (IS)	95.00	30.378	30.378	(1.000)	6303674	180
55 1,2,4-Trimethylbenzene	105.00	34.071	34.071	(1.122)	3503863	45.0
126 Decane	43.00	34.319	34.319	(1.130)	3064090	60.8

QC Flag Legend

M - Compound response manually integrated.

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

Data file : /chem/hpdos1.i/19010802.b/19010805.D
Lab Smp Id: 50ml
Inj Date : 22-NOV-1998 05:42
Operator : ~~JCB~~ Alex A.V.M. Inst ID: hpdos1.i
Smp Info : Init. Cal; st. 55471-39-1; 50 ml
Misc Info :
Comment :
Method : /chem/hpdos1.i/19010802.b/sas_stdTO14.m
Meth Date : 04-Feb-1999 16:35 john Quant Type: ISTD
Cal Date : 22-NOV-1998 05:42 Cal File: 19010805.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.10

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
1 Propene	41.00	4.475	4.475	(0.328)	3007172	30.6	32.0
2 Propane	43.00	4.539	4.539	(0.333)	994916	31.1	32.2
3 Dichlorodifluoromethane	85.00	4.647	4.647	(0.341)	7216688	90.0	95.4
4 Chloromethane	50.00	5.024	5.024	(0.368)	2203124	36.0	35.1
5 Butane	43.00	5.939	5.939	(0.435)	2391844	42.0	40.0
6 Chloroethane	64.00	6.757	6.757	(0.495)	672683	44.0	37.0
7 Ethanol	31.00	6.929	6.929	(0.508)	2083854	56.1	57.6
8 Trichlorofluoromethane	101.00	8.286	8.286	(0.608)	5750020	101	104
9 Isopropyl Alcohol	45.00	8.329	8.329	(0.611)	7082912	80.0	84.0
11 Furan	68.00	8.598	8.598	(0.630)	4942944	89.0	90.2
12 Acetone	58.00	7.898	7.898	(0.579)	1331739	78.0	76.6
13 Pentane	43.00	8.953	8.953	(0.657)	4653825	51.0	53.7
14 Methylene Chloride	84.00	9.686	9.686	(0.710)	2050012	59.0	59.3
15 1,1,2-trichloro-1,2,2-trifluoroethane	151.00	10.170	10.170	(0.746)	4718507	135	139
16 Propanenitrile	54.00	10.902	10.902	(0.799)	3091947	73.0	93.8
17 Propanol	31.00	10.913	10.913	(0.800)	7644579	75.0	91.3
18 2-Methylpentane	43.00	12.097	12.097	(0.887)	6382425	59.0	62.3
19 Butanal	72.00	12.248	12.248	(0.898)	1489157	75.0	82.0
20 2-Butanone	43.00	12.442	12.442	(0.912)	11328710	91.0	107(M)
21 1-Hexene	56.00	13.109	13.109	(0.961)	2634731	57.0	59.1
* 22 Bromochloromethane (IS)	49.00	13.637	13.637	(1.000)	3564454	120	
23 Hexane	57.00	13.691	13.691	(1.004)	3831546	59.0	60.6
24 Chloroform	83.00	13.852	13.852	(1.016)	5062741	96.0	96.2
25 Tetrahydrofuran	72.00	14.595	14.595	(1.070)	2339040	95.0	102
26 Butanenitrile	41.00	15.747	15.747	(0.915)	7768418	86.0	99.4
27 Benzene	78.00	16.651	16.651	(0.967)	7872770	53.0	51.1
28 Carbon Tetrachloride	117.00	16.942	16.942	(0.984)	4443832	107	105
* 29 Difluorobenzene (IS)	114.00	17.211	17.211	(1.000)	11056594	97.0	
30 2-Pentanone	43.00	17.308	17.308	(1.006)	14897567	109	126

E01 880

HNF-4073
Rev. 0

Compounds	QUANT SIG				RESPONSE	AMOUNTS	
	MASS	RT	EXP RT	REL RT		CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
31 1-Butanol	31.00	16.242	16.242	(0.944)	3739381	87.0	89.3
32 3-Methylhexane	43.00	17.890	17.890	(1.039)	5405920	67.0	53.9
33 1,4-Dioxane	88.00	18.568	18.568	(1.079)	3490285	117	127
34 Heptane	71.00	19.171	19.171	(1.114)	2450460	68.0	67.5
35 4-Methyl-2-Pentanone	43.00	20.366	20.366	(1.183)	12406581	121	134
36 1,1,2-Trichloroethane	83.00	21.852	21.852	(1.270)	2722258	92.0	98.1
37 Toluene	92.00	22.498	22.498	(0.847)	5175632	63.0	65.0
38 2-Hexanone	43.00	22.907	22.907	(0.863)	11904321	123	153
39 Octane	85.00	24.576	24.576	(0.925)	2490867	79.0	82.1
40 Tetrachloroethylene	164.00	25.060	25.060	(0.944)	3486196	109	112
* 41 Chlorobenzene-d5 (IS)	117.00	26.557	26.557	(1.000)	10183143	111	
42 Chlorobenzene	112.00	26.664	26.664	(1.004)	7060052	72.0	75.7
43 Ethylbenzene	91.00	27.536	27.536	(1.037)	10085320	75.0	79.5
44 p/m-Xylene	106.00	27.967	27.967	(1.053)	7410686	150	143
45 3-Heptanone	57.00	28.042	28.042	(1.056)	10256012	144	208 (M)
46 2-Heptanone	43.00	28.161	28.161	(0.927)	14373399	139	200
48 Cyclohexanone	41.00	28.398	28.398	(0.935)	2049255	121	156
49 Styrene	104.00	28.893	28.893	(0.951)	6443509	75.0	83.9
50 1,1,2,2-Tetrachloroethane	83.00	29.119	29.119	(0.959)	5990379	125	127
51 o-Xylene	106.00	29.184	29.184	(0.961)	3878226	73.0	70.2
52 Nonane	57.00	29.636	29.636	(0.976)	5371954	81.0	77.7
* 53 1-Bromo-4-Fluorobenzene (IS)	95.00	30.379	30.379	(1.000)	6385877	180	
55 1,2,4-Trimethylbenzene	105.00	34.072	34.072	(1.122)	7886269	90.0	111
124 2-Octanone	43.00	33.027	33.027	(1.087)	11465391	154	182
126 Decane	43.00	34.319	34.319	(1.130)	6012852	122	152

QC Flag Legend

M - Compound response manually integrated.

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

Data file : /chem/hpdos1.i/19010802.b/19010806.D
Lab Smp Id: 100 ml
Inj Date : 22-NOV-1998 07:09
Operator : JCE Alex A.V.H. Inst ID: hpdos1.i
Smp Info : Init. Cal; st. 55471-39-1; 100 ml
Misc Info :
Comment :
Method : /chem/hpdos1.i/19010802.b/sas_stdTO14.m
Meth Date : 04-Feb-1999 16:35 john Quant Type: ISTD
Cal Date : 22-NOV-1998 07:09 Cal File: 19010806.D
Als bottle: 4 Calibration Sample, Level: 6
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.10

Compounds	QUANT SIG				RESPONSE	AMOUNTS	
	MASS	RT	EXP RT	REL RT		CAL-AMT	ON-COL
	(ng)	(ng)	(ng)	(ng)		(ng)	(ng)
-----	----	--	-----	-----	-----	-----	-----
1 Propene	41.00	4.474	4.474	(0.328)	5750929	61.0	56.7
2 Propane	43.00	4.528	4.528	(0.332)	1909754	62.0	57.3
3 Dichlorodifluoromethane	85.00	4.636	4.636	(0.340)	13589566	180	167
4 Chloromethane	50.00	5.013	5.013	(0.368)	4251365	73.0	62.8
5 Butane	43.00	5.928	5.928	(0.435)	4562368	83.0	70.7
6 Chloroethane	64.00	6.757	6.757	(0.495)	1430944	88.0	72.9 (M)
7 Ethanol	31.00	6.929	6.929	(0.508)	4497292	112	115
8 Trichlorofluoromethane	101.00	8.286	8.286	(0.608)	10157959	202	170
9 Isopropyl Alcohol	45.00	8.350	8.350	(0.612)	12882259	159	142
11 Furan	68.00	8.587	8.587	(0.630)	9472939	178	160
12 Acetone	58.00	7.887	7.887	(0.578)	2166770	155	116 (Q)
13 Pentane	43.00	8.953	8.953	(0.657)	8270164	103	88.4
14 Methylene Chloride	84.00	9.685	9.685	(0.710)	4105904	118	110
15 11,2trichloro1,2,2trifluoroethane	151.00	10.170	10.170	(0.746)	8523449	271	233
16 Propanenitrile	54.00	10.913	10.913	(0.800)	6086613	146	171
17 Propanol	31.00	10.934	10.934	(0.802)	13992955	150	155
18 2-Methylpentane	43.00	12.108	12.108	(0.888)	11640445	118	105
19 Butanal	72.00	12.248	12.248	(0.898)	2972716	151	152
20 2-Butanone	43.00	12.452	12.452	(0.913)	21586199	181	190 (M)
21 1-Hexene	56.00	13.109	13.109	(0.961)	4957124	114	103
* 22 Bromochloromethane (IS)	49.00	13.636	13.636	(1.000)	3845114	120	
23 Hexane	57.00	13.701	13.701	(1.005)	6860216	118	100
24 Chloroform	83.00	13.863	13.863	(1.017)	9933642	192	175
25 Tetrahydrofuran	72.00	14.595	14.595	(1.070)	4472253	191	181
26 Butanenitrile	41.00	15.768	15.768	(0.916)	15862753	172	193
27 Benzene	78.00	16.662	16.662	(0.967)	15818585	106	97.8
28 Carbon Tetrachloride	117.00	16.953	16.953	(0.984)	8638072	214	194
* 29 Difluorobenzene (IS)	114.00	17.222	17.222	(1.000)	11605083	97.0	
30 2-Pentanone	43.00	17.319	17.319	(1.006)	28190177	219	227

E01 882

Compounds	QUANT SIG				RESPONSE	AMOUNTS	
	MASS	RT	EXP RT	REL RT		CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
31 1-Butanol	31.00	16.264	16.264	(0.944)	7013822	175	160
32 3-Methylhexane	43.00	17.889	17.889	(1.039)	9867772	134	93.8
33 1,4-Dioxane	88.00	18.578	18.578	(1.079)	6895537	233	239
34 Heptane	71.00	19.170	19.170	(1.113)	4592372	136	120
35 4-Methyl-2-Pentanone	43.00	20.376	20.376	(1.183)	22556191	241	233
36 1,1,2-Trichloroethane	83.00	21.862	21.862	(1.269)	5316549	183	182
37 Toluene	92.00	22.508	22.508	(0.847)	10207542	126	111
38 2-Hexanone	43.00	22.917	22.917	(0.863)	21432364	247	239
39 Octane	85.00	24.575	24.575	(0.925)	4675509	158	134
40 Tetrachloroethylene	164.00	25.070	25.070	(0.944)	6397788	219	179
* 41 Chlorobenzene-d5 (IS)	117.00	26.567	26.567	(1.000)	11756865	111	
42 Chlorobenzene	112.00	26.675	26.675	(1.004)	13747350	145	128
43 Ethylbenzene	91.00	27.547	27.547	(1.037)	19531619	150	133
44 p/m-Xylene	106.00	27.967	27.967	(1.053)	13105772	300	219 (M)
45 3-Heptanone	57.00	34.330	34.330	(1.292)	10395119	287	182
46 2-Heptanone	43.00	28.182	28.182	(0.927)	24523867	278	312
48 Cyclohexanone	41.00	28.408	28.408	(0.935)	3828006	242	267
49 Styrene	104.00	28.903	28.903	(0.951)	11902456	149	142
50 1,1,2,2-Tetrachloroethane	83.00	29.129	29.129	(0.959)	10314368	250	200 (M)
51 o-Xylene	106.00	29.216	29.216	(0.961)	6192877	145	102
52 Nonane	57.00	29.646	29.646	(0.976)	8972580	162	118
* 53 1-Bromo-4-Fluorobenzene (IS)	95.00	30.389	30.389	(1.000)	6994120	180	
55 1,2,4-Trimethylbenzene	105.00	34.071	34.071	(1.121)	15114186	180	194
124 2-Octanone	43.00	33.038	33.038	(1.087)	21743505	309	315
126 Decane	43.00	34.319	34.319	(1.129)	10242757	243	236

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

Data file : /chem/hpdos1.i/19010802.b/19010807.D
Lab Smp Id: 200 ml
Inj Date : 22-NOV-1998 08:43
Operator : ~~SCB~~ Alex A.V.M. Inst ID: hpdos1.i
Smp Info : Init. Cal; st. 55471-39-1; 200 ml
Misc Info :
Comment :
Method : /chem/hpdos1.i/19010802.b/sas_stdTO14.m
Meth Date : 04-Feb-1999 16:35 john Quant Type: ISTD
Cal Date : 22-NOV-1998 08:43 Cal File: 19010807.D
Als bottle: 4 Calibration Sample, Level: 7
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.10

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
1 Propene	41.00	4.476	4.476	(0.328)	10161229	122	110
2 Propane	43.00	4.530	4.530	(0.332)	3598096	124	118 (M)
3 Dichlorodifluoromethane	85.00	4.638	4.638	(0.340)	22993282	361	309
4 Chloromethane	50.00	5.014	5.014	(0.367)	7830516	145	127
5 Butane	43.00	5.930	5.930	(0.434)	8204043	167	140
6 Chloroethane	64.00	6.759	6.759	(0.495)	2788452	176	156 (M)
7 Ethanol	31.00	6.963	6.963	(0.510)	8791939	224	247 (A)
8 Trichlorofluoromethane	101.00	8.287	8.287	(0.607)	15199403	405	279
9 Isopropyl Alcohol	45.00	8.384	8.384	(0.614)	20803157	318	251
11 Furan	68.00	8.600	8.600	(0.630)	15524530	357	288
12 Acetone	58.00	7.900	7.900	(0.579)	3903802	311	228 (Q)
13 Pentane	43.00	8.955	8.955	(0.656)	13563957	205	159
14 Methylene Chloride	84.00	9.698	9.698	(0.711)	7597949	237	223
15 1,1,2-trichloro-1,2,2-trifluoroethane	151.00	10.182	10.182	(0.746)	13465210	541	404
16 Propanenitrile	54.00	10.936	10.936	(0.801)	9855598	292	304 (A)
17 Propanol	31.00	10.979	10.979	(0.804)	22412031	299	272
18 2-Methylpentane	43.00	12.110	12.110	(0.887)	19136600	235	190
19 Butanal	72.00	12.271	12.271	(0.899)	5115990	302	286
20 2-Butanone	43.00	12.476	12.476	(0.914)	35588001	363	343 (M)
21 1-Hexene	56.00	13.122	13.122	(0.961)	8426462	227	192
* 22 Bromochloromethane (IS)	49.00	13.649	13.649	(1.000)	3505186	120	
23 Hexane	57.00	13.714	13.714	(1.005)	11336218	236	182
24 Chloroform	83.00	13.875	13.875	(1.017)	17861217	384	345
25 Tetrahydrofuran	72.00	14.607	14.607	(1.070)	7613880	382	339
26 Butanenitrile	41.00	15.802	15.802	(0.917)	28355072	344	413 (A)
27 Benzene	78.00	16.675	16.675	(0.968)	28182601	211	208
28 Carbon Tetrachloride	117.00	16.965	16.965	(0.984)	15375356	429	413
* 29 Difluorobenzene (IS)	114.00	17.234	17.234	(1.000)	9715321	97.0	
30 2-Pentanone	43.00	17.342	17.342	(1.006)	43194582	438	416

E01 884

HNF-4073
Rev. 0

Compounds	QUANT SIG				AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng)
-----	----	--	-----	-----	-----	ON-COL (ng)
31 1-Butanol	31.00	16.298	16.298	(0.946)	11999823	349 326
32 3-Methylhexane	43.00	17.902	17.902	(1.039)	15706639	269 178
33 1,4-Dioxane	88.00	18.602	18.602	(1.079)	11503104	467 477 (A)
34 Heptane	71.00	19.183	19.183	(1.113)	7323119	271 230
35 4-Methyl-2-Pentanone	43.00	20.400	20.400	(1.184)	34352909	483 424
36 1,1,2-Trichloroethane	83.00	21.875	21.875	(1.269)	8401927	366 345
37 Toluene	92.00	22.521	22.521	(0.848)	16409591	253 184
38 2-Hexanone	43.00	22.941	22.941	(0.863)	31536393	493 364
39 Octane	85.00	24.577	24.577	(0.925)	6915332	317 204
40 Tetrachloroethylene	164.00	25.051	25.051	(0.943)	8759834	438 253
* 41 Chlorobenzene-d5 (IS)	117.00	26.569	26.569	(1.000)	11369596	111
42 Chlorobenzene	112.00	26.677	26.677	(1.004)	21401417	290 205
43 Ethylbenzene	91.00	27.559	27.559	(1.037)	31328969	300 221
44 p/m-Xylene	106.00	27.958	27.958	(1.052)	16365951	600 283 (M)
45 3-Heptanone	57.00	28.076	28.076	(1.057)	20679157	575 376 (M)
46 2-Heptanone	43.00	28.216	28.216	(0.928)	31461057	556 415
48 Cyclohexanone	41.00	28.432	28.432	(0.936)	5630112	483 406
49 Styrene	104.00	28.905	28.905	(0.951)	16910582	299 208
50 1,1,2,2-Tetrachloroethane	83.00	29.142	29.142	(0.959)	11831489	499 237 (M)
51 o-Xylene	106.00	29.228	29.228	(0.962)	6666900	290 114
52 Nonane	57.00	29.648	29.648	(0.976)	11587275	324 158
* 53 1-Bromo-4-Fluorobenzene (IS)	95.00	30.391	30.391	(1.000)	6753551	180
55 1,2,4-Trimethylbenzene	105.00	34.095	34.095	(1.122)	23345677	360 311
124 2-Octanone	43.00	33.061	33.061	(1.088)	32991118	618 495
126 Decane	43.00	34.332	34.332	(1.130)	14856294	486 354

QC Flag Legend

- A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

E01 885

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-42-1(10x); 50 ml

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : sas_stdT014.m
 File : 19010802.D
 Injection Date : 22-NOV-1998 01:43 Operator : JCE
 Matrix : AIR Lab. Sample ID: 50(10X)ml
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CALIB_2

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m^3	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.485	4.485	332477	2.70	0.0135	7.19	
Propane	22	44.10	4.538	4.538	114181	2.82	0.0141	7.16	
Dichlorodifluoromethane	22	120.91	4.646	4.646	811034	8.18	0.0409	7.58	
Chloromethane	22	50.49	5.034	5.034	273717	3.33	0.0166	7.38	
Butane	22	58.12	5.949	5.949	308781	3.94	0.0197	7.59	
Chloroethane	22	64.51	6.767	6.767	86150	3.61	0.0181	6.27	
Ethanol	22	46.07	6.918	6.918	170777	3.60	0.0180	8.75	
Trichlorofluoromethane	22	137.37	8.296	8.296	751527	10.36	0.0518	8.44	
Isopropyl Alcohol	22	60.10	8.307	8.307	897569	8.12	0.0406	15.13	
Furan	22	68.08	8.597	8.597	638841	8.90	0.0445	14.64	
Acetone	22	58.08	7.908	7.908	192944	8.47	0.0423	16.33	
Pentane	22	72.00	8.953	8.953	570182	5.02	0.0251	7.80	
Methylene Chloride	22	84.93	9.696	9.696	262528	5.79	0.0290	7.64	
1,1,2-trichloro-2,2,2-trifluoroethane	22	187.38	10.169	10.169	598155	13.46	0.0673	8.05	
Propanenitrile	22	55.08	10.912	10.912	211882	4.90	0.0245	9.97	
Propanol	22	60.10	10.902	10.902	710588	6.48	0.0324	12.07	
2-Methylpentane	22	86.18	12.097	12.097	779179	5.80	0.0290	7.54	
Butanal	22	72.11	12.247	12.247	157742	6.66	0.0333	10.34	
2-Butanone	22	72.11	12.441	12.441	1062153	7.68	0.0384	11.93	
1-Hexene	22	84.16	13.098	13.098	314970	5.39	0.0269	7.17	
Hexane	22	86.18	13.690	13.690	494513	5.96	0.0298	7.75	
Chloroform	22	119.38	13.841	13.841	630412	9.14	0.0457	8.57	
Tetrahydrofuran	22	72.11	14.605	14.605	266232	8.89	0.0444	13.81	
Butanenitrile	29	69.11	15.746	15.746	673074	7.24	0.0362	11.73	
Benzene	29	78.11	16.651	16.651	977537	5.33	0.0267	7.65	
Carbon Tetrachloride	29	153.82	16.942	16.942	552884	10.97	0.0548	7.98	
2-Pentanone	29	86.13	17.318	17.318	1418395	10.14	0.0507	13.18	
1-Butanol	29	74.12	17.211	17.211	593765	11.92	0.0596	18.01	
3-Methylhexane	29	100.20	17.318	17.318	1116675	9.36	0.0468	10.46	
1,4-Dioxane	29	88.11	18.578	18.578	333403	10.22	0.0511	12.99	
Heptane	29	100.20	19.170	19.170	324912	7.52	0.0376	8.41	
4-Methyl-2-Pentanone	29	100.16	20.365	20.365	1203881	10.97	0.0549	12.27	
1,1,2-Trichloroethane	29	133.40	21.851	21.851	292785	8.87	0.0443	7.45	

02/03/99 16:02

19010802.D

Page 1

E01 886

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.508	22.508	570730	6.73	0.0336	8.18	
2-Hexanone	41	100.16	22.928	22.928	1025362	12.61	0.0631	14.10	
Octane	41	114.23	24.575	24.575	274902	8.51	0.0425	8.34	
Tetrachloroethylene	41	165.83	25.059	25.059	411302	12.46	0.0623	8.41	
Chlorobenzene	41	112.56	26.664	26.664	769948	7.75	0.0387	7.71	
Ethylbenzene	41	106.17	27.536	27.536	1064588	7.88	0.0394	8.31	
p/m-Xylene	41	106.17	27.977	27.977	889581	16.10	0.0805	16.99	
3-Heptanone	41	114.19	28.053	28.053	752933	15.22	0.0761	14.92	
2-Heptanone	53	114.19	28.203	28.203	642064	10.23	0.0511	10.03	
Cyclohexanone	53	98.14	28.042	28.042	175243	13.38	0.0669	15.27	
Styrene	53	104.15	28.892	28.892	587717	7.66	0.0383	8.23	
1,1,2,2-Tetrachloroethane	53	167.85	29.118	29.118	548696	11.63	0.0582	7.76	
o-Xylene	53	106.17	29.183	29.183	427199	7.73	0.0387	8.16	
Nonane	53	128.26	29.635	29.635	568719	8.22	0.0411	7.18	
1,2,4-Trimethylbenzene	53	120.19	34.082	34.082	597793	8.42	0.0421	7.85	
Bromochloromethane (IS)	22	129.40	13.636	13.636	4671987	120.00	0.6000	103.86	
Difluorobenzene (IS)	29	114.00	17.211	17.211	13154467	97.00	0.4850	95.30	
Chlorobenzene-d5 (IS)	41	119.56	26.556	26.556	10848551	111.00	0.5550	103.98	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.378	30.378	6384117	180.00	0.9000	115.86	
2-Octanone	53	128.21	33.124				0.0386	6.74	U
Decane	53	142.20	34.319	34.319	530689	13.39	0.0669	10.55	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/03/99 16:02

19010802.D

Page 2

E01 888

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-42-1(10x); 50 ml

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-42-1(10x); 50 ml

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : Init. Cal; st. 55471-42-1(10x); 20 ml

Instrument ID : hpdos1.i
Method : sas_stdTO14.m
File : 19010803.D
Injection Date : 22-NOV-1998 02:56 Operator : JCE
Matrix : AIR Lab. Sample ID: 20 (10X) ml
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_1

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m^3	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.474	4.474	165715	1.35	0.0068	3.59	
Propane	22	44.10	4.528	4.528	51804	1.28	0.0064	3.26	
Dichlorodifluoromethane	22	120.91	4.636	4.636	383627	3.89	0.0194	3.60	
Chloromethane	22	50.49	5.034	5.034	139349	1.70	0.0085	3.77	
Butane	22	58.12	5.928	5.928	153070	1.96	0.0098	3.78	
Chloroethane	22	64.51	6.767	6.767	64899	2.73	0.0137	4.74	
Ethanol	22	46.07	6.929	6.929	131188	2.78	0.0139	6.75	
Trichlorofluoromethane	22	137.37	8.285	8.285	372723	5.16	0.0258	4.20	
Isopropyl Alcohol	22	60.10	8.307	8.307	437565	3.97	0.0199	7.40	
Furan	22	68.08	8.598	8.598	294788	4.12	0.0206	6.78	
Acetone	22	58.08	7.919	7.919	97614	4.30	0.0215	8.29	
Pentane	22	72.00	8.953	8.953	277254	2.45	0.0122	3.81	
Methylene Chloride	22	84.93	9.696	9.696	122208	2.71	0.0135	3.57	
112trichloro122trifluoroethane	22	187.38	10.159	10.159	305685	6.90	0.0345	4.13	
Propanenitrile	22	55.08	10.912	10.912	85150	1.98	0.0099	4.02	
Propanol	22	60.10	10.902	10.902	282869	2.59	0.0129	4.82	
2-Methylpentane	22	86.18	12.097	12.097	361156	2.70	0.0135	3.51	
Butanal	22	72.11	12.247				0.0015	0.47	U
2-Butanone	22	72.11	12.441	12.441	441853	3.21	0.0160	4.98	
1-Hexene	22	84.16	13.098	13.098	155541	2.67	0.0134	3.55	
Hexane	22	86.18	13.679	13.679	242224	2.93	0.0147	3.81	
Chloroform	22	119.38	13.830	13.830	305239	4.44	0.0222	4.17	
Tetrahydrofuran	22	72.11	14.605	14.605	121718	4.08	0.0204	6.34	
Butanenitrile	29	69.11	15.747	15.747	253026	2.65	0.0133	4.30	
Benzene	29	78.11	16.640	16.640	477203	2.54	0.0127	3.64	
Carbon Tetrachloride	29	153.82	16.931	16.931	272542	5.27	0.0264	3.84	
2-Pentanone	29	86.13	17.318				0.0022	0.57	U
1-Butanol	29	74.12	17.200	17.200	582610	11.41	0.0571	17.25	
3-Methylhexane	29	100.20	17.319	17.319	545404	4.46	0.0223	4.99	
1,4-Dioxane	29	88.11	18.578	18.578	178003	5.32	0.0266	6.76	
Heptane	29	100.20	19.149	19.149	145711	3.29	0.0165	3.68	
4-Methyl-2-Pentanone	29	100.16	20.365	20.365	666460	5.93	0.0296	6.63	
1,1,2-Trichloroethane	29	133.40	21.840	21.840	140756	4.16	0.0208	3.49	

02/03/99 16:02

19010803.D

Page 1

E01 891

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.497	22.497	273251	3.22	0.0161	3.91	
2-Hexanone	41	100.16	22.928				0.0025	0.55	U
Octane	41	114.23	24.564	24.564	140025	4.33	0.0216	4.24	
Tetrachloroethylene	41	165.83	25.049	25.049	202251	6.12	0.0306	4.13	
Chlorobenzene	41	112.56	26.653	26.653	378408	3.80	0.0190	3.78	
Ethylbenzene	41	106.17	27.525	27.525	520032	3.84	0.0192	4.05	
p/m-Xylene	41	106.17	27.956	27.956	428961	7.75	0.0388	8.18	
3-Heptanone	41	114.19	28.053				0.0029	0.56	U
2-Heptanone	53	114.19	28.203				0.0028	0.55	U
Cyclohexanone	53	98.14	28.053	28.053	42869	3.30	0.0165	3.77	
Styrene	53	104.15	28.871	28.871	271086	3.56	0.0178	3.83	
1,1,2,2-Tetrachloroethane	53	167.85	29.108	29.108	297014	6.35	0.0318	4.24	
o-Xylene	53	106.17	29.172	29.172	212425	3.88	0.0194	4.09	
Nonane	53	128.26	29.625	29.625	296992	4.33	0.0217	3.78	
1,2,4-Trimethylbenzene	53	120.19	34.071	34.071	196747	2.80	0.0140	2.60	
Bromochloromethane (IS)	22	129.40	13.626	13.626	4654809	120.00	0.6000	103.86	
Difluorobenzene (IS)	29	114.00	17.200	17.200	13482370	97.00	0.4850	95.30	
Chlorobenzene-d5 (IS)	41	119.56	26.545	26.545	10866386	111.00	0.5550	103.98	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.368	30.368	6329607	180.00	0.9000	115.86	
2-Octanone	53	128.21	33.124				0.0386	6.74	U
Decane	53	142.20	34.319	34.319	127369	3.24	0.0162	2.55	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/03/99 16:02

19010803.D

Page 2

E01 893

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-42-1(10x); 20 ml

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-42-1(10x); 20 ml

02/03/99 16:03

19010803.D
E01 895

Page 4

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-42-1(10x); 250 ml

HNF-4073
Rev. 0

Instrument ID : hpdos1.1
Method : sas_stdTO14.m
File : 19010804.D
Injection Date : 22-NOV-1998 04:16 Operator : JCE
Matrix : AIR Lab. Sample ID: 250(10X)ml
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1 Sample Type: CALIB_3

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m^3	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.485	4.485	1633246	17.51	0.0875	46.59	
Propane	22	44.10	4.539	4.539	543254	17.70	0.0885	44.95	
Dichlorodifluoromethane	22	120.91	4.647	4.647	3947308	52.57	0.2629	48.70	
Chloromethane	22	50.49	5.034	5.034	1350246	21.67	0.1084	48.08	
Butane	22	58.12	5.939	5.939	1541573	25.96	0.1298	50.03	
Chloroethane	22	64.51	6.768	6.768	425958	23.58	0.1179	40.94	
Ethanol	22	46.07	6.918	6.918	964652	26.85	0.1342	65.27	
Trichlorofluoromethane	22	137.37	8.296	8.296	3155778	57.41	0.2870	46.80	
Isopropyl Alcohol	22	60.10	8.318	8.318	3357468	40.08	0.2004	74.70	
Furan	22	68.08	8.598	8.598	2724293	50.09	0.2505	82.41	
Acetone	22	58.08	7.898	7.898	717580	41.56	0.2078	80.14	
Pentane	22	72.00	8.953	8.953	2502490	29.06	0.1453	45.21	
Methylene Chloride	22	84.93	9.696	9.696	1014673	29.54	0.1477	38.95	
112trichloro122trifluoroethane	22	187.38	10.170	10.170	2487988	73.90	0.3695	44.17	
Propanenitrile	22	55.08	10.902	10.902	1379995	42.14	0.2107	85.68	
Propanol	22	60.10	10.891	10.891	3448424	41.49	0.2074	77.31	
2-Methylpentane	22	86.18	12.108	12.108	3331735	32.73	0.1637	42.54	
Butanal	22	72.11	12.237	12.237	728483	40.38	0.2019	62.72	
2-Butanone	22	72.11	12.431	12.431	5231656	49.93	0.2497	77.55	
1-Hexene	22	84.16	13.098	13.098	1371420	30.97	0.1549	41.22	
Hexane	22	86.18	13.690	13.690	2029959	32.32	0.1616	42.00	
Chloroform	22	119.38	13.852	13.852	2681774	51.30	0.2565	48.13	
Tetrahydrofuran	22	72.11	14.595	14.595	1171217	51.61	0.2581	80.17	
Butanenitrile	29	69.11	15.736	15.736	3397838	38.98	0.1949	63.17	
Benzene	29	78.11	16.651	16.651	4162389	24.22	0.1211	34.73	
Carbon Tetrachloride	29	153.82	16.942	16.942	2285341	48.36	0.2418	35.21	
2-Pentanone	29	86.13	17.308	17.308	6705131	50.88	0.2544	66.16	
1-Butanol	29	74.12	16.231	16.231	1542618	33.04	0.1652	49.93	
3-Methylhexane	29	100.20	17.879	17.879	2921473	26.12	0.1306	29.20	
1,4-Dioxane	29	88.11	18.568	18.568	1516478	49.57	0.2478	63.01	
Heptane	29	100.20	19.171	19.171	1308034	32.31	0.1615	36.11	
4-Methyl-2-Pentanone	29	100.16	20.355	20.355	5648406	54.91	0.2745	61.40	
1,1,2-Trichloroethane	29	133.40	21.851	21.851	1289217	41.66	0.2083	34.98	

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.497	22.497	2638238	32.23	0.1611	39.17	
2-Hexanone	41	100.16	22.907	22.907	5119568	64.15	0.3208	71.73	
Octane	41	114.23	24.575	24.575	1269688	40.73	0.2037	39.94	
Tetrachloroethylene	41	165.83	25.060	25.060	1823802	57.25	0.2863	38.67	
Chlorobenzene	41	112.56	26.664	26.664	3375733	35.21	0.1760	35.03	
Ethylbenzene	41	106.17	27.536	27.536	4806384	36.86	0.1843	38.88	
p/m-Xylene	41	106.17	27.978	27.978	3808208	71.44	0.3572	75.36	
3-Heptanone	41	114.19	28.031	28.031	4626493	91.27	0.4564	89.52	
2-Heptanone	53	114.19	28.161	28.161	5144921	72.68	0.3634	71.29	
Cyclohexanone	53	98.14	28.397	28.397	762299	58.93	0.2946	67.25	
Styrene	53	104.15	28.882	28.882	2887973	38.11	0.1905	40.98	
1,1,2,2-Tetrachloroethane	53	167.85	29.119	29.119	2846408	61.11	0.3055	40.77	
o-Xylene	53	106.17	29.183	29.183	1853911	33.99	0.1699	35.85	
Nonane	53	128.26	29.636	29.636	2655147	38.89	0.1944	33.96	
1,2,4-Trimethylbenzene	53	120.19	34.071	34.071	3503863	49.99	0.2499	46.58	
Bromochloromethane (IS)	22	129.40	13.637	13.637	3539711	120.00	0.6000	103.86	
Difluorobenzene (IS)	29	114.00	17.211	17.211	12331507	97.00	0.4850	95.30	
Chlorobenzene-d5 (IS)	41	119.56	26.556	26.556	10467062	111.00	0.5550	103.98	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.378	30.378	6303674	180.00	0.9000	115.86	
2-Octanone	53	128.21	33.124				0.0386	6.74	U
Decane	53	142.20	34.319	34.319	3064090	78.29	0.3915	61.66	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073

Rev. 0

Page 2

02/03/99 16:03

19010804.D

E01 898

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-42-1(10x); 250 ml

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-42-1(10x); 250 ml

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-39-1; 50 ml

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : sas_stdTO14.m
 File : 19010805.D
 Injection Date : 22-NOV-1998 05:42 Operator : JCE
 Matrix : AIR Lab. Sample ID: 50ml
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CALIB_4

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.475	4.475	3007172	32.01	0.1600	85.19	
Propane	22	44.10	4.539	4.539	994916	32.19	0.1610	81.76	
Dichlorodifluoromethane	22	120.91	4.647	4.647	7216688	95.45	0.4773	88.42	
Chloromethane	22	50.49	5.024	5.024	2203124	35.12	0.1756	77.90	
Butane	22	58.12	5.939	5.939	2391844	40.00	0.2000	77.08	
Chloroethane	22	64.51	6.757	6.757	672683	36.98	0.1849	64.20	
Ethanol	22	46.07	6.929	6.929	2083854	57.59	0.2880	140.02	
Trichlorofluoromethane	22	137.37	8.286	8.286	5750020	103.87	0.5194	84.69	
Isopropyl Alcohol	22	60.10	8.329	8.329	7082912	83.97	0.4199	156.49	
Furan	22	68.08	8.598	8.598	4942944	90.25	0.4513	148.48	
Acetone	22	58.08	7.898	7.898	1331739	76.59	0.3829	147.69	
Pentane	22	72.00	8.953	8.953	4653825	53.67	0.2684	83.49	
Methylene Chloride	22	84.93	9.686	9.686	2050012	59.26	0.2963	78.15	
1,1,2-trichloro-2,2,2-trifluoroethane	22	187.38	10.170	10.170	4718507	139.18	0.6959	83.19	
Propanenitrile	22	55.08	10.902	10.902	3091947	93.76	0.4688	190.64	
Propanol	22	60.10	10.913	10.913	7644579	91.33	0.4567	170.20	
2-Methylpentane	22	86.18	12.097	12.097	6382425	62.27	0.3113	80.92	
Butanal	22	72.11	12.248	12.248	1489157	81.97	0.4098	127.31	
2-Butanone	22	72.11	12.442	12.442	11328710	107.37	0.5369	166.77	
1-Hexene	22	84.16	13.109	13.109	2634731	59.09	0.2954	78.64	
Hexane	22	86.18	13.691	13.691	3831546	60.58	0.3029	78.72	
Chloroform	22	119.38	13.852	13.852	5062741	96.17	0.4808	90.22	
Tetrahydrofuran	22	72.11	14.595	14.595	2339040	102.36	0.5118	158.99	
Butanenitrile	29	69.11	15.747	15.747	7768418	99.39	0.4970	161.07	
Benzene	29	78.11	16.651	16.651	7872770	51.09	0.2554	73.26	
Carbon Tetrachloride	29	153.82	16.942	16.942	4443832	104.87	0.5243	76.36	
2-Pentanone	29	86.13	17.308	17.308	14897567	126.07	0.6304	163.94	
1-Butanol	29	74.12	16.242	16.242	3739381	89.33	0.4466	134.98	
3-Methylhexane	29	100.20	17.890	17.890	5405920	53.91	0.2696	60.26	
1,4-Dioxane	29	88.11	18.568	18.568	3490285	127.23	0.6362	161.73	
Heptane	29	100.20	19.171	19.171	2450460	67.50	0.3375	75.45	
4-Methyl-2-Pentanone	29	100.16	20.366	20.366	12406581	134.51	0.6725	150.41	
1,1,2-Trichloroethane	29	133.40	21.852	21.852	2722258	98.12	0.4906	82.38	

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.498	22.498	5175632	64.98	0.3249	78.99	
2-Hexanone	41	100.16	22.907	22.907	11904321	153.32	0.7666	171.45	
Octane	41	114.23	24.576	24.576	2490867	82.14	0.4107	80.54	
Tetrachloroethylene	41	165.83	25.060	25.060	3486196	112.48	0.5624	75.97	
Chlorobenzene	41	112.56	26.664	26.664	7060052	75.69	0.3785	75.31	
Ethylbenzene	41	106.17	27.536	27.536	10085320	79.50	0.3975	83.86	
p/m-Xylene	41	106.17	27.967	27.967	7410686	142.89	0.7145	150.74	
3-Heptanone	41	114.19	28.042	28.042	10256012	207.97	1.0399	203.98	
2-Heptanone	53	114.19	28.161	28.161	14373399	200.44	1.0022	196.60	
Cyclohexanone	53	98.14	28.398	28.398	2049255	156.38	0.7819	178.46	
Styrene	53	104.15	28.893	28.893	6443509	83.93	0.4197	90.26	
1,1,2,2-Tetrachloroethane	53	167.85	29.119	29.119	5990379	126.95	0.6347	84.71	
o-Xylene	53	106.17	29.184	29.184	3878226	70.18	0.3509	74.04	
Nonane	53	128.26	29.636	29.636	5371954	77.66	0.3883	67.82	
1,2,4-Trimethylbenzene	53	120.19	34.072	34.072	7886269	111.06	0.5553	103.49	
Bromochloromethane (IS)	22	129.40	13.637	13.637	3564454	120.00	0.6000	103.86	
Difluorobenzene (IS)	29	114.00	17.211	17.211	11056594	97.00	0.4850	95.30	
Chlorobenzene-d5 (IS)	41	119.56	26.557	26.557	10183143	111.00	0.5550	103.98	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.379	30.379	6385877	180.00	0.9000	115.86	
2-Octanone	53	128.21	33.027	33.027	11465391	181.82	0.9091	158.83	
Decane	53	142.20	34.319	34.319	6012852	151.66	0.7583	119.45	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/03/99 16:03

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Page 2

E01 903

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-39-1; 50 ml

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-39-1; 50 ml

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-39-1; 100 mL

Instrument ID : hpdos1.i
 Method : sas_stdTO14.m
 File : 19010806.D
 Injection Date : 22-NOV-1998 07:09 Operator : JCE
 Matrix : AIR Lab. Sample ID: 100 mL
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CALIB_6

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.474	4.474	5750929	56.74	0.2837	151.03	
Propane	22	44.10	4.528	4.528	1909754	57.28	0.2864	145.48	
Dichlorodifluoromethane	22	120.91	4.636	4.636	13589566	166.63	0.8331	154.35	
Chloromethane	22	50.49	5.013	5.013	4251365	62.82	0.3141	139.35	
Butane	22	58.12	5.928	5.928	4562368	70.73	0.3537	136.30	
Chloroethane	22	64.51	6.757	6.757	1430944	72.92	0.3646	126.60	
Ethanol	22	46.07	6.929	6.929	4497292	115.23	0.5761	280.12	
Trichlorofluoromethane	22	137.37	8.286	8.286	10157959	170.10	0.8505	138.69	
Isopropyl Alcohol	22	60.10	8.350	8.350	12882259	141.58	0.7079	263.85	
Furan	22	68.08	8.587	8.587	9472939	160.34	0.8017	263.79	
Acetone	22	58.08	7.887	7.887	2166770	115.52	0.5776	222.76	
Pentane	22	72.00	8.953	8.953	8270164	88.41	0.4421	137.53	
Methylene Chloride	22	84.93	9.685	9.685	4105904	110.03	0.5501	145.10	
1,1,2-trichloro-2,2,2-trifluoroethane	22	187.38	10.170	10.170	8523449	233.06	1.1653	139.30	
Propanenitrile	22	55.08	10.913	10.913	6086613	171.09	0.8555	347.90	
Propanol	22	60.10	10.934	10.934	13992955	154.98	0.7749	288.81	
2-Methylpentane	22	86.18	12.108	12.108	11640445	105.28	0.5264	136.82	
Butanal	22	72.11	12.248	12.248	2972716	151.69	0.7584	235.60	
2-Butanone	22	72.11	12.452	12.452	21586199	189.66	0.9483	294.58	
1-Hexene	22	84.16	13.109	13.109	4957124	103.06	0.5153	137.15	
Hexane	22	86.18	13.701	13.701	6860216	100.54	0.5027	130.66	
Chloroform	22	119.38	13.863	13.863	9933642	174.92	0.8746	164.10	
Tetrahydrofuran	22	72.11	14.595	14.595	4472253	181.43	0.9072	281.80	
Butanenitrile	29	69.11	15.768	15.768	15862753	193.36	0.9668	313.36	
Benzene	29	78.11	16.662	16.662	15818585	97.80	0.4890	140.23	
Carbon Tetrachloride	29	153.82	16.953	16.953	8388072	194.21	0.9711	141.41	
2-Pentanone	29	86.13	17.319	17.319	28190177	227.29	1.1364	295.56	
1-Butanol	29	74.12	16.264	16.264	7013822	159.63	0.7981	241.21	
3-Methylhexane	29	100.20	17.889	17.889	9867772	93.76	0.4688	104.80	
1,4-Dioxane	29	88.11	18.578	18.578	6895537	239.49	1.1974	304.42	
Heptane	29	100.20	19.170	19.170	4592372	120.53	0.6026	134.72	
4-Methyl-2-Pentanone	29	100.16	20.376	20.376	22556191	232.99	1.1649	260.53	
1,1,2-Trichloroethane	29	133.40	21.862	21.862	5316549	182.57	0.9128	153.28	

HNF-4073
Rev. 0

02/03/99 16:03

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Page 2

E01 908

02/03/99 16:03

19010806.D

Page 2

E01 908

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-39-1; 100 ml

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-39-1; 100 ml

HNF-4073
Rev. 0

Sample Info : Init. Cal; st. 55471-39-1; 200 ml

Instrument ID : hpdos1.i
 Method : sas stdT014.m
 File : 19010807.D
 Injection Date : 22-NOV-1998 08:43 Operator : JCE
 Matrix : AIR Lab. Sample ID: 200 ml
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CALIB_7

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.476	4.476	10161229	109.98	0.5499	292.73	
Propane	22	44.10	4.530	4.530	3598096	118.39	0.5919	300.67	
Dichlorodifluoromethane	22	120.91	4.638	4.638	22993282	309.27	1.5463	286.48	
Chloromethane	22	50.49	5.014	5.014	7830516	126.93	0.6346	281.56	
Butane	22	58.12	5.930	5.930	8204043	139.52	0.6976	268.86	
Chloroethane	22	64.51	6.759	6.759	2788452	155.88	0.7794	270.63	
Ethanol	22	46.07	6.963	6.963	8791939	247.10	1.2355	600.73	E
Trichlorofluoromethane	22	137.37	8.287	8.287	15199403	279.21	1.3961	227.64	
Isopropyl Alcohol	22	60.10	8.384	8.384	20803157	250.81	1.2540	467.40	
Furan	22	68.08	8.600	8.600	15524530	288.26	1.4413	474.22	
Acetone	22	58.08	7.900	7.900	3903802	228.31	1.1415	440.26	
Pentane	22	72.00	8.955	8.955	13563957	159.07	0.7954	247.44	
Methylene Chloride	22	84.93	9.698	9.698	7597949	223.35	1.1168	294.54	
1,1,2-trichloro-2,2,2-trifluoroethane	22	187.38	10.182	10.182	13465210	403.89	2.0195	241.41	
Propanenitrile	22	55.08	10.936	10.936	9855598	303.90	1.5195	617.96	E
Propanol	22	60.10	10.979	10.979	22412031	272.29	1.3615	507.43	
2-Methylpentane	22	86.18	12.110	12.110	19136600	189.86	0.9493	246.74	
Butanal	22	72.11	12.271	12.271	5115990	286.37	1.4318	444.78	
2-Butanone	22	72.11	12.476	12.476	35588001	343.01	1.7150	532.75	
1-Hexene	22	84.16	13.122	13.122	8426462	192.17	0.9609	255.74	
Hexane	22	86.18	13.714	13.714	11336218	182.25	0.9113	236.85	
Chloroform	22	119.38	13.875	13.875	17861217	345.01	1.7251	323.68	
Tetrahydrofuran	22	72.11	14.607	14.607	7613880	338.84	1.6942	526.28	
Butanenitrile	29	69.11	15.802	15.802	28355072	412.87	2.0643	669.10	E
Benzene	29	78.11	16.675	16.675	28182601	208.14	1.0407	298.44	
Carbon Tetrachloride	29	153.82	16.965	16.965	15375356	412.93	2.0646	300.66	
2-Pentanone	29	86.13	17.342	17.342	43194582	416.01	2.0800	540.96	
1-Butanol	29	74.12	16.298	16.298	11999823	326.22	1.6311	492.94	
3-Methylhexane	29	100.20	17.902	17.902	15706639	178.27	0.8914	199.26	
1,4-Dioxane	29	88.11	18.602	18.602	11503104	477.22	2.3861	606.62	E
Heptane	29	100.20	19.183	19.183	7323119	229.58	1.1479	256.61	
4-Methyl-2-Pentanone	29	100.16	20.400	20.400	34352909	423.86	2.1193	473.97	
1,1,2-Trichloroethane	29	133.40	21.875	21.875	8401927	344.63	1.7232	289.35	

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.521	22.521	16409591	184.53	0.9226	224.30	
2-Hexanone	41	100.16	22.941	22.941	31536393	363.79	1.8190	406.80	
Octane	41	114.23	24.577	24.577	6915332	204.24	1.0212	200.26	
Tetrachloroethylene	41	165.83	25.051	25.051	8759834	253.15	1.2657	170.97	
Chlorobenzene	41	112.56	26.677	26.677	21401417	205.50	1.0275	204.48	
Ethylbenzene	41	106.17	27.559	27.559	31328969	221.19	1.1059	233.33	
p/m-Xylene	41	106.17	27.958	27.958	16365951	282.64	1.4132	298.16	
3-Heptanone	41	114.19	28.076	28.076	20679157	375.57	1.8779	368.37	
2-Heptanone	53	114.19	28.216	28.216	31461057	414.85	2.0742	406.89	
Cyclohexanone	53	98.14	28.432	28.432	5630112	406.24	2.0312	463.61	
Styrene	53	104.15	28.905	28.905	16910582	208.29	1.0414	223.98	
1,1,2,2-Tetrachloroethane	53	167.85	29.142	29.142	11831489	237.08	1.1854	158.20	
o-Xylene	53	106.17	29.228	29.228	6666900	114.08	0.5704	120.34	
Nonane	53	128.26	29.648	29.648	11587275	158.40	0.7920	138.32	
1,2,4-Trimethylbenzene	53	120.19	34.095	34.095	23345677	310.86	1.5543	289.68	
Bromochloromethane (IS)	22	129.40	13.649	13.649	3505186	120.00	0.6000	103.86	
Difluorobenzene (IS)	29	114.00	17.234	17.234	9715321	97.00	0.4850	95.30	
Chlorobenzene-d5 (IS)	41	119.56	26.569	26.569	11369596	111.00	0.5550	103.98	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.391	30.391	6753551	180.00	0.9000	115.86	
2-Octanone	53	128.21	33.061	33.061	32991118	494.70	2.4735	432.15	
Decane	53	142.20	34.332	34.332	14856294	354.31	1.7716	279.06	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		5.273	9715368	17.27	0.0864		J
Unknown	22	0		7.415	14373799	25.56	0.1278		J
Unknown	22	0		12.476	55970425	99.51	0.4976		J
Unknown	29	0		20.561	18575885	23.39	0.1170		J
Unknown	53	0		33.815	5831234	30.86	0.1543		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	67494960
Difluorobenzene (IS)	29	77028866
Chlorobenzene-d5 (IS)	41	31651161
1-Bromo-4-Fluorobenzene (IS)	53	34017326

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/03/99 16:03

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Page 2

E01 913

Injection Date : 22-NOV-1998 08:43 Operator : JCE
 Matrix : AIR Lab. Sample ID: 200 ml
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CALIB_7

HNF-4073
 Rev. 0

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.476	4.476	10161229	109.98	0.5499	292.73	
Propane	22	44.10	4.530	4.530	3598096	118.39	0.5919	300.67	
Dichlorodifluoromethane	22	120.91	4.638	4.638	22993282	309.27	1.5463	286.48	
Chloromethane	22	50.49	5.014	5.014	7830516	126.93	0.6346	281.56	
Butane	22	58.12	5.930	5.930	8204043	139.52	0.6976	268.86	
Chloroethane	22	64.51	6.759	6.759	2788452	155.88	0.7794	270.63	
Ethanol	22	46.07	6.963	6.963	8791939	247.10	1.2355	600.73	E
Trichlorofluoromethane	22	137.37	8.287	8.287	15199403	279.21	1.3961	227.64	
Isopropyl Alcohol	22	60.10	8.384	8.384	20803157	250.81	1.2540	467.40	
Furan	22	68.08	8.600	8.600	15524530	288.26	1.4413	474.22	
Acetone	22	58.08	7.900	7.900	3903802	228.31	1.1415	440.26	
Pentane	22	72.00	8.955	8.955	13563957	159.07	0.7954	247.44	
Methylene Chloride	22	84.93	9.698	9.698	7597949	223.35	1.1168	294.54	
112trichloro122trifluoroethane	22	187.38	10.182	10.182	13465210	403.89	2.0195	241.41	
Propanenitrile	22	55.08	10.936	10.936	9855598	303.90	1.5195	617.96	E
Propanol	22	60.10	10.979	10.979	22412031	272.29	1.3615	507.43	
2-Methylpentane	22	86.18	12.110	12.110	19136600	189.86	0.9493	246.74	
Butanal	22	72.11	12.271	12.271	5115990	286.37	1.4318	444.78	
2-Butanone	22	72.11	12.476	12.476	35588001	343.01	1.7150	532.75	
1-Hexene	22	84.16	13.122	13.122	8426462	192.17	0.9609	255.74	
Hexane	22	86.18	13.714	13.714	11336218	182.25	0.9113	236.85	
Chloroform	22	119.38	13.875	13.875	17861217	345.01	1.7251	323.68	
Tetrahydrofuran	22	72.11	14.607	14.607	7613880	338.84	1.6942	526.28	
Butanenitrile	29	69.11	15.802	15.802	28355072	412.87	2.0643	669.10	E
Benzene	29	78.11	16.675	16.675	28182601	208.14	1.0407	298.44	
Carbon Tetrachloride	29	153.82	16.965	16.965	15375356	412.93	2.0646	300.66	
2-Pentanone	29	86.13	17.342	17.342	43194582	416.01	2.0800	540.96	
1-Butanol	29	74.12	16.298	16.298	11999823	326.22	1.6311	492.94	
3-Methylhexane	29	100.20	17.902	17.902	15706639	178.27	0.8914	199.26	
1,4-Dioxane	29	88.11	18.602	18.602	11503104	477.22	2.3861	606.62	E
Heptane	29	100.20	19.183	19.183	7323119	229.58	1.1479	256.61	
4-Methyl-2-Pentanone	29	100.16	20.400	20.400	34352909	423.86	2.1193	473.97	
1,1,2-Trichloroethane	29	133.40	21.875	21.875	8401927	344.63	1.7232	289.35	

02/03/99 16:03

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Page 1

E01 915

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.521	22.521	16409591	184.53	0.9226	224.30	
2-Hexanone	41	100.16	22.941	22.941	31536393	363.79	1.8190	406.80	
Octane	41	114.23	24.577	24.577	6915332	204.24	1.0212	200.26	
Tetrachloroethylene	41	165.83	25.051	25.051	8759834	253.15	1.2657	170.97	
Chlorobenzene	41	112.56	26.677	26.677	21401417	205.50	1.0275	204.48	
Ethylbenzene	41	106.17	27.559	27.559	31328969	221.19	1.1059	233.33	
p/m-Xylene	41	106.17	27.958	27.958	16365951	282.64	1.4132	298.16	
3-Heptanone	41	114.19	28.076	28.076	20679157	375.57	1.8779	368.37	
2-Heptanone	53	114.19	28.216	28.216	31461057	414.85	2.0742	406.89	
Cyclohexanone	53	98.14	28.432	28.432	5630112	406.24	2.0312	463.61	
Styrene	53	104.15	28.905	28.905	16910582	208.29	1.0414	223.98	
1,1,2,2-Tetrachloroethane	53	167.85	29.142	29.142	11831489	237.08	1.1854	158.20	
o-Xylene	53	106.17	29.228	29.228	6666900	114.08	0.5704	120.34	
Nonane	53	128.26	29.648	29.648	11587275	158.40	0.7920	138.32	
1,2,4-Trimethylbenzene	53	120.19	34.095	34.095	23345677	310.86	1.5543	289.68	
Bromochloromethane (IS)	22	129.40	13.649	13.649	3505186	120.00	0.6000	103.86	
Difluorobenzene (IS)	29	114.00	17.234	17.234	9715321	97.00	0.4850	95.30	
Chlorobenzene-d5 (IS)	41	119.56	26.569	26.569	11369596	111.00	0.5550	103.98	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.391	30.391	6753551	180.00	0.9000	115.86	
2-Octanone	53	128.21	33.061	33.061	32991118	494.70	2.4735	432.15	
Decane	53	142.20	34.332	34.332	14856294	354.31	1.7716	279.06	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		5.273	9715368	17.27	0.0864		J
Unknown	22	0		7.415	14373799	25.56	0.1278		J
Unknown	22	0		12.476	55970425	99.51	0.4976		J
Unknown	29	0		20.561	18575885	23.39	0.1170		J
Unknown	53	0		33.815	5831234	30.86	0.1543		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	67494960
Difluorobenzene (IS)	29	77028866
Chlorobenzene-d5 (IS)	41	31651161
1-Bromo-4-Fluorobenzene (IS)	53	34017326

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/03/99 16:03

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Page 2

E01 917

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Instrument ID : hpdos1.i
 Method : sas_stdTO14.m
 File : 19010807.D
 Injection Date : 22-NOV-1998 08:43 Operator : JCE
 Matrix : AIR Lab. Sample ID: 200 ml
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CALIB_7

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	22	42.08	4.476	4.476	10161229	109.98	0.5499	292.73	
Propane	22	44.10	4.530	4.530	3598096	118.39	0.5919	300.67	
Dichlorodifluoromethane	22	120.91	4.638	4.638	22993282	309.27	1.5463	286.48	
Chloromethane	22	50.49	5.014	5.014	7830516	126.93	0.6346	281.56	
Butane	22	58.12	5.930	5.930	8204043	139.52	0.6976	268.86	
Chloroethane	22	64.51	6.759	6.759	2788452	155.88	0.7794	270.63	

Ethanol	22	46.07	6.963	6.963	8791939	247.10	1.2355	600.73	E
Trichlorofluoromethane	22	137.37	8.287	8.287	15199403	279.21	1.3961	227.64	
Isopropyl Alcohol	22	60.10	8.384	8.384	20803157	250.81	1.2540	467.40	
Furan	22	68.08	8.600	8.600	15524530	288.26	1.4413	474.22	
Acetone	22	58.08	7.900	7.900	3903802	228.31	1.1415	440.26	
Pentane	22	72.00	8.955	8.955	13563957	159.07	0.7954	247.44	
Methylene Chloride	22	84.93	9.698	9.698	7597949	223.35	1.1168	294.54	
112trichloro122trifluoroethane	22	187.38	10.182	10.182	13465210	403.89	2.0195	241.41	
Propanenitrile	22	55.08	10.936	10.936	9855598	303.90	1.5195	617.96	E
Propanol	22	60.10	10.979	10.979	22412031	272.29	1.3615	507.43	
2-Methylpentane	22	86.18	12.110	12.110	19136600	189.86	0.9493	246.74	
Butanal	22	72.11	12.271	12.271	5115990	286.37	1.4318	444.78	
2-Butanone	22	72.11	12.476	12.476	35588001	343.01	1.7150	532.75	
1-Hexene	22	84.16	13.122	13.122	8426462	192.17	0.9609	255.74	
Hexane	22	86.18	13.714	13.714	11336218	182.25	0.9113	236.85	
Chloroform	22	119.38	13.875	13.875	17861217	345.01	1.7251	323.68	
Tetrahydrofuran	22	72.11	14.607	14.607	7613880	338.84	1.6942	526.28	
Butanenitrile	29	69.11	15.802	15.802	28355072	412.87	2.0643	669.10	E
Benzene	29	78.11	16.675	16.675	28182601	208.14	1.0407	298.44	
Carbon Tetrachloride	29	153.82	16.965	16.965	15375356	412.93	2.0646	300.66	
2-Pentanone	29	86.13	17.342	17.342	43194582	416.01	2.0800	540.96	
1-Butanol	29	74.12	16.298	16.298	11999823	326.22	1.6311	492.94	
3-Methylhexane	29	100.20	17.902	17.902	15706639	178.27	0.8914	199.26	
1,4-Dioxane	29	88.11	18.602	18.602	11503104	477.22	2.3861	606.62	E
Heptane	29	100.20	19.183	19.183	7323119	229.58	1.1479	256.61	
4-Methyl-2-Pentanone	29	100.16	20.400	20.400	34352909	423.86	2.1193	473.97	
1,1,2-Trichloroethane	29	133.40	21.875	21.875	8401927	344.63	1.7232	289.35	

02/03/99 16:03

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Page 1

HNF-4073
Rev. 0

E01 919

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.521	22.521	16409591	184.53	0.9226	224.30	
2-Hexanone	41	100.16	22.941	22.941	31536393	363.79	1.8190	406.80	
Octane	41	114.23	24.577	24.577	6915332	204.24	1.0212	200.26	
Tetrachloroethylene	41	165.83	25.051	25.051	8759834	253.15	1.2657	170.97	
Chlorobenzene	41	112.56	26.677	26.677	21401417	205.50	1.0275	204.48	
Ethylbenzene	41	106.17	27.559	27.559	31328969	221.19	1.1059	233.33	
p/m-Xylene	41	106.17	27.958	27.958	16365951	282.64	1.4132	298.16	
3-Heptanone	41	114.19	28.076	28.076	20679157	375.57	1.8779	368.37	
2-Heptanone	53	114.19	28.216	28.216	31461057	414.85	2.0742	406.89	
Cyclohexanone	53	98.14	28.432	28.432	5630112	406.24	2.0312	463.61	
Styrene	53	104.15	28.905	28.905	16910582	208.29	1.0414	223.98	
1,1,2,2-Tetrachloroethane	53	167.85	29.142	29.142	11831489	237.08	1.1854	158.20	
o-Xylene	53	106.17	29.228	29.228	6666900	114.08	0.5704	120.34	
Nonane	53	128.26	29.648	29.648	11587275	158.40	0.7920	138.32	
1,2,4-Trimethylbenzene	53	120.19	34.095	34.095	23345677	310.86	1.5543	289.68	
Bromochloromethane (IS)	22	129.40	13.649	13.649	3505186	120.00	0.6000	103.86	
Difluorobenzene (IS)	29	114.00	17.234	17.234	9715321	97.00	0.4850	95.30	
Chlorobenzene-d5 (IS)	41	119.56	26.569	26.569	11369596	111.00	0.5550	103.98	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.391	30.391	6753551	180.00	0.9000	115.86	
2-Octanone	53	128.21	33.061	33.061	32991118	494.70	2.4735	432.15	
Decane	53	142.20	34.332	34.332	14856294	354.31	1.7716	279.06	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		5.273	9715368	17.27	0.0864		J
Unknown	22	0		7.415	14373799	25.56	0.1278		J
Unknown	22	0		12.476	55970425	99.51	0.4976		J
Unknown	29	0		20.561	18575885	23.39	0.1170		J
Unknown	53	0		33.815	5831234	30.86	0.1543		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	67494960
Difluorobenzene (IS)	29	77028866
Chlorobenzene-d5 (IS)	41	31651161
1-Bromo-4-Fluorobenzene (IS)	53	34017326

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/03/99 16:03

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HNF-4073
Rev. 0

Page 2

E01 921

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-39-1; 200 ml

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : Init. Cal; st. 55471-39-1; 200 ml

HNF-4073
Rev. 0

SUMMA BATCH FILE

18122702.b

Processed by SAS Method

C-106 and AZ Stack Case Narrative (batch file 18122702.b)

This analytical sequence includes CCV with standard from SAS laboratory 55471-39-1, CCB and reprocessed files from sequences 18122301.d, 18122402.d and 18122602.d, which was done in order to quantify more target compounds in each tank and AZ Stack sample.

Four target compounds (3-methylhexane - 42.0%, 3-heptanone - 37.5%, 2-heptanone - 47.5% and 2-octanone - 96.2%) surpassed the 30% percent relative standard deviation (%RSD) acceptance criteria for initial calibration. These compounds showed nonlinear response and linear approximation of their calibration curves leads to significant errors of their quantitative determination. 3-methylhexane was found in all C-106 samples at concentrations between its estimated quantitation limit (EQL) and upper quantitation limit (UQL), except samples VP006-066.C226, VP006-017.C235 and VP006-009.C143, where it was found at concentration between its instrumental detection limit (IDL) and its EQL; ambient air samples VP006-001.C248, VP006-024.C277, and VP006-024.C277 rep, where it was not found at concentrations higher than its IDL. 3-methylhexane was found in all AZ Stack samples at concentrations below its EQL, except samples VP702-004.C429 and VP702-002.C428, where it was not found at concentrations higher than its IDL. 3-heptanone was found in all C-106 tank samples at concentration higher than its UQL, except samples VP006-066.C226, VP006-017.C235, VP006-009.C143, VP006-032.C227 and VP006-032.C227 rep, where it was found at concentrations between its EQL and UQL and VP006-001.C248, where it was found at concentrations below its EQL. 3-heptanone was found in all AZ Stack samples at concentration between its IDL and EQL, except sample VP702-002.C428, where it was not found at concentrations higher than its EQL. 2-heptanone was found in all C-106 tank samples at concentrations between its EQL and UQL, except ambient air samples VP006-024.C277 and VP006-024.C277 rep, where it was found at concentrations below its EQL, and sample VP006-001.C248, where it was not found at concentrations higher than its IDL. 2-heptanone was found in all AZ Stack samples at concentration below its EQL, except samples VP702-002.C428, VP702-007.C301 and VP702-004.C429, where it was not found at concentrations higher than its EQL. 2-octanone was found in all C-106 tank samples at concentrations below its EQL, except samples VP006-001.C248 and VP006-009.C143, where it was not found at concentrations higher than its EQL. 2-octanone was not found in all AZ Stack samples at concentration higher than its EQL. Due to the initial calibration performance the uncertainty associated with the results is higher than normal.

Five target compounds (propanenitrile - 42.6 %, butanenitrile - 40.6 %, 2-heptanone - 51.4 %, cyclohexanone - 30.8 %, 2-octanone - 130.7%) were outside the 25% Difference acceptance criteria for the continuing calibration verification (CCV) sample. However, the CCV passed the procedural criterion requiring $\pm 25\%$ D passage for 85% of all target compounds.

Results of 2-heptanone and 2-octanone determinations were mentioned above. Cyclohexanone was found in all C-106 tank samples at concentrations between its EQL and UQL, except sample VP006-009.C143 and ambient air samples VP006-024.C277 and VP006-024.C277 rep, where it was found at concentrations between its IDL and EQL, and sample VP006-001.C248, where it was not found at concentrations higher than its IDL. Cyclohexanone was not found in all AZ Stack samples at concentrations higher than its IDL, except sample VP702-013.C020 rep, where it was found at concentration between its IDL and EQL. Butanenitrile was found in all C-106 tank samples at concentrations between its EQL and UQL, except ambient air sample VP006-024.C277 rep, where it was found at concentrations between its IDL and EQL, and samples VP006-001.C248 and VP006-024.C277, where it was not found at concentrations higher than its IDL. Butanenitrile was found in all AZ Stack samples at concentrations between its EQL and UQL, except sample VP702-004.C429,

where it was not found at concentration higher than its IDL. Propanenitrile was found in all C-106 tank samples at concentrations between its EQL and UQL, except sample VP006-009.C143, where it was found at concentrations between its IDL and EQL, and samples VP006-001.C248, VP006-024.C277 and VP006-024.C277 rep, where it was not found at concentrations higher than its IDL. Propanenitrile was found in all AZ Stack samples at concentrations between its EQL and UQL, except sample VP702-004.C429, where it was not found at concentration higher than its IDL. Due to the CCV performance for these compounds a higher than normal uncertainty is associated with the results.

No target compound was detected in the CCB above its EQL.

Sherry 2/22/99

Data File : C:\HPCHEM\1\DATA\18122701.B\18122701.D
 Acq On : 9 Nov 98 7:53 pm
 Sample : Tune Check BFB
 Misc : Tune Check BFB 56391-5-01

Vial: 1
 Operator: Alex
 Inst : System 1
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\SUM1601.M
 Title : exp

HNF-4073
Rev. 0

Peak Apex is scan: 2627

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.6	16768	PASS
75	95	30	66	42.8	38536	PASS
95	95	100	100	100.0	90056	PASS
96	95	5	9	6.3	5695	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	88.4	79608	PASS
175	174	4	9	8.0	6406	PASS
176	174	93	101	95.2	75760	PASS
177	176	5	9	6.6	5021	PASS

SAMPLE INFORMATION SUMMARY

HNF-4073
Rev. 0

BATCH: /chem/hpdos1.i/18122702.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
28122304.D	06-NOV-1998 01:41	Unknown	2.00	hpdos1	sas_stdT014.m	18122702.b
28122305.D	06-NOV-1998 03:23	Unknown	2.00	hpdos1	sas_stdT014.m	18122702.b
28122306.D	06-NOV-1998 04:43	Unknown	2.00	hpdos1	sas_stdT014.m	
28122307.D	06-NOV-1998 06:25	Unknown	2.00	hpdos1	sas_stdT014.m	
28122308.D	06-NOV-1998 07:49	Unknown	2.00	hpdos1	sas_stdT014.m	
28122309.D	06-NOV-1998 09:18	Unknown	2.00	hpdos1	sas_stdT014.m	
28122404.D	07-NOV-1998 01:08	Unknown	2.00	hpdos1	sas_stdT014.m	
28122405.D	07-NOV-1998 02:51	Unknown	2.00	hpdos1	sas_stdT014.m	
28122406.D	07-NOV-1998 04:25	Unknown	2.00	hpdos1	sas_stdT014.m	
28122407.D	07-NOV-1998 05:52	Unknown	2.00	hpdos1	sas_stdT014.m	
28122408.D	07-NOV-1998 07:31	Unknown	2.00	hpdos1	sas_stdT014.m	
28122409.D	07-NOV-1998 08:59	Unknown	2.00	hpdos1	sas_stdT014.m	
28122604.D	09-NOV-1998 01:27	Unknown	2.00	hpdos1	sas_stdT014.m	
28122605.D	09-NOV-1998 02:52	Unknown	2.00	hpdos1	sas_stdT014.m	

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
28122304.D	GAS	VAPOR	C-106	VP006-066.C226	VP006-066.C226	
28122305.D	GAS	VAPOR	C-106	VP006-057.C303	VP006-057.C303	
28122306.D	GAS	VAPOR	C-106	VP006-049.C23	VP006-049.C223	
28122307.D	GAS	VAPOR	C-106	VP006-040.C135	VP006-040.C135	
28122308.D	GAS	VAPOR	C-106	VP006-032.C227	VP006-032.C227	
28122309.D	GAS	VAPOR	C-106	VP006-032.C227	VP006-032.C227	
28122404.D	GAS	VAPOR	C-106	VP006-001.C248	VP006-001.C248	
28122405.D	GAS	VAPOR	VP702-013.C020	VP702-013.C020	AZ Stack	
28122406.D	GAS	VAPOR	VP702-013.C020	VP702-013.C020	AZ Stack	
28122407.D	GAS	VAPOR	VP702-010.C160	VP702-010.C160	AZ Stack	
28122408.D	GAS	VAPOR	VP702-007.C301	VP702-007.C301	AZ Stack	
28122409.D	GAS	VAPOR	VP702-004.C429	VP702-004.C429	AZ Stack	
28122604.D	GAS	VAPOR	C-106	VP006-127.C295	VP006-127.C295	
28122605.D	GAS	VAPOR	C-106	VP006-017.C235	VP006-017.C235	

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
28122304.D	all.sub		1038564	1038473	1038593	1038606
28122305.D	all.sub		1038565	1038473	1038593	1038606
28122306.D	all.sub		1038566	1038473	1038593	1038597
28122307.D	all.sub		1038567	1038473	1038593	1038597
28122308.D	all.sub		1038568	1038473	1038593	1038597
28122309.D	all.sub		1038569	1038473	1038593	1038597
28122404.D	all.sub		1038570	1038473	1038593	1038597
28122405.D	all.sub		1038571	1038473	1038593	1038597
28122406.D	all.sub		1038572	1038473	1038593	1038597
28122407.D	all.sub		1038573	1038473	1038593	1038597
28122408.D	all.sub		1038574	1038473	1038593	1038597
28122409.D	all.sub		1038575	1038473	1038593	1038596
28122604.D	all.sub		1038576	1038473	1038593	1038597
28122605.D	all.sub		1038577	1038473	1038593	1038597

SAMPLE INFORMATION SUMMARY

HNF-4073
Rev. 0

BATCH: /chem/hpdos1.i/18122702.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
28122606.D	09-NOV-1998 04:25	Unknown	2.00	hpdos1	sas_stdT014.m	
28122607.D	09-NOV-1998 05:46	Unknown	2.00	hpdos1	sas_stdT014.m	
28122608.D	09-NOV-1998 07:55	Unknown	2.00	hpdos1	sas_stdT014.m	
28122609.D	09-NOV-1998 09:14	Unknown	2.00	hpdos1	sas_stdT014.m	
28122702.D	09-NOV-1998 21:02	Continuing Cal	1.00	hpdos1	sas_stdT014.m	18122702.b
28122703.D	10-NOV-1998 04:07	Unknown	1.00	hpdos1	sas_stdT014.m	18122702.b
28122704.D	10-NOV-1998 06:23	Unknown	2.00	hpdos1	sas_stdT014.m	
28122705.D	10-NOV-1998 08:01	Unknown	2.00	hpdos1	sas_stdT014.m	

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
28122606.D	GAS	VAPOR	C-106	VP006-009.C143	VP006-009.C143	
28122607.D	GAS	VAPOR	VP702-002.C428	VP702-002.C428	AZ Stack	
28122608.D	GAS	VAPOR	C-106; amb.air	VP006-024.C277	VP006-024.C277	
28122609.D	GAS	VAPOR	C-106; amb.air	VP006-024.C277	VP006-024.C277	
28122702.D	GAS	VAPOR	CCV		St. 55471-39-1	
28122703.D	GAS	VAPOR	CCB; Nitrogen			
28122704.D	GAS	VAPOR	C-106	VP006-066.C226		
28122705.D	GAS	VAPOR	C-106	VP006-057.C303		

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
28122606.D	all.sub		1038578	1038473	1038593	1038597
28122607.D	all.sub		1038579	1038473	1038593	1038597
28122608.D	all.sub		1038580	1038473	1038593	1038597
28122609.D	all.sub		1038581	1038473	1038593	1038597
28122702.D	all.sub		1038582	1038473	1038593	1038606
28122703.D	all.sub		1038583	1038473	1038593	1038606
28122704.D	all.sub		1038584	1038473	1038593	1038596
28122705.D	all.sub		1038585	1038473	1038593	1038596

E01 929

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: hpdos1.i
Lab File ID: 28122702.D
Analysis Type: AIR
Lab Sample ID: 100mL
Quant Type: ISTD

Injection Date: 09-NOV-98 21:02
Init. Calibration Date(s): 11/22/98 11/22/98
Init. Calibration Times: 01:43 08:43
Method File: /chem/hpdos1.i/18122702.B/sas_stdTO14.m

COMPOUND	RRF	RF100	MIN	MAX
	RRF	RF100	RF	RF
1 Propene	3.163	3.302 0.050	4.4	25.0
2 Propane	1.040	1.055 0.050	1.4	25.0
3 Dichlorodifluoromethane	2.545	2.524 0.050	0.8	25.0
4 Chloromethane	2.112	1.991 0.050	5.7	25.0
5 Butane	2.013	1.813 0.050	9.9	25.0
6 Chloroethane	0.612	0.551 0.050	10.1	25.0
7 Ethanol	1.218	1.430 0.050	17.4	25.0
8 Trichlorofluoromethane	1.864	1.875 0.050	0.6	25.0
9 Isopropyl Alcohol	2.840	3.311 0.050	16.6	25.0
11 Furan	1.844	2.024 0.050	9.8	25.0
12 Acetone	0.585	0.703 0.050	20.1	25.0
13 Pentane	2.919	3.004 0.050	2.9	25.0
14 Methylene Chloride	1.165	1.297 0.050	11.3	25.0
15 1,1,2-trichloro-1,2,2-trifluoroetha	1.141	1.140 0.050	0.1	25.0
16 Propanenitrile	1.110	1.584 0.050	42.6	25.0
17 Propanol	2.818	3.391 0.050	20.3	25.0
18 2-Methylpentane	3.451	3.583 0.050	3.8	25.0
19 Butanal	0.608	0.730 0.050	20.0	25.0
20 2-Butanone	3.552	4.358 0.050	22.7	25.0
21 1-Hexene	1.501	1.601 0.050	6.6	25.0
23 Hexane	2.129	2.121 0.050	0.4	25.0
24 Chloroform	1.772	1.893 0.050	6.8	25.0
25 Tetrahydrofuran	0.769	0.865 0.050	12.5	25.0
26 Butanenitrile	0.686	0.964 0.050	40.6	25.0
27 Benzene	1.352	1.523 0.050	12.7	25.0
28 Carbon Tetrachloride	0.372	0.454 0.050	22.0	25.0
30 2-Pentanone	1.032	1.255 0.050	21.7	25.0
31 1-Butanol	0.367	0.425 0.050	15.8	25.0
32 3-Methylhexane	0.880	0.744 0.050	15.4	25.0
33 1,4-Dioxane	0.241	0.294 0.050	22.3	25.0
34 Heptane	0.318	0.344 0.050	7.9	25.0
35 4-Methyl-2-Pentanone	0.809	0.956 0.050	18.1	25.0
36 1,1,2-Trichloroethane	0.243	0.290 0.050	19.2	25.0
37 Toluene	0.868	0.948 0.050	9.1	25.0
38 2-Hexanone	0.832	1.035 0.050	24.4	25.0
39 Octane	0.331	0.343 0.050	3.8	25.0
40 Tetrachloroethylene	0.338	0.324 0.050	4.1	25.0
42 Chlorobenzene	1.017	1.090 0.050	7.2	25.0
43 Ethylbenzene	1.383	1.538 0.050	11.2	25.0
44 p/m-Xylene	0.565	0.430 0.050	23.9	25.0

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: hpdos1.i Injection Date: 09-NOV-98 21:02
Lab File ID: 28122702.D Init. Calibration Date(s): 11/22/98 11/22/98
Analysis Type: AIR Init. Calibration Times: 01:43 08:43
Lab Sample ID: 100mL Method File: /chem/hpdos1.i/18122702.B/sas_stdTO14.m
Quant Type: ISTD

COMPOUND	RF		MIN		MAX	
	RRF	RF100	RRF	RD	RD	
45 3-Heptanone	0.506	0.589	0.050	16.3	25.0	
46 2-Heptanone	1.770	2.679	0.050	51.4	25.0	<-
48 Cyclohexanone	0.369	0.483	0.050	30.8	25.0	<-
49 Styrene	2.164	2.562	0.050	18.4	25.0	
50 1,1,2,2-Tetrachloroethane	1.330	1.206	0.050	9.3	25.0	
51 o-Xylene	1.558	1.321	0.050	15.2	25.0	
52 Nonane	1.950	1.772	0.050	9.1	25.0	
55 1,2,4-Trimethylbenzene	2.002	2.454	0.050	22.6	25.0	
124 2-Octanone	0.964	2.224	0.050	130.7	25.0	<-
126 Decane	1.118	1.285	0.050	15.0	25.0	

Rev. 0

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

Start Cal Date : 22-NOV-98 01:43
 End Cal Date : 22-NOV-1998 08:43
 Quant Method : ISTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/19010802.B/sas_stdTO14.m
 Cal Date : 13-Jan-1999 16:38 john
 Curve Type : Average

Calibration File Names:

Level 1: /chem/hpdos1.i/19010802.B/19010803.D
 Level 2: /chem/hpdos1.i/19010802.B/19010802.D
 Level 3: /chem/hpdos1.i/19010802.B/19010804.D
 Level 4: /chem/hpdos1.i/19010802.B/19010805.D
 Level 6: /chem/hpdos1.i/19010802.B/19010806.D
 Level 7: /chem/hpdos1.i/19010802.B/19010807.D

Compound	2 Level 1	5 Level 2	25 Level 3	50 Level 4	100 Level 6	200 Level 7	RRF	% RSD
1 Propene	3.50172	2.75473	3.61888	3.30845	2.94225	2.85139	3.16290	11.454
2 Propane	1.07701	0.94604	1.18819	1.07700	0.96130	0.99339	1.04049	8.797
3 Dichlorodifluoromethane	2.74717	2.31460	2.97373	2.69950	2.35616	2.18054	2.54529	12.047
4 Chloromethane	2.47751	1.95289	2.51510	2.06027	1.81751	1.84881	2.11202	14.671
5 Butane	2.36294	1.88834	2.51255	1.91722	1.71547	1.68183	2.01306	17.135
6 Chloroethane	0.95062	0.50290	0.65638	0.51469	0.50747	0.54240	0.61241	28.636
7 Ethanol	1.50982	0.78329	1.16795	1.25053	1.25316	1.34371	1.21808	19.932
8 Trichlorofluoromethane	2.40218	1.91119	2.09773	1.91662	1.56938	1.28482	1.86365	21.078
9 Isopropyl Alcohol	3.54727	2.88176	2.85984	2.98064	2.52852	2.23961	2.83961	15.588
11 Furan	2.12873	1.84367	2.07077	1.86975	1.66087	1.48875	1.84376	13.127
12 Acetone	0.80915	0.63535	0.62698	0.57479	0.43627	0.42973	0.58538	24.264
13 Pentane	3.48661	2.87159	3.31395	3.07205	2.50581	2.26518	2.91920	16.082
14 Methylene Chloride	1.32932	1.14289	1.16211	1.16975	1.08592	1.09753	1.16459	7.518
15 1,1,2-trichloro-2,2,2-trifluoroethane	1.45935	1.13805	1.24037	1.17668	0.98156	0.85209	1.14135	18.436
16 Propanenitrile	0.75176	0.74551	1.28173	1.42593	1.30105	1.15550	1.11025	26.385
17 Propanol	2.43890	2.43353	3.12581	3.43147	2.91132	2.56614	2.81786	14.500
18 2-Methylpentane	3.96193	3.39207	3.84182	3.64185	3.07864	2.78784	3.45069	13.167
19 Butanal	0.59179	0.54021	0.65508	0.66845	0.61440	0.57995	0.60831	7.903
20 2-Butanone	3.13798	2.99796	3.90658	4.19109	3.72194	3.35635	3.55198	13.083
21 1-Hexene	1.76644	1.41930	1.63706	1.55614	1.35705	1.27084	1.50114	12.369
23 Hexane	2.64597	2.15281	2.33281	2.18630	1.81438	1.64447	2.12946	16.885
24 Chloroform	2.07079	1.68668	1.89406	1.77543	1.61465	1.59239	1.77233	10.357
25 Tetrahydrofuran	0.82143	0.71981	0.83240	0.82890	0.73074	0.68236	0.76927	8.573
26 Butanenitrile	0.52919	0.57712	0.62157	0.79247	0.77086	0.82298	0.68570	18.203
27 Benzene	1.62714	1.36005	1.24021	1.30317	1.24734	1.33356	1.35191	10.562
28 Carbon Tetrachloride	0.45707	0.38102	0.33290	0.36435	0.33739	0.35783	0.37176	12.211

E01 932

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

Start Cal Date : 22-NOV-98 01:43
 End Cal Date : 22-NOV-1998 08:43
 Quant Method : ISTD
 Origin : Force
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdosl.i/19010802.B/sas_stdTO14.m
 Cal Date : 13-Jan-1999 16:38 *John Allen A.M.*
 Curve Type : Average

Compound	2 Level 1	5 Level 2	25 Level 3	50 Level 4	100 Level 6	200 Level 7	RRF	% RSD
30 2-Pentanone	1.00826	0.95955	0.96422	1.19906	1.07591	0.98462	1.03194	8.933
31 1-Butanol	++++	0.50326	0.27767	0.37708	0.33500	0.34329	0.36726	22.876
32 3-Methylhexane	1.45872	1.22900	0.68394	0.70786	0.61551	0.58297	0.87967	42.014 <-
33 1,4-Dioxane	0.27423	0.21013	0.20461	0.26171	0.24736	0.24593	0.24066	11.567
34 Heptane	0.38684	0.35233	0.30351	0.31615	0.28224	0.26980	0.31848	13.852
35 4-Methyl-2-Pentanone	0.99273	0.73366	0.73682	0.89953	0.78230	0.71012	0.80920	13.908
36 1,1,2-Trichloroethane	0.27370	0.23467	0.22046	0.25959	0.24283	0.22920	0.24341	8.185
37 Toluene	1.10326	0.92692	0.88537	0.89550	0.76486	0.63322	0.86819	18.258
38 2-Hexanone	0.75884	0.85295	0.87993	1.05497	0.81923	0.62452	0.83174	17.089
39 Octane	0.45122	0.35604	0.34002	0.34369	0.27939	0.21298	0.33055	24.169
40 Tetrachloroethylene	0.46954	0.38609	0.35165	0.34863	0.27581	0.19525	0.33783	27.818
42 Chlorobenzene	1.33291	1.09416	0.98891	1.06885	0.89512	0.72048	1.01674	20.253
43 Ethylbenzene	1.77071	1.45235	1.35921	1.46578	1.22936	1.01954	1.38282	18.245
44 p/m-Xylene	0.73031	0.60680	0.53847	0.53853	0.41245	++++	0.56531	20.505
45 3-Heptanone	0.35024	0.53499	0.68332	0.77635	0.34196	0.35113	0.50633	37.528 <-
46 2-Heptanone	0.51459	1.30237	2.11081	2.91472	2.27030	1.50813	1.77015	47.535 <-
48 Cyclohexanone	0.25240	0.40834	0.36039	0.47738	0.40710	0.31068	0.36938	21.595
49 Styrene	2.57829	2.20942	2.21087	2.42166	2.05584	1.50740	2.16391	17.106
50 1,1,2,2-Tetrachloroethane	1.68928	1.23764	1.31094	1.35082	1.06180	++++	1.33010	17.241
51 o-Xylene	2.08307	1.64998	1.45835	1.49748	1.09917	++++	1.55761	22.886
52 Nonane	2.60673	1.97963	1.86742	1.86939	1.42542	++++	1.94972	21.770
55 1,2,4-Trimethylbenzene	1.55418	1.87275	2.22338	2.46991	2.16098	1.72840	2.00160	17.094
124 2-Octanone	0.02156	0.01656	0.41346	2.09855	1.81097	1.42282	0.96399	96.245 <-
126 Decane	0.74529	1.22646	1.43905	1.39494	1.08460	0.81473	1.11754	26.043

Pacific Northwest National Laboratory

Data file : /chem/hpdos1.i/18122702.b/28122702.D
Lab Smp Id: CCV Client Smp ID: St. 55471-39-1
Inj Date : 09-NOV-1998 21:02
Operator : Alex Inst ID: hpdos1.i
Smp Info : 100mL; St. 55471-39-1
Misc Info :
Comment :
Method : /chem/hpdos1.i/18122702.b/sas_stdTO14.m
Meth Date : 04-Feb-1999 16:33 john Quant Type: ISTD
Cal Date : 09-NOV-1998 21:02 Cal File: 28122702.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.10

Compounds	QUANT SIG				AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COL
					(ng)	(ng)
-----	----	--	-----	-----	-----	-----
1 Propene	41.00	4.518	4.518	(0.329)	6364359	61.0
2 Propane	43.00	4.572	4.572	(0.333)	2066909	62.9
3 Dichlorodifluoromethane	85.00	4.679	4.679	(0.341)	14353790	180
4 Chloromethane	50.00	5.067	5.067	(0.369)	4521987	73.0
5 Butane	43.00	5.982	5.982	(0.436)	4755762	83.0
6 Chloroethane	64.00	6.811	6.811	(0.496)	1531314	88.0
7 Ethanol	31.00	7.005	7.005	(0.510)	5058808	112
8 Trichlorofluoromethane	101.00	8.351	8.351	(0.609)	11966190	202
9 Isopropyl Alcohol	45.00	8.437	8.437	(0.615)	16632607	159
11 Furan	68.00	8.663	8.663	(0.631)	11381957	178
12 Acetone	58.00	7.963	7.963	(0.580)	3444488	155
13 Pentane	43.00	9.018	9.018	(0.657)	9775735	103
14 Methylene Chloride	84.00	9.761	9.761	(0.711)	4833984	118
15 1,1,2-trichloro-1,2,2-trifluoroethane	151.00	10.246	10.246	(0.747)	9758411	271
16 Propanenitrile	54.00	10.999	10.999	(0.801)	7304945	146
17 Propanol	31.00	11.021	11.021	(0.803)	16071987	150
18 2-Methylpentane	43.00	12.184	12.184	(0.888)	13356845	118
19 Butanal	72.00	12.334	12.334	(0.899)	3481287	151
20 2-Butanone	43.00	12.539	12.539	(0.914)	24922561	181
21 1-Hexene	56.00	13.185	13.185	(0.961)	5765865	114
* 22 Bromochloromethane (IS)	49.00	13.723	13.723	(1.000)	3791544	120
23 Hexane	57.00	13.777	13.777	(1.004)	7908212	118
24 Chloroform	83.00	13.949	13.949	(1.016)	11485103	192
25 Tetrahydrofuran	72.00	14.681	14.681	(1.070)	5221240	191
26 Butanenitrile	41.00	15.866	15.866	(0.917)	18848746	172
27 Benzene	78.00	16.749	16.749	(0.968)	18348849	106
28 Carbon Tetrachloride	117.00	17.039	17.039	(0.984)	11034843	214
* 29 Difluorobenzene (IS)	114.00	17.308	17.308	(1.000)	11025229	97.0
30 2-Pentanone	43.00	17.416	17.416	(1.006)	31249567	219

Compounds	QUANT SIG				AMOUNTS		
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
31 1-Butanol	31.00	16.350	16.350	(0.945)	8458520	175	203
32 3-Methylhexane	43.00	17.976	17.976	(1.039)	11336511	134	113
33 1,4-Dioxane	88.00	18.676	18.676	(1.079)	7796339	233	285 (M)
34 Heptane	71.00	19.257	19.257	(1.113)	5312278	136	147
35 4-Methyl-2-Pentanone	43.00	20.463	20.463	(1.182)	26182649	241	285
36 1,1,2-Trichloroethane	83.00	21.959	21.959	(1.269)	6035016	183	218
37 Toluene	92.00	22.595	22.595	(0.848)	11687451	126	138
38 2-Hexanone	43.00	23.015	23.015	(0.863)	25020235	247	307
39 Octane	85.00	24.662	24.662	(0.925)	5306878	158	164
40 Tetrachloroethylene	164.00	25.157	25.157	(0.944)	6947463	219	210
* 41 Chlorobenzene-d5 (IS)	117.00	26.654	26.654	(1.000)	10866210	111	
42 Chlorobenzene	112.00	26.761	26.761	(1.004)	15476692	145	155
43 Ethylbenzene	91.00	27.633	27.633	(1.037)	22577535	150	167
44 p/m-Xylene	106.00	28.053	28.053	(1.052)	12638068	300	228
45 3-Heptanone	57.00	28.150	28.150	(1.056)	16542044	287	334 (M)
46 2-Heptanone	43.00	28.269	28.269	(0.928)	27288641	278	421
48 Cyclohexanone	41.00	28.506	28.506	(0.935)	4284385	242	316
49 Styrene	104.00	28.990	28.990	(0.951)	13988072	149	176
50 1,1,2,2-Tetrachloroethane	83.00	29.216	29.216	(0.959)	11046559	250	227
51 o-Xylene	106.00	29.302	29.302	(0.961)	7019574	145	123
52 Nonane	57.00	29.722	29.722	(0.975)	10518480	162	147
* 53 1-Bromo-4-Fluorobenzene (IS)	95.00	30.476	30.476	(1.000)	6594808	180	
55 1,2,4-Trimethylbenzene	105.00	34.158	34.158	(1.121)	16184865	180	221 (M)
124 2-Octanone	43.00	33.124	33.124	(1.087)	25178659	309	713
126 Decane	43.00	34.406	34.406	(1.129)	11437416	243	279 (M)

QC Flag Legend

M - Compound response manually integrated.

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COMPOUND LISTING

Method file : /chem/hpdos1.i/18122702.b/sas_stdTO14.m
 Quant Method : ISTD Target Version : 3.10
 Last Update : 20-Jan-1999 09:10 Number of Cpnds : 54
 Data Type : MS DATA

Global Integrator : HP RTE

Chromat Events

Values

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Initial:Thresh Units      0.000000
Initial:Area Thresh      40000.000000
Initial:Max Peaks        200.000000
Initial:Bunching          1.000000
Initial:Smoothing         1.000000
Initial:Start Thresh      0.100000
Initial:Stop Thresh       0.000000
Initial:Baseline Reset    5.000000
Initial:Set Valley        100.000000
  
```

Compound	RT	RT Window	RF	Mass
1 Propene	4.476	3.976-4.976	3.163	41.00
	4.476	3.976-4.976	0.000	42.00
	4.476	3.976-4.976	0.000	42.08
2 Propane	4.530	4.030-5.030	1.040	43.00
	4.530	4.030-5.030	0.000	44.00
	4.530	4.030-5.030	0.000	44.10
3 Dichlorodifluoromethane	4.638	4.438-4.838	2.545	85.00
	4.638	4.438-4.838	0.000	87.00
	4.638	4.438-4.838	0.000	120.91
4 Chloromethane	5.014	4.314-5.714	2.112	50.00
	5.014	4.314-5.714	0.000	52.00
	5.014	4.314-5.714	0.000	50.49
5 Butane	5.930	5.430-6.430	2.013	43.00
	5.930	5.430-6.430	0.000	58.00
	5.930	5.430-6.430	0.000	58.12
6 Chloroethane	6.759	6.059-7.459	0.612	64.00
	6.759	6.059-7.459	0.000	66.00
	6.759	6.059-7.459	0.000	64.51
7 Ethanol	6.963	6.463-7.463	1.218	31.00
	6.963	6.463-7.463	0.000	45.00
	6.963	6.463-7.463	0.000	46.07
8 Trichlorofluoromethane	8.287	7.587-8.987	1.864	101.00
	8.287	7.587-8.987	0.000	103.00
	8.287	7.587-8.987	0.000	137.37

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122702.b/sas_stdTO14.m

Compound	RT	RT Window	RF	Mass
9 Isopropyl Alcohol	8.384	7.884-8.884	2.840	45.00
	8.384	7.884-8.884	0.000	43.00
	8.384	7.884-8.884	0.000	60.10
11 Furan	8.600	8.100-9.100	1.844	68.00
	8.600	8.100-9.100	0.000	39.00
	8.600	8.100-9.100	0.000	68.08
12 Acetone	7.900	7.400-8.400	0.585	58.00
	7.900	7.400-8.400	0.000	43.00
	7.900	7.400-8.400	0.000	58.08
13 Pentane	8.955	8.455-9.455	2.919	43.00
	8.955	8.455-9.455	0.000	57.00
	8.955	8.455-9.455	0.000	72.00
14 Methylene Chloride	9.698	8.998-10.398	1.165	84.00
	9.698	8.998-10.398	0.000	49.00
	9.698	8.998-10.398	0.000	84.93
15 1,1,2-trichloro-2,2,2-trifluoroethane	10.182	9.482-10.882	1.141	151.00
	10.182	9.482-10.882	0.000	103.00
	10.182	9.482-10.882	0.000	187.38
16 Propanenitrile	10.936	10.436-11.436	1.110	54.00
	10.936	10.436-11.436	0.000	52.00
	10.936	10.436-11.436	0.000	55.08
17 Propanol	10.979	10.479-11.479	2.818	31.00
	10.979	10.479-11.479	0.000	42.00
	10.979	10.479-11.479	0.000	60.10
18 2-Methylpentane	12.110	11.610-12.610	3.451	43.00
	12.110	11.610-12.610	0.000	71.00
	12.110	11.610-12.610	0.000	86.18
19 Butanal	12.271	11.771-12.771	0.608	72.00
	12.271	11.771-12.771	0.000	57.00
	12.271	11.771-12.771	0.000	72.11
20 2-Butanone	12.476	11.976-12.976	3.552	43.00
	12.476	11.976-12.976	0.000	72.00
	12.476	11.976-12.976	0.000	72.11
21 1-Hexene	13.122	12.622-13.622	1.501	56.00
	13.122	12.622-13.622	0.000	41.00
	13.122	12.622-13.622	0.000	84.16
* 22 Bromochloromethane (IS)	13.649	13.149-14.149	34231	49.00
	13.649	13.149-14.149	0.000	130.00
	13.649	13.149-14.149	0.000	129.40
23 Hexane	13.714	13.214-14.214	2.129	57.00
	13.714	13.214-14.214	0.000	43.00
	13.714	13.214-14.214	0.000	86.18

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122702.b/sas_stdTO14.m

Compound	RT	RT Window	RF	Mass
24 Chloroform	13.875	13.375-14.375	1.772	83.00
	13.875	13.375-14.375	0.000	85.00
	13.875	13.375-14.375	0.000	119.38
25 Tetrahydrofuran	14.607	14.107-15.107	0.769	72.00
	14.607	14.107-15.107	0.000	42.00
	14.607	14.107-15.107	0.000	72.11
26 Butanenitrile	15.802	15.302-16.302	0.686	41.00
	15.802	15.302-16.302	0.000	52.00
	15.802	15.302-16.302	0.000	69.11
27 Benzene	16.675	16.175-17.175	1.352	78.00
	16.675	16.175-17.175	0.000	77.00
	16.675	16.175-17.175	0.000	78.11
28 Carbon Tetrachloride	16.965	16.465-17.465	0.372	117.00
	16.965	16.465-17.465	0.000	119.00
	16.965	16.465-17.465	0.000	153.82
* 29 Difluorobenzene (IS)	17.234	16.734-17.734	128930	114.00
	17.234	16.734-17.734	0.000	114.00
	17.234	16.734-17.734	0.000	114.00
30 2-Pentanone	17.342	16.842-17.842	1.032	43.00
	17.342	16.842-17.842	0.000	86.00
	17.342	16.842-17.842	0.000	86.13
31 1-Butanol	16.298	15.798-16.798	0.367	31.00
	16.298	15.798-16.798	0.000	56.00
	16.298	15.798-16.798	0.000	74.12
32 3-Methylhexane	17.902	17.402-18.402	0.880	43.00
	17.902	17.402-18.402	0.000	71.00
	17.902	17.402-18.402	0.000	100.20
33 1,4-Dioxane	18.602	18.102-19.102	0.241	88.00
	18.602	18.102-19.102	0.000	58.00
	18.602	18.102-19.102	0.000	88.11
34 Heptane	19.183	18.683-19.683	0.319	71.00
	19.183	18.683-19.683	0.000	57.00
	19.183	18.683-19.683	0.000	100.20
35 4-Methyl-2-Pentanone	20.400	19.900-20.900	0.809	43.00
	20.400	19.900-20.900	0.000	58.00
	20.400	19.900-20.900	0.000	100.16
36 1,1,2-Trichloroethane	21.875	21.375-22.375	0.243	83.00
	21.875	21.375-22.375	0.000	97.00
	21.875	21.375-22.375	0.000	133.40
37 Toluene	22.521	22.021-23.021	0.868	92.00
	22.521	22.021-23.021	0.000	91.00
	22.521	22.021-23.021	0.000	92.14

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122702.b/sas_stdTO14.m

Compound	RT	RT Window	RF	Mass
38 2-Hexanone	22.941	22.441-23.441	0.832	43.00
	22.941	22.441-23.441	0.000	58.00
	22.941	22.441-23.441	0.000	100.16
39 Octane	24.577	24.077-25.077	0.331	85.00
	24.577	24.077-25.077	0.000	57.00
	24.577	24.077-25.077	0.000	114.23
40 Tetrachloroethylene	25.051	24.551-25.551	0.338	164.00
	25.051	24.551-25.551	0.000	129.00
	25.051	24.551-25.551	0.000	165.83
* 41 Chlorobenzene-d5 (IS)	26.569	26.069-27.069	97517	117.00
	26.569	26.069-27.069	0.000	119.00
	26.569	26.069-27.069	0.000	119.56
42 Chlorobenzene	26.677	26.177-27.177	1.017	112.00
	26.677	26.177-27.177	0.000	114.00
	26.677	26.177-27.177	0.000	112.56
43 Ethylbenzene	27.559	27.209-27.909	1.383	91.00
	27.559	27.209-27.909	0.000	106.00
	27.559	27.209-27.909	0.000	106.17
44 p/m-Xylene	27.958	27.458-28.458	0.565	106.00
	27.958	27.458-28.458	0.000	91.00
	27.958	27.458-28.458	0.000	106.17
45 3-Heptanone	28.076	27.576-28.576	0.506	57.00
	28.076	27.576-28.576	0.000	85.00
	28.076	27.576-28.576	0.000	114.19
46 2-Heptanone	28.216	27.716-28.716	1.770	43.00
	28.216	27.716-28.716	0.000	58.00
	28.216	27.716-28.716	0.000	114.19
48 Cyclohexanone	28.432	27.932-28.932	0.369	41.00
	28.432	27.932-28.932	0.000	56.00
	28.432	27.932-28.932	0.000	98.14
49 Styrene	28.905	28.405-29.405	2.164	104.00
	28.905	28.405-29.405	0.000	78.00
	28.905	28.405-29.405	0.000	104.15
50 1,1,2,2-Tetrachloroethane	29.142	28.642-29.642	1.330	83.00
	29.142	28.642-29.642	0.000	85.00
	29.142	28.642-29.642	0.000	167.85
51 o-Xylene	29.228	28.728-29.728	1.558	106.00
	29.228	28.728-29.728	0.000	91.00
	29.228	28.728-29.728	0.000	106.17
52 Nonane	29.648	29.148-30.148	1.950	57.00
	29.648	29.148-30.148	0.000	71.00
	29.648	29.148-30.148	0.000	128.26

Pacific Northwest National Laboratory

COMPOUND LISTING

Method file : /chem/hpdos1.i/18122702.b/sas_stdTO14.m

Compound	RT	RT Window	RF	Mass
* 53 1-Bromo-4-Fluorobenzene (I	30.391	29.891-30.891	35997	95.00
	30.391	29.891-30.891	0.000	174.00
	30.391	29.891-30.891	0.000	174.00
55 1,2,4-Trimethylbenzene	34.095	33.595-34.595	2.002	105.00
	34.095	33.595-34.595	0.000	120.00
	34.095	33.595-34.595	0.000	120.19
124 2-Octanone	33.061	32.561-33.561	0.964	43.00
	33.061	32.561-33.561	0.000	58.00
	33.061	32.561-33.561	0.000	128.21
126 Decane	34.332	33.832-34.832	1.118	43.00
	34.332	33.832-34.832	0.000	57.00
	34.332	33.832-34.832	0.000	142.20

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : 100mL; St. 55471-39-1

Instrument ID : hpdos1.i
 Method : sas stdTO14.m
 File : 28122702.D
 Injection Date : 09-NOV-1998 21:02 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCV
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CCALIB_5

VolumeFactor: 100 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	22	42.08	4.518	4.518	6364359	63.68	0.6368	338.99	
Propane	22	44.10	4.572	4.572	2066909	62.90	0.6290	319.49	
Dichlorodifluoromethane	22	120.91	4.679	4.679	14353790	178.50	1.7850	330.70	
Chloromethane	22	50.49	5.067	5.067	4591987	68.81	0.6881	305.29	
Butane	22	58.12	5.982	5.982	4755762	74.77	0.7477	288.18	
Chloroethane	22	64.51	6.811	6.811	1531314	79.14	0.7914	274.80	
Ethanol	22	46.07	7.005	7.005	5058808	131.45	1.3145	639.14	
Trichlorofluoromethane	22	137.37	8.351	8.351	11966190	203.18	2.0318	331.31	
Isopropyl Alcohol	22	60.10	8.437	8.437	16632607	185.36	1.8536	690.85	
Furan	22	68.08	8.663	8.663	11381957	195.35	1.9535	642.76	
Acetone	22	58.08	7.963	7.963	3444488	186.22	1.8622	718.22	
Pentane	22	72.00	9.018	9.018	9775735	105.99	1.0599	329.76	
Methylene Chloride	22	84.93	9.761	9.761	4833984	131.32	1.3132	346.36	
112trichloro122trifluoroethane	22	187.38	10.246	10.246	9758411	270.68	2.7068	323.58	
Propanenitrile	22	55.08	10.999	10.999	7304945	208.29	2.0829	847.06	
Propanol	22	60.10	11.021	11.021	16071987	180.51	1.8051	672.77	
2-Methylpentane	22	86.18	12.184	12.184	13356845	122.50	1.2250	318.39	
Butanal	22	72.11	12.334	12.334	3481287	181.13	1.8113	562.65	
2-Butanone	22	72.11	12.539	12.539	24922561	222.07	2.2207	689.82	
1-Hexene	22	84.16	13.185	13.185	5765865	121.58	1.2158	323.59	
Hexane	22	86.18	13.777	13.777	7908212	117.56	1.1756	305.57	
Chloroform	22	119.38	13.949	13.949	11485103	205.13	2.0513	384.90	
Tetrahydrofuran	22	72.11	14.681	14.681	5221240	214.80	2.1480	667.26	
Butanenitrile	29	69.11	15.866	15.866	18848746	241.84	2.4184	783.86	
Benzene	29	78.11	16.749	16.749	18348849	119.40	1.1940	342.42	
Carbon Tetrachloride	29	153.82	17.039	17.039	11034843	261.12	2.6112	380.26	
2-Pentanone	29	86.13	17.416	17.416	31249567	266.41	2.6641	92.85	
1-Butanol	29	74.12	16.350	16.350	8458520	202.61	2.0261	612.31	
3-Methylhexane	29	100.20	17.976	17.976	11336511	113.38	1.1338	253.46	
1,4-Dioxane	29	88.11	18.676	18.676	7796339	284.97	2.8497	724.47	
Heptane	29	100.20	19.257	19.257	5312278	146.74	1.4674	328.05	
4-Methyl-2-Pentanone	29	100.16	20.463	20.463	26182649	284.67	2.8467	636.64	
1,1,2-Trichloroethane	29	133.40	21.959	21.959	6035016	218.14	2.1814	366.30	

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.595	11687451	137.51	1.3751	334.31	
2-Hexanone	41	100.16	23.015	23.015	25020235	307.30	3.0730	687.26	
Octane	41	114.23	24.662	24.662	5306878	163.98	1.6398	321.55	
Tetrachloroethylene	41	165.83	25.157	25.157	6947463	210.09	2.1009	283.79	
Chlorobenzene	41	112.56	26.761	26.761	15476692	155.45	1.5545	309.36	
Ethylbenzene	41	106.17	27.633	27.633	22577535	166.76	1.6676	351.84	
p/m-Xylene	41	106.17	28.053	28.053	12638068	228.37	2.2837	481.83	
3-Heptanone	41	114.19	28.150	28.150	16542044	333.75	3.3375	654.71	
2-Heptanone	53	114.19	28.269	28.269	27288641	420.80	4.2080	825.47	
Cyclohexanone	53	98.14	28.506	28.506	4284385	316.56	3.1656	722.54	
Styrene	53	104.15	28.990	28.990	13988072	176.43	1.7643	379.45	
1,1,2,2-Tetrachloroethane	53	167.85	29.216	29.216	11046559	226.70	2.2670	302.53	
o-Xylene	53	106.17	29.302	29.302	7019574	122.97	1.2297	259.45	
Nonane	53	128.26	29.722	29.722	10518480	147.23	1.4723	257.13	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.158	16184865	220.66	2.2066	411.24	
Bromochloromethane (IS)	22	129.40	13.723	13.723	3791544	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.308	11025229	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.654	10866210	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.476	6594808	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.124	25178659	712.90	7.1290	1245.52	
Decane	53	142.20	34.406	34.406	11437416	279.23	2.7923	439.85	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/03/99 11:01

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Page 2

E01 943

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : 100mL; St. 55471-39-1

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : 100mL; St. 55471-39-1

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : sas_stdTO14.m
 File : 28122703.D
 Injection Date : 10-NOV-1998 04:07 Operator : JCE
 Matrix : AIR Lab. Sample ID: CCB; Nitrogen
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	22	42.08	4.518				0.0006	0.32	U
Propane	22	44.10	4.572				0.0006	0.31	U
Dichlorodifluoromethane	22	120.91	4.679				0.0007	0.13	U
Chloromethane	22	50.49	5.067				0.0006	0.27	U
Butane	22	58.12	5.982				0.0006	0.23	U
Chloroethane	22	64.51	6.811				0.0014	0.47	U
Ethanol	22	46.07	7.005				0.0010	0.49	U
Trichlorofluoromethane	22	137.37	8.351				0.0012	0.20	U
Isopropyl Alcohol	22	60.10	8.437				0.0016	0.59	U
Furan	22	68.08	8.663				0.0018	0.59	U
Acetone	22	58.08	7.963	8.059	25910	0.99	0.0050	1.92	J
Pentane	22	72.00	9.018				0.0009	0.30	U
Methylene Chloride	22	84.93	9.761	9.793	14613	0.30	0.0015	0.40	J
112trichloro122trifluoroethane	22	187.38	10.246				0.0010	0.12	U
Propanenitrile	22	55.08	10.999				0.0009	0.39	U
Propanol	22	60.10	11.021				0.0007	0.26	U
2-Methylpentane	22	86.18	12.184				0.0012	0.31	U
Butanal	22	72.11	12.334				0.0015	0.47	U
2-Butanone	22	72.11	12.539				0.0007	0.22	U
1-Hexene	22	84.16	13.185				0.0011	0.30	U
Hexane	22	86.18	13.777				0.0008	0.21	U
Chloroform	22	119.38	13.949				0.0006	0.12	U
Tetrahydrofuran	22	72.11	14.681				0.0004	0.12	U
Butanenitrile	29	69.11	15.866				0.0009	0.28	U
Benzene	29	78.11	16.749				0.0004	0.11	U
Carbon Tetrachloride	29	153.82	17.039				0.0009	0.12	U
2-Pentanone	29	86.13	17.416				0.0022	0.57	U
1-Butanol	29	74.12	16.350				0.0008	0.24	U
3-Methylhexane	29	100.20	17.976				0.0013	0.30	U
1,4-Dioxane	29	88.11	18.676				0.0023	0.59	U
Heptane	29	100.20	19.257				0.0004	0.10	U
4-Methyl-2-Pentanone	29	100.16	20.463				0.0009	0.19	U
1,1,2-Trichloroethane	29	133.40	21.959				0.0007	0.12	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595				0.0005	0.12	U
2-Hexanone	41	100.16	23.015				0.0025	0.55	U
Octane	41	114.23	24.662				0.0006	0.12	U
Tetrachloroethylene	41	165.83	25.157				0.0011	0.14	U
Chlorobenzene	41	112.56	26.761				0.0006	0.13	U
Ethylbenzene	41	106.17	27.633				0.0007	0.15	U
p/m-Xylene	41	106.17	28.053				0.0033	0.69	U
3-Heptanone	41	114.19	28.150				0.0029	0.56	U
2-Heptanone	53	114.19	28.269				0.0028	0.55	U
Cyclohexanone	53	98.14	28.506				0.0015	0.33	U
Styrene	53	104.15	28.990				0.0005	0.12	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0011	0.14	U
o-Xylene	53	106.17	29.302				0.0007	0.15	U
Nonane	53	128.26	29.722				0.0004	0.08	U
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0007	0.13	U
Bromochloromethane (IS)	22	129.40	13.723	13.744	4449980	120.00	0.6000	103.86	
Difluorobenzene (IS)	29	114.00	17.308	17.329	13202441	97.00	0.4850	95.30	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.686	10195931	111.00	0.5550	103.98	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.508	5502773	180.00	0.9000	115.86	
2-Octanone	53	128.21	33.124				0.0386	6.74	U
Decane	53	142.20	34.406				0.0008	0.12	U

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.965	2548536	17.88	0.0894		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	17100140
Difluorobenzene (IS)	29	28913278
Chlorobenzene-d5 (IS)	41	29378366
1-Bromo-4-Fluorobenzene (IS)	53	26821843

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/03/99 11:03

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Page 2

E01 948

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

02/03/99 11:03

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E01 949

Page 3

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. C

Sample Info : C-106 VP006-066.C226; 100 ml; 2X

Instrument ID : hpdos1.1
 Method : sas_stdTO14.m
 File : 28122304.D
 Injection Date : 06-NOV-1998 01:41 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 100 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.463	2612866	28.10	0.5619	299.12	
Propane	22	44.10	4.572	4.517	670782	22.57	0.4515	229.32	
Dichlorodifluoromethane	22	120.91	4.679	4.625	12186	0.17	0.0034	0.64	J
Chloromethane	22	50.49	5.067	5.002	4331	0.08	0.0015	0.69	J
Butane	22	58.12	5.982	5.906	3813775	74.67	1.4934	575.59	
Chloroethane	22	64.51	6.811				0.0054	1.88	U
Ethanol	22	46.07	7.005	6.886	1529926	38.00	0.7600	369.53	
Trichlorofluoromethane	22	137.37	8.351	8.253	79760	1.51	0.0302	4.93	J
Isopropyl Alcohol	22	60.10	8.437	8.296	62387	0.67	0.0134	4.99	J
Furan	22	68.08	8.663				0.0071	2.35	U
Acetone	22	58.08	7.963	7.866	806835	40.73	0.8146	314.19	
Pentane	22	72.00	9.018	8.921	2354592	27.83	0.5566	173.18	
Methylene Chloride	22	84.93	9.761	9.642	11306	0.31	0.0062	1.63	J
112trichloro122trifluoroethane	22	187.38	10.246				0.0040	0.48	U
Propanenitrile	22	55.08	10.999	10.859	274515	6.16	0.1231	50.06	
Propanol	22	60.10	11.021	10.869	196896	2.06	0.0412	15.37	
2-Methylpentane	22	86.18	12.184	12.065	375087	3.72	0.0744	19.33	
Butanal	22	72.11	12.334	12.204	112654	5.48	0.1096	34.06	
2-Butanone	22	72.11	12.539	12.409	1036154	8.44	0.1688	52.45	
1-Hexene	22	84.16	13.185	13.066	2298486	50.98	1.0197	271.39	
Hexane	22	86.18	13.777	13.647	1445315	24.19	0.4839	125.77	
Chloroform	22	119.38	13.949				0.0026	0.49	U
Tetrahydrofuran	22	72.11	14.681	14.562	31175	1.28	0.0256	7.95	
Butanenitrile	29	69.11	15.866	15.693	1014734	9.86	0.1973	63.95	
Benzene	29	78.11	16.749	16.608	139488	0.86	0.0172	4.92	
Carbon Tetrachloride	29	153.82	17.039				0.0034	0.50	U
2-Pentanone	29	86.13	17.416	17.286	742846	5.55	0.1109	28.85	
1-Butanol	29	74.12	16.350	16.199	924432	20.38	0.4075	123.15	
3-Methylhexane	29	100.20	17.976	17.846	143899	1.81	0.0362	8.10	J
1,4-Dioxane	29	88.11	18.676				0.0093	2.37	U
Heptane	29	100.20	19.257	19.138	3418453	93.23	1.8647	416.85	
4-Methyl-2-Pentanone	29	100.16	20.463	20.301	157202	1.54	0.0308	6.89	J
1,1,2-Trichloroethane	29	133.40	21.959	21.851	22860	0.74	0.0148	2.48	J

02/08/99 15:36

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Page 1

E01 951

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.465	639347	8.66	0.1731	42.09	
2-Hexanone	41	100.16	23.015	22.874	1966414	24.38	0.4876	109.04	
Octane	41	114.23	24.662	24.543	522869	19.55	0.3910	76.67	
Tetrachloroethylene	41	165.83	25.157				0.0042	0.57	U
Chlorobenzene	41	112.56	26.761	26.675	22369	0.26	0.0053	1.05	J
Ethylbenzene	41	106.17	27.633	27.504	39617	0.33	0.0066	1.39	J
p/m-Xylene	41	106.17	28.053				0.0130	2.74	U
3-Heptanone	41	114.19	28.150	28.010	25112801	547.16	10.9432	2146.67	
2-Heptanone	53	114.19	28.269	28.128	9381569	126.41	2.5283	495.96	
Cyclohexanone	53	98.14	28.506	28.354	813857	60.80	1.2161	277.56	
Styrene	53	104.15	28.990				0.0022	0.47	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216	29.054	54562	1.63	0.0327	4.36	J
o-Xylene	53	106.17	29.302				0.0028	0.59	U
Nonane	53	128.26	29.722	29.592	984141	20.05	0.4010	70.03	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.028	15493	0.23	0.0046	0.85	J
Bromochloromethane (IS)	22	129.40	13.723	13.593	3379639	120.00	2.4000	415.46	
Difluorobenzene (IS)	29	114.00	17.308	17.168	10349145	97.00	1.9400	381.19	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.513	8652683	111.00	2.2200	415.93	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.346	4985913	180.00	3.6000	463.45	
2-Octanone	53	128.21	33.124	32.995	420731	6.83	0.1366	23.86	J
Decane	53	142.20	34.406	34.276	2291464	64.39	1.2879	202.87	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.894	1936221	12.09	0.2417		J
Unknown	22	0		6.466	2111421	13.18	0.2636		J
Unknown	22	0		8.479	5206814	32.50	0.6500		J
Unknown	29	0		18.503	7212636	29.61	0.5922		J
Unknown	29	0		18.987	38513275	158.11	3.1621		J
Unknown	29	0		19.364	44989484	184.69	3.6939		J
Unknown	29	0		20.301	5200341	21.35	0.4270		J
Unknown	29	0		21.388	3339060	13.71	0.2742		J
Unknown	29	0		21.647	12050877	49.47	0.9894		J
Unknown	41	0		22.766	12058926	52.45	1.0490		J
Unknown	41	0		23.003	5532805	24.06	0.4813		J
Unknown	41	0		23.208	24712409	107.48	2.1497		J
Unknown	41	0		23.865	27334175	118.89	2.3777		J
Unknown	41	0		24.371	6417059	27.91	0.5582		J
Unknown	41	0		24.661	2778069	12.08	0.2417		J
Unknown	41	0		24.941	5267120	22.91	0.4582		J
Unknown	41	0		25.189	2724682	11.85	0.2370		J
Unknown	41	0		28.354	6580117	28.62	0.5724		J
Unknown	53	0		30.884	12464980	67.87	1.3574		J
Unknown	53	0		31.003	17232039	93.83	1.8765		J
Unknown	53	0		31.089	14601271	79.50	1.5901		J
Unknown	53	0		31.380	16266011	88.57	1.7713		J
Unknown	53	0		31.552	3418197	18.61	0.3722		J
Unknown	53	0		31.929	3382418	18.42	0.3683		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	****	*****	*****	*****	*****	*****
Unknown	53	0		33.662	10310362	56.14	1.1228		J
Unknown	53	0		34.900	6464043	35.20	0.7039		J
Unknown	53	0		35.406	4041154	22.00	0.4401		J
Unknown	53	0		38.604	16121508	87.78	1.7556		J
Unknown	53	0		42.631	19742330	107.50	2.1499		J
Unknown	53	0		46.377	18726947	101.97	2.0393		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
*****	*****	*****
Bromochloromethane (IS)	22	19225989
Difluorobenzene (IS)	29	23628161
Chlorobenzene-d5 (IS)	41	25521018
1-Bromo-4-Fluorobenzene (IS)	53	33058374

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:36

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Page 3

E01 954

HNF-4073
Rev. 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-057.C303; 200 mL; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
Method : sas_stdTO14.m
File : 28122305.D
Injection Date : 06-NOV-1998 03:23 Operator : Alex
Matrix : AIR Lab. Sample ID: C-106
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.465	5457712	58.36	0.5836	310.65	
Propane	22	44.10	4.572	4.518	1407400	47.10	0.4710	239.22	
Dichlorodifluoromethane	22	120.91	4.679	4.626	23392	0.33	0.0033	0.61	J
Chloromethane	22	50.49	5.067	5.003	7617	0.14	0.0014	0.60	J
Butane	22	58.12	5.982	5.918	7497736	145.98	1.4598	562.62	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.909	3228069	79.73	0.7973	387.66	
Trichlorofluoromethane	22	137.37	8.351	8.265	143863	2.71	0.0271	4.42	
Isopropyl Alcohol	22	60.10	8.437	8.308	136000	1.45	0.0145	5.41	J
Furan	22	58.08	8.663	8.545	6644	0.12	0.0012	0.38	J
Acetone	22	58.08	7.963	7.867	1576094	79.12	0.7912	305.15	
Pentane	22	72.00	9.018	8.933	4827465	56.74	0.5674	176.53	
Methylene Chloride	22	84.93	9.761	9.665	11397	0.31	0.0031	0.82	J
1,1,2-trichloro-2,2,2-trifluoroethane	22	187.38	10.246	10.138	8766	0.27	0.0027	0.32	J
Propanenitrile	22	55.08	10.999	10.871	679453	15.15	0.1515	61.61	
Propanol	22	60.10	11.021	10.881	367783	3.83	0.0383	14.27	
2-Methylpentane	22	86.18	12.184	12.076	801161	7.90	0.0790	20.52	
Butanal	22	72.11	12.334	12.216	247907	12.00	0.1200	37.26	
2-Butanone	22	72.11	12.539	12.410	2236083	18.12	0.1812	56.28	
1-Hexene	22	84.16	13.185	13.078	4624786	102.01	1.0201	271.51	
Hexane	22	86.18	13.777	13.670	3074810	51.18	0.5118	133.04	
Chloroform	22	119.38	13.949				0.0013	0.24	U
Tetrahydrofuran	22	72.11	14.681	14.585	70872	2.89	0.0289	8.98	
Butanenitrile	29	69.11	15.866	15.705	2307803	20.85	0.2085	67.58	
Benzene	29	78.11	16.749	16.631	306939	1.76	0.0176	5.03	
Carbon Tetrachloride	29	153.82	17.039				0.0017	0.25	U
2-Pentanone	29	86.13	17.416	17.298	1595125	11.07	0.1107	28.78	
1-Butanol	29	74.12	16.350	16.211	1849188	37.88	0.3788	114.47	
3-Methylhexane	29	100.20	17.976	17.847	382746	4.48	0.0448	10.01	
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.161	5414079	137.22	1.3722	306.76	
4-Methyl-2-Pentanone	29	100.16	20.463	20.324	317059	2.89	0.0289	6.46	
1,1,2-Trichloroethane	29	133.40	21.959	21.863	57817	1.74	0.0174	2.91	

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.477	1402859	18.69	0.1869	45.43	
2-Hexanone	41	100.16	23.015	22.886	3868225	47.18	0.4718	105.51	
Octane	41	114.23	24.662	24.555	1016942	37.41	0.3741	73.35	
Tetrachloroethylene	41	165.83	25.157	25.039	7257	0.28	0.0028	0.38	J
Chlorobenzene	41	112.56	26.761	26.676	45172	0.52	0.0052	1.04	J
Ethylbenzene	41	106.17	27.633	27.516	70646	0.58	0.0058	1.22	J
p/m-Xylene	41	106.17	28.053	27.925	38765	1.14	0.0114	2.40	J
3-Heptanone	41	114.19	28.150	28.054	33911202	726.91	7.2691	1425.93	E
2-Heptanone	53	114.19	28.269	28.162	15752045	215.24	2.1524	422.23	
Cyclohexanone	53	98.14	28.506	28.366	1347585	102.10	1.0210	233.03	
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216	29.066	120326	3.65	0.0365	4.87	
o-Xylene	53	106.17	29.302	29.163	17759	0.49	0.0049	1.04	J
Nonane	53	128.26	29.722	29.615	1933445	39.94	0.3994	69.76	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.051	23095	0.34	0.0034	0.64	J
Bromochloromethane (IS)	22	129.40	13.723	13.605	3398666	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.180	11136511	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.536	8795007	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.358	4916666	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.007	867609	14.28	0.1428	24.95	J
Decane	53	142.20	34.406	34.288	3872296	110.35	1.1035	173.83	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.895	4170167	17.88	0.1788		J
Unknown	22	0		3.964	4700807	20.16	0.2016		J
Unknown	22	0		6.467	4529410	19.42	0.1942		J
Unknown	22	0		8.491	10960033	46.99	0.4699		J
Unknown	22	0		9.579	3182139	13.64	0.1364		J
Unknown	22	0		9.740	4086994	17.52	0.1752		J
Unknown	22	0		13.874	3322859	14.25	0.1425		J
Unknown	22	0		14.520	3517757	15.08	0.1508		J
Unknown	29	0		17.621	2864615	10.84	0.1084		J
Unknown	29	0		17.847	3318417	12.56	0.1256		J
Unknown	29	0		18.515	14999435	56.76	0.5676		J
Unknown	29	0		18.999	62841368	237.81	2.3781		J
Unknown	29	0		19.376	69127009	261.59	2.6159		J
Unknown	29	0		20.324	11179723	42.31	0.4231		J
Unknown	29	0		21.400	6931332	26.23	0.2623		J
Unknown	29	0		21.659	23394718	88.53	0.8853		J
Unknown	41	0		22.789	24703599	104.61	1.0461		J
Unknown	41	0		23.015	9873635	41.81	0.4181		J
Unknown	41	0		23.220	43585313	184.57	1.8457		J
Unknown	41	0		23.887	49700517	210.47	2.1047		J
Unknown	41	0		24.243	3949749	16.73	0.1673		J
Unknown	41	0		24.383	13042916	55.23	0.5523		J
Unknown	41	0		24.684	5686691	24.08	0.2408		J
Unknown	41	0		24.953	10837535	45.89	0.4589		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	----	-----	-----	-----	-----	-----
Unknown	41	0		25.212	5821228	24.65	0.2465		J
Unknown	41	0		25.524	3103569	13.14	0.1314		J
Unknown	41	0		26.902	4370453	18.51	0.1851		J
Unknown	41	0		27.699	4456121	18.87	0.1887		J
Unknown	53	0		28.657	22855288	107.24	1.0724		J
Unknown	53	0		29.066	4381901	20.56	0.2056		J
Unknown	53	0		30.907	22659047	106.32	1.0632		J
Unknown	53	0		31.025	29571816	138.76	1.3876		J
Unknown	53	0		31.112	24233415	113.71	1.1371		J
Unknown	53	0		31.402	30359181	142.46	1.4246		J
Unknown	53	0		31.564	6155596	28.88	0.2888		J
Unknown	53	0		31.941	7982599	37.46	0.3746		J
Unknown	53	0		32.285	4747134	22.28	0.2228		J
Unknown	53	0		33.674	19467500	91.35	0.9135		J
Unknown	53	0		34.912	26079465	122.37	1.2237		J
Unknown	53	0		35.418	7363815	34.55	0.3455		J
Unknown	53	0		36.236	5461785	25.63	0.2563		J
Unknown	53	0		38.153	4469669	20.97	0.2097		J
Unknown	53	0		38.616	25864589	121.37	1.2137		J
Unknown	53	0		42.643	28793677	135.11	1.3511		J
Unknown	53	0		43.267	5473193	25.68	0.2568		J
Unknown	53	0		45.528	4485180	21.05	0.2105		J
Unknown	53	0		46.389	30968673	145.32	1.4532		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	27986851
Difluorobenzene (IS)	29	25632728
Chlorobenzene-d5 (IS)	41	26211471
1-Bromo-4-Fluorobenzene (IS)	53	38360500

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:36

28122305.D

Page 3

E01 960

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-057.C303; 200 ml; 2X

02/08/99 15:36

28122305.D

Page 4

E01 961

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-049.C223; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : sas stdTO14.m
 File : 28122306.D
 Injection Date : 06-NOV-1998 04:43 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.463	4320277	50.84	0.5084	270.64	
Propane	22	44.10	4.572	4.516	1146529	42.23	0.4223	214.48	
Dichlorodifluoromethane	22	120.91	4.679	4.624	18312	0.28	0.0028	0.52	J
Chloromethane	22	50.49	5.067	5.012	7571	0.15	0.0015	0.66	J
Butane	22	58.12	5.982	5.916	6771486	145.10	1.4510	559.23	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.907	3013282	81.91	0.8191	398.26	
Trichlorofluoromethane	22	137.37	8.351	8.263	118125	2.45	0.0245	3.99	
Isopropyl Alcohol	22	60.10	8.437	8.306	124288	1.46	0.0146	5.44	J
Furan	22	68.08	8.663	8.565	6095	0.12	0.0012	0.39	J
Acetone	22	58.08	7.963	7.865	1313736	72.58	0.7258	279.94	
Pentane	22	72.00	9.018	8.931	4420576	57.19	0.5719	177.91	
Methylene Chloride	22	84.93	9.761	9.663	12008	0.36	0.0036	0.95	J
112trichloro122trifluoroethane	22	187.38	10.246	10.137	7586	0.26	0.0026	0.31	J
Propanenitrile	22	55.08	10.999	10.869	580271	14.24	0.1424	57.91	
Propanol	22	60.10	11.021	10.890	350269	4.01	0.0401	14.96	
2-Methylpentane	22	86.18	12.184	12.075	736129	7.98	0.0798	20.75	
Butanal	22	72.11	12.334	12.225	203630	10.84	0.1084	33.69	
2-Butanone	22	72.11	12.539	12.408	2014206	17.96	0.1796	55.79	
1-Hexene	22	84.16	13.185	13.076	4293646	104.23	1.0423	277.42	
Hexane	22	86.18	13.777	13.668	2825726	51.77	0.5177	134.56	
Chloroform	22	119.38	13.949				0.0013	0.24	U
Tetrahydrofuran	22	72.11	14.681	14.583	57800	2.60	0.0260	8.06	
Butanenitrile	29	69.11	15.866	15.714	2023788	19.83	0.1983	64.26	
Benzene	29	78.11	16.749	16.629	286297	1.78	0.0178	5.09	
Carbon Tetrachloride	29	153.82	17.039				0.0017	0.25	U
2-Pentanone	29	86.13	17.416	17.296	1451958	10.92	0.1092	28.41	
1-Butanol	29	74.12	16.350	16.209	1673585	37.17	0.3717	112.34	
3-Methylhexane	29	100.20	17.976	17.856	343635	4.36	0.0436	9.75	
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.159	4764223	130.94	1.3094	292.71	
4-Methyl-2-Pentanone	29	100.16	20.463	20.332	316271	3.13	0.0313	6.99	
1,1,2-Trichloroethane	29	133.40	21.959	21.861	56737	1.85	0.0185	3.10	

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.486	1309687	21.43	0.2143	52.10	
2-Hexanone	41	100.16	23.015	22.884	3629855	54.39	0.5439	121.64	
Octane	41	114.23	24.662	24.553	908471	41.05	0.4105	80.50	
Tetrachloroethylene	41	165.83	25.157	25.037	5821	0.28	0.0028	0.38	J
Chlorobenzene	41	112.56	26.761	26.685	38021	0.54	0.0054	1.08	J
Ethylbenzene	41	106.17	27.633	27.514	63633	0.64	0.0064	1.35	J
p/m-Xylene	41	106.17	28.053	27.923	31940	1.15	0.0115	2.43	J
3-Heptanone	41	114.19	28.150	28.052	29937488	788.37	7.8837	1546.51	E
2-Heptanone	53	114.19	28.269	28.160	11936481	174.11	1.7411	341.55	
Cyclohexanone	53	98.14	28.506	28.364	1160773	93.88	0.9388	214.27	
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216	29.064	111528	3.61	0.0361	4.82	
o-Xylene	53	106.17	29.302	29.161	14752	0.44	0.0044	0.92	J
Nonane	53	128.26	29.722	29.613	1819960	40.13	0.4013	70.09	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.049	21494	0.34	0.0034	0.64	J
Bromochloromethane (IS)	22	129.40	13.723	13.603	3088081	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.189	10270135	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.523	7159035	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.356	4605823	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.005	787430	13.84	0.1384	24.17	J
Decane	53	142.20	34.406	34.286	3778955	114.96	1.1496	181.09	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.904	2867411	13.23	0.1323		J
Unknown	22	0		3.962	3485319	16.08	0.1608		J
Unknown	22	0		5.356	3230836	14.91	0.1491		J
Unknown	22	0		6.465	4255639	19.63	0.1963		J
Unknown	22	0		8.489	10035529	46.30	0.4630		J
Unknown	22	0		8.748	2632884	12.15	0.1215		J
Unknown	22	0		9.738	2746144	12.67	0.1267		J
Unknown	22	0		13.873	3008877	13.88	0.1388		J
Unknown	22	0		14.518	2605031	12.02	0.1202		J
Unknown	29	0		17.619	2783087	11.42	0.1142		J
Unknown	29	0		17.856	2932178	12.03	0.1203		J
Unknown	29	0		18.524	13673685	56.11	0.5611		J
Unknown	29	0		19.008	56323725	231.12	2.3112		J
Unknown	29	0		19.374	61714931	253.25	2.5325		J
Unknown	29	0		20.322	10342509	42.44	0.4244		J
Unknown	29	0		21.398	6310163	25.89	0.2589		J
Unknown	29	0		21.657	20099999	82.48	0.8248		J
Unknown	29	0		21.851	2795551	11.47	0.1147		J
Unknown	41	0		22.163	2659396	13.66	0.1366		J
Unknown	41	0		22.787	22630066	116.21	1.1621		J
Unknown	41	0		23.024	10095950	51.84	0.5184		J
Unknown	41	0		23.218	40752399	209.26	2.0926		J
Unknown	41	0		23.885	44582935	228.93	2.2893		J
Unknown	41	0		24.241	3492127	17.93	0.1793		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Unknown	41	0		24.381	11380823	58.44	0.5844		J
Unknown	41	0		24.682	4867987	25.00	0.2500		J
Unknown	41	0		24.951	9570832	49.15	0.4915		J
Unknown	41	0		25.210	5097086	26.17	0.2617		J
Unknown	41	0		25.522	2608051	13.39	0.1339		J
Unknown	41	0		26.900	4504960	23.13	0.2313		J
Unknown	41	0		27.707	3906409	20.06	0.2006		J
Unknown	53	0		28.655	18329727	90.89	0.9089		J
Unknown	53	0		29.064	4321661	21.43	0.2143		J
Unknown	53	0		30.905	20994550	104.10	1.0410		J
Unknown	53	0		31.024	26956019	133.66	1.3366		J
Unknown	53	0		31.110	25119042	124.56	1.2456		J
Unknown	53	0		31.400	27862745	138.16	1.3816		J
Unknown	53	0		31.562	5523557	27.39	0.2739		J
Unknown	53	0		31.939	7327121	36.33	0.3633		J
Unknown	53	0		32.283	4008825	19.88	0.1988		J
Unknown	53	0		33.683	18117252	89.84	0.8984		J
Unknown	53	0		34.910	17576185	87.15	0.8715		J
Unknown	53	0		35.416	7468805	37.03	0.3703		J
Unknown	53	0		36.235	4874075	24.17	0.2417		J
Unknown	53	0		38.151	3967991	19.68	0.1968		J
Unknown	53	0		38.625	25332789	125.62	1.2562		J
Unknown	53	0		39.109	3702504	18.36	0.1836		J
Unknown	53	0		42.641	31120041	154.31	1.5431		J
Unknown	53	0		43.265	8577778	42.53	0.4253		J
Unknown	53	0		45.526	5206174	25.82	0.2582		J
Unknown	53	0		46.387	38330108	190.06	1.9006		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
=====	=====	=====
Bromochloromethane (IS)	22	26008699
Difluorobenzene (IS)	29	23638367
Chlorobenzene-d5 (IS)	41	21616223
1-Bromo-4-Fluorobenzene (IS)	53	36300564

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:37

28122306.D

Page 3

E01 966

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-049.C223; 200 ml; 2X

02/08/99 15:37

28122306.D

Page 4

E01 96'7

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 28122306.D

HNF-4073
Rev. 0

Sample Info : C-106 VP006-049.C223; 200 ml; 2X

02/08/99 15:37

28122306.D

Page 5

E01 968

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-040.C135; 200 mL; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : sas stdTO14.m
 File : 28122307.D
 Injection Date : 06-NOV-1998 06:25 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.463	3189412	48.65	0.4865	258.98	
Propane	22	44.10	4.572	4.517	858019	40.96	0.4096	208.05	
Dichlorodifluoromethane	22	120.91	4.679	4.625	41999	0.84	0.0084	1.55	J
Chloromethane	22	50.49	5.067	5.001	16848	0.43	0.0043	1.89	J
Butane	22	58.12	5.982	5.916	5186827	144.07	1.4407	555.24	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.907	2008915	70.78	0.7078	344.16	
Trichlorofluoromethane	22	137.37	8.351	8.274	106721	2.87	0.0287	4.68	
Isopropyl Alcohol	22	60.10	8.437	8.317	87710	1.33	0.0133	4.97	J
Puran	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.865	993868	71.18	0.7118	274.51	
Pentane	22	72.00	9.018	8.931	3351712	56.20	0.5620	174.85	
Methylene Chloride	22	84.93	9.761	9.652	15770	0.61	0.0061	1.62	J
112trichloro122trifluoroethane	22	187.38	10.246	10.148	23144	1.02	0.0102	1.22	J
Propanenitrile	22	55.08	10.999	10.869	419106	13.33	0.1333	54.21	
Propanol	22	60.10	11.021	10.880	476412	7.08	0.0708	26.37	
2-Methylpentane	22	86.18	12.184	12.075	551359	7.75	0.0775	20.15	
Butanal	22	72.11	12.334	12.215	144010	9.94	0.0994	30.88	
2-Butanone	22	72.11	12.539	12.409	1497169	17.30	0.1730	53.75	
1-Hexene	22	84.16	13.185	13.076	3076888	96.82	0.9682	257.69	
Hexane	22	86.18	13.777	13.668	1971803	46.82	0.4682	121.71	
Chloroform	22	119.38	13.949	13.819	25219	0.67	0.0067	1.26	J
Tetrahydrofuran	22	72.11	14.681	14.584	39281	2.29	0.0229	7.10	
Butanenitrile	29	69.11	15.866	15.714	1378414	16.87	0.1687	54.69	
Benzene	29	78.11	16.749	16.629	233392	1.81	0.0181	5.19	
Carbon Tetrachloride	29	153.82	17.039	16.920	19358	0.50	0.0050	0.73	J
2-Pentanone	29	86.13	17.416	17.297	991676	9.32	0.0932	24.25	
1-Butanol	29	74.12	16.350	16.209	1274596	35.38	0.3538	106.91	
3-Methylhexane	29	100.20	17.976	17.857	251088	3.98	0.0398	8.90	
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.149	3690838	126.76	1.2676	283.37	
4-Methyl-2-Pentanone	29	100.16	20.463	20.322	289265	3.57	0.0357	7.99	
1,1,2-Trichloroethane	29	133.40	21.959	21.754	64228	2.61	0.0261	4.39	

02/08/99 15:37

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Page 1

E01 969

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.486	914969	16.72	0.1672	40.66	
2-Hexanone	41	100.16	23.015	22.884	2208216	36.96	0.3696	82.66	
Octane	41	114.23	24.662	24.553	625101	31.55	0.3155	61.88	
Tetrachloroethylene	41	165.83	25.157	25.049	16274	0.87	0.0087	1.17	J
Chlorobenzene	41	112.56	26.761	26.653	54171	0.86	0.0086	1.71	J
Ethylbenzene	41	106.17	27.633	27.514	83889	0.94	0.0094	1.99	J
p/m-Xylene	41	106.17	28.053	27.934	49997	2.01	0.0201	4.25	J
3-Heptanone	41	114.19	28.150	28.031	23394968	688.20	6.8820	1350.00	E
2-Heptanone	53	114.19	28.269	28.149	8502197	165.75	1.6575	325.15	
Cyclohexanone	53	98.14	28.506	28.365	752600	81.35	0.8135	185.68	
Styrene	53	104.15	28.990	28.871	22324	0.46	0.0046	0.98	J
1,1,2,2-Tetrachloroethane	53	167.85	29.216	29.075	91503	3.96	0.0396	5.29	
o-Xylene	53	106.17	29.302	29.172	25469	1.01	0.0101	2.12	J
Nonane	53	128.26	29.722	29.614	1158895	34.16	0.3416	59.65	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.049	86257	1.84	0.0184	3.42	
Bromochloromethane (IS)	22	129.40	13.723	13.604	2382400	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.178	8218670	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.534	6408856	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.356	3446174	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.027	195311	4.59	0.0459	8.01	J
Decane	53	142.20	34.406	34.286	2224507	90.44	0.9044	142.47	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.904	2292092	14.06	0.1406		J
Unknown	22	0		6.466	2980794	18.28	0.1828		J
Unknown	22	0		8.490	7631847	46.80	0.4680		J
Unknown	22	0		9.739	2082252	12.77	0.1277		J
Unknown	29	0		17.490	2768803	14.07	0.1407		J
Unknown	29	0		17.620	1944848	9.88	0.0988		J
Unknown	29	0		17.857	2050567	10.42	0.1042		J
Unknown	29	0		18.524	10631158	54.03	0.5403		J
Unknown	29	0		18.998	43804169	222.64	2.2264		J
Unknown	29	0		19.375	47543587	241.64	2.4164		J
Unknown	29	0		20.322	7179930	36.49	0.3649		J
Unknown	29	0		21.399	4403037	22.38	0.2238		J
Unknown	29	0		21.657	15678477	79.69	0.7969		J
Unknown	29	0		21.851	1998403	10.16	0.1016		J
Unknown	41	0		22.788	15688480	90.83	0.9083		J
Unknown	41	0		23.014	6950684	40.24	0.4024		J
Unknown	41	0		23.218	28541181	165.24	1.6524		J
Unknown	41	0		23.875	30909396	178.95	1.7895		J
Unknown	41	0		24.037	2857113	16.54	0.1654		J
Unknown	41	0		24.241	2835276	16.41	0.1641		J
Unknown	41	0		24.392	8004878	46.34	0.4634		J
Unknown	41	0		24.682	3287311	19.03	0.1903		J
Unknown	41	0		25.210	3598540	20.83	0.2083		J
Unknown	41	0		26.900	2743277	15.88	0.1588		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	ng/m ³	ppbv	Flags
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
Unknown	41	0		27.708	2507383	14.52	0.1452		J
Unknown	53	0		30.906	12407908	86.20	0.8620		J
Unknown	53	0		31.024	16260419	112.96	1.1296		J
Unknown	53	0		31.110	13672403	94.98	0.9498		J
Unknown	53	0		31.401	16586091	115.22	1.1522		J
Unknown	53	0		31.562	3294997	22.89	0.2289		J
Unknown	53	0		33.673	6105424	42.41	0.4241		J
Unknown	53	0		35.417	4147085	28.81	0.2881		J
Unknown	53	0		38.614	15615141	108.48	1.0848		J
Unknown	53	0		42.641	16472366	114.43	1.1443		J
Unknown	53	0		43.276	2960130	20.56	0.2056		J
Unknown	53	0		46.409	3907519	27.15	0.2715		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
*****	*****	*****
Bromochloromethane (IS)	22	19567021
Difluorobenzene (IS)	29	19084999
Chlorobenzene-d5 (IS)	41	19173082
1-Bromo-4-Fluorobenzene (IS)	53	25910289

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:37

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Page 3

E01 972

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-040.C135; 200 ml; 2X

02/08/99 15:37

28122307.D

Page 4

E01 9'73

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-032.C227; 200 mL; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : sas stdTO14.m
 File : 28122308.D
 Injection Date : 06-NOV-1998 07:49 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.464	5371530	93.65	0.9365	498.51	
Propane	22	44.10	4.572	4.518	1415758	77.25	0.7725	392.37	
Dichlorodifluoromethane	22	120.91	4.679	4.626	20035	0.46	0.0046	0.85	J
Chloromethane	22	50.49	5.067	5.003	8073	0.23	0.0023	1.04	J
Butane	22	58.12	5.982	5.918	7736767	245.61	2.4561	946.60	E
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.908	2499725	100.67	1.0067	489.46	
Trichlorofluoromethane	22	137.37	8.351	8.276	118293	3.63	0.0363	5.92	
Isopropyl Alcohol	22	60.10	8.437	8.319	108090	1.88	0.0188	7.01	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.867	1282806	105.00	1.0500	404.96	
Pentane	22	72.00	9.018	8.933	4472833	85.72	0.8572	266.69	
Methylene Chloride	22	84.93	9.761				0.0010	0.26	U
112trichloro122trifluoroethane	22	187.38	10.246				0.0020	0.24	U
Propanenitrile	22	55.08	10.999	10.871	558530	20.31	0.2031	82.58	
Propanol	22	60.10	11.021	10.892	342198	5.81	0.0581	21.65	
2-Methylpentane	22	86.18	12.184	12.076	813900	13.08	0.1308	34.00	
Butanal	22	72.11	12.334	12.216	165082	13.02	0.1302	40.46	
2-Butanone	22	72.11	12.539	12.410	1792790	23.68	0.2368	73.57	
1-Hexene	22	84.16	13.185	13.078	3989510	143.48	1.4348	381.88	
Hexane	22	86.18	13.777	13.670	2722391	73.89	0.7389	192.05	
Chloroform	22	119.38	13.949				0.0013	0.24	U
Tetrahydrofuran	22	72.11	14.681	14.574	47740	3.18	0.0318	9.87	
Butanenitrile	29	69.11	15.866	15.715	1638157	23.22	0.2322	75.25	
Benzene	29	78.11	16.749	16.620	292856	2.63	0.0263	7.54	
Carbon Tetrachloride	29	153.82	17.039				0.0017	0.25	U
2-Pentanone	29	86.13	17.416	17.298	1313683	14.30	0.1430	37.19	
1-Butanol	29	74.12	16.350	16.211	1423316	45.73	0.4573	138.22	
3-Methylhexane	29	100.20	17.976	17.869	298889	5.49	0.0549	12.27	
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.161	4074812	162.02	1.6202	362.20	
4-Methyl-2-Pentanone	29	100.16	20.463	20.324	281305	4.02	0.0402	8.99	
1,1,2-Trichloroethane	29	133.40	21.959	21.863	58071	2.73	0.0273	4.59	

02/08/99 15:37

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Page 1

E01 975

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.488	1197669	24.43	0.2443	59.39	
2-Hexanone	41	100.16	23.015	22.886	2504703	46.78	0.4678	104.62	
Octane	41	114.23	24.662	24.566	792379	44.63	0.4463	87.52	
Tetrachloroethylene	41	165.83	25.157	25.050	5853	0.35	0.0035	0.47	J
Chlorobenzene	41	112.56	26.761	26.687	42698	0.76	0.0076	1.51	J
Ethylbenzene	41	106.17	27.633	27.516	57056	0.72	0.0072	1.51	J
p/m-Xylene	41	106.17	28.053	27.925	31045	1.39	0.0139	2.94	J
3-Heptanone	41	114.19	28.150	28.043	26409120	866.87	8.6687	1700.49	E
2-Heptanone	53	114.19	28.269	28.172	8217331	181.64	1.8164	356.32	
Cyclohexanone	53	98.14	28.506	28.366	754690	92.50	0.9250	211.12	
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216	29.066	90042	4.42	0.0442	5.90	
o-Xylene	53	106.17	29.302	29.163	9827	0.44	0.0044	0.93	J
Nonane	53	128.26	29.722	29.615	1469802	49.12	0.4912	85.78	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.062	31301	0.76	0.0076	1.41	J
Bromochloromethane (IS)	22	129.40	13.723	13.605	2084450	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.180	7098804	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.536	5743407	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.358	3039298	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.006	623565	16.60	0.1660	29.01	J
Decane	53	142.20	34.406	34.288	3318664	152.99	1.5299	241.00	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.961	2848233	15.43	0.1543		J
Unknown	22	0		6.467	4980921	26.99	0.2699		J
Unknown	22	0		8.491	10643702	57.67	0.5767		J
Unknown	22	0		8.739	3013447	16.33	0.1633		J
Unknown	22	0		9.213	3071309	16.64	0.1664		J
Unknown	22	0		9.557	2400645	13.01	0.1301		J
Unknown	22	0		9.740	3201649	17.35	0.1735		J
Unknown	22	0		13.874	3026254	16.40	0.1640		J
Unknown	22	0		14.413	2365241	12.82	0.1282		J
Unknown	29	0		17.492	2292042	13.07	0.1307		J
Unknown	29	0		17.621	2863987	16.34	0.1634		J
Unknown	29	0		18.526	13009100	74.20	0.7420		J
Unknown	29	0		19.010	51743147	295.13	2.9513		J
Unknown	29	0		19.387	55488257	316.49	3.1649		J
Unknown	29	0		20.324	8622988	49.18	0.4918		J
Unknown	29	0		21.400	5108440	29.14	0.2914		J
Unknown	29	0		21.659	18422620	105.08	1.0508		J
Unknown	29	0		21.852	2502678	14.27	0.1427		J
Unknown	41	0		22.789	18753161	118.41	1.1841		J
Unknown	41	0		23.015	8799584	55.56	0.5556		J
Unknown	41	0		23.220	32529005	205.39	2.0539		J
Unknown	41	0		23.887	35171736	222.08	2.2208		J
Unknown	41	0		24.038	3303650	20.86	0.2086		J
Unknown	41	0		24.232	3296555	20.82	0.2082		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	41	0		24.383	10180718	64.28	0.6428		J
Unknown	41	0		24.684	4370569	27.60	0.2760		J
Unknown	41	0		24.953	9175781	57.94	0.5794		J
Unknown	41	0		25.201	5139960	32.45	0.3245		J
Unknown	41	0		25.524	2549005	16.09	0.1609		J
Unknown	41	0		26.902	3707825	23.41	0.2341		J
Unknown	41	0		27.709	3745360	23.65	0.2365		J
Unknown	53	0		29.066	3112553	21.27	0.2127		J
Unknown	53	0		30.907	16861094	115.20	1.1520		J
Unknown	53	0		31.036	22693141	155.04	1.5504		J
Unknown	53	0		31.112	17383016	118.76	1.1876		J
Unknown	53	0		31.402	21944320	149.93	1.4993		J
Unknown	53	0		31.575	4084034	27.90	0.2790		J
Unknown	53	0		31.941	5414024	36.99	0.3699		J
Unknown	53	0		32.296	3222599	22.02	0.2202		J
Unknown	53	0		33.136	2858695	19.53	0.1953		J
Unknown	53	0		33.674	15752197	107.62	1.0762		J
Unknown	53	0		33.792	3350457	22.89	0.2289		J
Unknown	53	0		35.418	7195668	49.16	0.4916		J
Unknown	53	0		36.247	5028148	34.35	0.3435		J
Unknown	53	0		37.755	2947092	20.14	0.2014		J
Unknown	53	0		38.627	21590261	147.51	1.4751		J
Unknown	53	0		40.909	3210455	21.93	0.2193		J
Unknown	53	0		42.642	23069220	157.61	1.5761		J
Unknown	53	0		43.267	4361638	29.80	0.2980		J
Unknown	53	0		46.400	8758852	59.84	0.5984		J

Internal Standard Information for TICS

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	22147230
Difluorobenzene (IS)	29	17006424
Chlorobenzene-d5 (IS)	41	17579394
1-Bromo-4-Fluorobenzene (IS)	53	26345907

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICS

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

E01 977

HNF-4073
Rev. 0

02/08/99 15:37

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Page 3

E01 978

Sample Info : C-106 VP006-032.C227; 200 ml; 2X

HNF-4073
Rev. 0

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E01 980

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : C-106 VP006-032.C227; 200 ml; 2X; rep

Instrument ID : hpdos1.i
 Method : sas_stdTO14.m
 File : 28122309.D
 Injection Date : 06-NOV-1998 09:18 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.465	5345187	80.33	0.8033	427.62	
Propane	22	44.10	4.572	4.519	1419497	66.77	0.6677	339.13	
Dichlorodifluoromethane	22	120.91	4.679	4.627	19122	0.38	0.0038	0.70	J
Chloromethane	22	50.49	5.067	5.014	6211	0.15	0.0015	0.69	J
Butane	22	58.12	5.982	5.919	7918136	216.68	2.1668	835.12	E
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.909	2682453	93.12	0.9312	452.77	
Trichlorofluoromethane	22	137.37	8.351	8.266	119680	3.17	0.0317	5.17	
Isopropyl Alcohol	22	60.10	8.437	8.320	110753	1.66	0.0166	6.19	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.867	1333845	94.12	0.9412	362.98	
Pentane	22	72.00	9.018	8.933	4608374	76.13	0.7613	236.86	
Methylene Chloride	22	84.93	9.761				0.0010	0.26	U
112trichloro122trifluoroethane	22	187.38	10.246	10.139	6828	0.30	0.0030	0.36	J
Propanenitrile	22	55.08	10.999	10.871	614855	19.27	0.1927	78.36	
Propanol	22	60.10	11.021	10.882	358651	5.25	0.0525	19.56	
2-Methylpentane	22	86.18	12.184	12.077	825399	11.43	0.1143	29.72	
Butanal	22	72.11	12.334	12.228	191595	13.03	0.1303	40.48	
2-Butanone	22	72.11	12.539	12.422	1910440	21.76	0.2176	67.58	
1-Hexene	22	84.16	13.185	13.078	4162886	129.06	1.2906	343.50	
Hexane	22	86.18	13.777	13.671	2748240	64.30	0.6430	167.13	
Chloroform	22	119.38	13.949				0.0013	0.24	U
Tetrahydrofuran	22	72.11	14.681	14.596	52554	3.01	0.0301	9.36	
Butanenitrile	29	69.11	15.866	15.716	1838515	21.17	0.2117	68.62	
Benzene	29	78.11	16.749	16.631	313402	2.28	0.0228	6.55	
Carbon Tetrachloride	29	153.82	17.039				0.0017	0.25	U
2-Pentanone	29	86.13	17.416	17.299	1430689	12.65	0.1265	32.91	
1-Butanol	29	74.12	16.350	16.211	1501856	39.21	0.3921	118.51	
3-Methylhexane	29	100.20	17.976	17.859	365773	5.46	0.0546	12.20	
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.172	4340075	140.22	1.4022	313.47	
4-Methyl-2-Pentanone	29	100.16	20.463	20.335	284344	3.30	0.0330	7.39	
1,1,2-Trichloroethane	29	133.40	21.959	21.864	50448	1.93	0.0193	3.24	

02/08/99 15:37

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Page 1

E01 981

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.488	1183877	25.56	0.2556	62.15	
2-Hexanone	41	100.16	23.015	22.887	2314158	45.76	0.4576	102.33	
Octane	41	114.23	24.662	24.566	742212	44.26	0.4426	86.79	
Tetrachloroethylene	41	165.83	25.157				0.0021	0.28	U
Chlorobenzene	41	112.56	26.761	26.698	37145	0.70	0.0070	1.39	J
Ethylbenzene	41	106.17	27.633	27.516	56063	0.75	0.0075	1.57	J
p/m-Xylene	41	106.17	28.053	27.925	27894	1.33	0.0133	2.80	J
3-Heptanone	41	114.19	28.150	28.044	23801733	827.12	8.2712	1622.52	E
2-Heptanone	53	114.19	28.269	28.173	6534243	127.63	1.2763	250.37	
Cyclohexanone	53	98.14	28.506	28.367	732939	79.38	0.7938	181.18	
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216	29.077	97838	4.25	0.0425	5.67	
o-Xylene	53	106.17	29.302	29.185	10924	0.43	0.0043	0.91	J
Nonane	53	128.26	29.722	29.616	1618454	47.79	0.4779	83.47	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.062	18617	0.40	0.0040	0.74	J
Bromochloromethane (IS)	22	129.40	13.723	13.606	2418070	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.191	8736347	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.536	5425115	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.359	3439499	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.018	678950	15.98	0.1598	27.91	J
Decane	53	142.20	34.406	34.299	3421548	139.38	1.3938	219.56	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		5.337	2926558	14.96	0.1496		J
Unknown	22	0		6.468	5030266	25.71	0.2571		J
Unknown	22	0		8.492	10853350	55.48	0.5548		J
Unknown	22	0		8.750	3077285	15.73	0.1573		J
Unknown	22	0		9.213	3040189	15.54	0.1554		J
Unknown	22	0		9.568	2508075	12.82	0.1282		J
Unknown	22	0		9.741	3193004	16.32	0.1632		J
Unknown	22	0		13.875	3142147	16.06	0.1606		J
Unknown	22	0		14.413	2510236	12.83	0.1283		J
Unknown	29	0		17.503	3888244	18.44	0.1844		J
Unknown	29	0		17.622	3053206	14.48	0.1448		J
Unknown	29	0		17.859	2930541	13.90	0.1390		J
Unknown	29	0		19.011	56106905	266.10	2.6610		J
Unknown	29	0		19.388	55227444	261.92	2.6192		J
Unknown	29	0		20.324	9185350	43.56	0.4356		J
Unknown	29	0		21.412	5748392	27.26	0.2726		J
Unknown	29	0		21.670	19816275	93.98	0.9398		J
Unknown	41	0		21.864	2071537	13.71	0.1371		J
Unknown	41	0		22.790	17854486	118.13	1.1813		J
Unknown	41	0		23.027	7907533	52.32	0.5232		J
Unknown	41	0		23.231	31619203	209.20	2.0920		J
Unknown	41	0		23.888	35463719	234.64	2.3464		J
Unknown	41	0		24.049	3609003	23.88	0.2388		J
Unknown	41	0		24.243	3503027	23.18	0.2318		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	----	-----	-----	-----	-----	-----
Unknown	41	0		24.394	10593606	70.09	0.7009		J
Unknown	41	0		24.695	4367802	28.90	0.2890		J
Unknown	41	0		24.965	8357099	55.29	0.5529		J
Unknown	41	0		25.212	5053071	33.43	0.3343		J
Unknown	41	0		25.524	2592353	17.15	0.1715		J
Unknown	41	0		26.903	3335823	22.07	0.2207		J
Unknown	41	0		27.721	3546871	23.47	0.2347		J
Unknown	41	0		28.173	15226250	100.74	1.0074		J
Unknown	53	0		28.657	9476119	59.81	0.5981		J
Unknown	53	0		29.067	3131620	19.77	0.1977		J
Unknown	53	0		30.908	17853088	112.69	1.1269		J
Unknown	53	0		31.037	21596766	136.32	1.3632		J
Unknown	53	0		31.112	17385135	109.73	1.0973		J
Unknown	53	0		31.414	21777411	137.46	1.3746		J
Unknown	53	0		31.575	4140005	26.13	0.2613		J
Unknown	53	0		31.952	4736805	29.90	0.2990		J
Unknown	53	0		32.297	3588232	22.65	0.2265		J
Unknown	53	0		33.147	3125648	19.73	0.1973		J
Unknown	53	0		33.685	15104527	95.34	0.9534		J
Unknown	53	0		33.793	3469590	21.90	0.2190		J
Unknown	53	0		34.924	8362506	52.78	0.5278		J
Unknown	53	0		35.419	7294857	46.04	0.4604		J
Unknown	53	0		36.248	5297307	33.44	0.3344		J
Unknown	53	0		37.766	3068784	19.37	0.1937		J
Unknown	53	0		38.627	22903393	144.56	1.4456		J
Unknown	53	0		40.921	3337954	21.07	0.2107		J
Unknown	53	0		42.654	27852514	175.80	1.7580		J
Unknown	53	0		43.278	7095635	44.79	0.4479		J
Unknown	53	0		45.529	3663056	23.12	0.2312		J
Unknown	53	0		46.401	20579595	129.90	1.2990		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	23474811
Diffuorobenzene (IS)	29	20452677
Chlorobenzene-d5 (IS)	41	16776576
1-Bromo-4-Fluorobenzene (IS)	53	28517804

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

E01 983

HNF-4073
Rev. 0

02/08/99 15:37

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Page 3

E01 984

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : C-106 VP006-032.C227; 200 ml; 2X; rep

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-001.C248; C-106; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
Method : sas stdTO14.m
File : 28122404.D
Injection Date : 07-NOV-1998 01:08 Operator : Alex
Matrix : AIR Lab. Sample ID: C-106
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.485	16320	0.16	0.0016	0.86	J
Propane	22	44.10	4.572	4.549	11727	0.36	0.0036	1.85	J
Dichlorodifluoromethane	22	120.91	4.679	4.646	25234	0.33	0.0033	0.61	J
Chloromethane	22	50.49	5.067	5.045	6698	0.11	0.0011	0.49	J
Butane	22	58.12	5.982	5.949	10442	0.19	0.0019	0.73	J
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.993	13881	0.32	0.0032	1.54	J
Trichlorofluoromethane	22	137.37	8.351	8.296	10611	0.19	0.0019	0.30	J
Isopropyl Alcohol	22	60.10	8.437	8.350	21428	0.21	0.0021	0.79	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.930	45703	2.12	0.0212	8.19	
Pentane	22	72.00	9.018	8.974	7837	0.09	0.0009	0.27	J
Methylene Chloride	22	84.93	9.761	9.706	9067	0.23	0.0023	0.60	J
112trichlorol22trifluoroethane	22	187.38	10.246	10.180	7539	0.22	0.0022	0.26	J
Propanenitrile	22	55.08	10.999				0.0019	0.77	U
Propanol	22	60.10	11.021	10.955	14221	0.14	0.0014	0.51	J
2-Methylpentane	22	86.18	12.184	11.946	316852	2.89	0.0289	7.52	
Butanal	22	72.11	12.334	12.269	3363	0.15	0.0015	0.47	J
2-Butanone	22	72.11	12.539	12.473	872649	6.55	0.0655	20.34	
1-Hexene	22	84.16	13.185				0.0023	0.60	U
Hexane	22	86.18	13.777				0.0016	0.42	U
Chloroform	22	119.38	13.949				0.0013	0.24	U
Tetrahydrofuran	22	72.11	14.681				0.0008	0.25	U
Butanenitrile	29	69.11	15.866				0.0017	0.55	U
Benzene	29	78.11	16.749	16.651	14383	0.08	0.0008	0.24	J
Carbon Tetrachloride	29	153.82	17.039				0.0017	0.25	U
2-Pentanone	29	86.13	17.416				0.0044	1.14	U
1-Butanol	29	74.12	16.350	16.296	27702	0.57	0.0057	1.73	J
3-Methylhexane	29	100.20	17.976				0.0027	0.60	U
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257				0.0009	0.20	U
4-Methyl-2-Pentanone	29	100.16	20.463	20.408	14129	0.13	0.0013	0.29	J
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

02/08/99 14:41

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Page 1

E01 987

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.519	19424	0.26	0.0026	0.64	J
2-Hexanone	41	100.16	23.015				0.0049	1.10	U
Octane	41	114.23	24.662				0.0012	0.24	U
Tetrachloroethylene	41	165.83	25.157				0.0021	0.28	U
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633				0.0014	0.30	U
p/m-Xylene	41	106.17	28.053				0.0065	1.37	U
3-Heptanone	41	114.19	28.150	28.128	11083	0.24	0.0024	0.47	J
2-Heptanone	53	114.19	28.269				0.0056	1.09	U
Cyclohexanone	53	98.14	28.506				0.0029	0.66	U
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722	29.646	3458	0.07	0.0007	0.13	J
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.723	13.647	3669790	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.221	11068012	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.567	8642779	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.389	4744849	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124				0.0772	13.49	U
Decane	53	142.20	34.406	34.340	10675	0.32	0.0032	0.50	J

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.918	5587881	47.95	0.4795		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	13984991
Difluorobenzene (IS)	29	24240111
Chlorobenzene-d5 (IS)	41	25291746
1-Bromo-4-Fluorobenzene (IS)	53	26216803

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

E01 988

HNF-4073
Rev. 0

02/08/99 14:41

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Page 2

E01 989

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-001.C248; C-106; 200 ml; 2X

02/08/99 14:41

28122404.D
E01 990

Page 3

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-001.C248; C-106; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : VP702-013.C020; AZ Stack; 200 mL; 2X

Instrument ID : hpdos1.i
 Method : sas_stdTO14.m
 File : 28122405.D
 Injection Date : 07-NOV-1998 02:51 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-013.C020
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.486	206855	1.93	0.0193	10.30	
Propane	22	44.10	4.572	4.550	60569	1.77	0.0177	9.00	
Dichlorodifluoromethane	22	120.91	4.679	4.658	30828	0.38	0.0038	0.70	J
Chloromethane	22	50.49	5.067	5.024	7975	0.12	0.0012	0.55	J
Butane	22	58.12	5.982	5.950	192312	3.27	0.0327	12.62	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.930	364648	7.88	0.0788	38.29	
Trichlorofluoromethane	22	137.37	8.351	8.297	717357	11.81	0.1181	19.26	
Isopropyl Alcohol	22	60.10	8.437	8.340	56422	0.53	0.0053	1.96	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.909	645329	28.33	0.2833	109.26	
Pentane	22	72.00	9.018	8.965	73704	0.76	0.0076	2.36	J
Methylene Chloride	22	84.93	9.761	9.697	10925	0.26	0.0026	0.69	J
112trichloro122trifluoroethane	22	187.38	10.246	10.181	9176	0.25	0.0025	0.30	J
Propanenitrile	22	55.08	10.999	10.924	105606	2.06	0.0206	8.37	
Propanol	22	60.10	11.021	10.924	171310	1.56	0.0156	5.81	
2-Methylpentane	22	86.18	12.184	12.098	31538	0.27	0.0027	0.71	J
Butanal	22	72.11	12.334	12.270	19203	0.81	0.0081	2.52	J
2-Butanone	22	72.11	12.539	12.464	880680	6.24	0.0624	19.38	
1-Hexene	22	84.16	13.185				0.0023	0.60	U
Hexane	22	86.18	13.777	13.702	24939	0.36	0.0036	0.94	J
Chloroform	22	119.38	13.949	13.863	30802	0.50	0.0050	0.94	J
Tetrahydrofuran	22	72.11	14.681	14.649	3779	0.13	0.0013	0.42	J
Butanenitrile	29	69.11	15.866	15.780	253665	2.28	0.0228	7.38	
Benzene	29	78.11	16.749	16.673	19685	0.11	0.0011	0.32	J
Carbon Tetrachloride	29	153.82	17.039	16.964	3481	0.07	0.0007	0.10	J
2-Pentanone	29	86.13	17.416	17.362	29740	0.21	0.0021	0.53	J
1-Butanol	29	74.12	16.350	16.264	344493	7.01	0.0701	21.20	
3-Methylhexane	29	100.20	17.976	17.890	9242	0.11	0.0011	0.24	J
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257				0.0009	0.20	U
4-Methyl-2-Pentanone	29	100.16	20.463				0.0017	0.38	U
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

02/08/99 15:44

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Page 1

E01 992

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.530	13943	0.19	0.0019	0.47	J
2-Hexanone	41	100.16	23.015				0.0049	1.10	U
Octane	41	114.23	24.662				0.0012	0.24	U
Tetrachloroethylene	41	165.83	25.157	25.082	44354	1.78	0.0178	2.41	J
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633				0.0014	0.30	U
p/m-Xylene	41	106.17	28.053				0.0065	1.37	U
3-Heptanone	41	114.19	28.150	28.118	47311	1.05	0.0105	2.05	J
2-Heptanone	53	114.19	28.269	28.247	13845	0.20	0.0020	0.39	J
Cyclohexanone	53	98.14	28.506				0.0029	0.66	U
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722				0.0009	0.16	U
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.723	13.648	3886474	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.222	11204024	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.579	8516254	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.401	4673424	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124				0.0772	13.49	U
Decane	53	142.20	34.406	34.352	9529	0.29	0.0029	0.45	J

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.916	5763334	56.06	0.5606		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	12337366
Difluorobenzene (IS)	29	24480920
Chlorobenzene-d5 (IS)	41	25136014
1-Bromo-4-Fluorobenzene (IS)	53	25784142

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:44

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Page 2

E01 994

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Instrument ID : hpdos1.i
 Method : sas_stdTO14.m
 File : 28122406.D
 Injection Date : 07-NOV-1998 04:25 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-013.C020
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.497	205745	1.93	0.0193	10.26	
Propane	22	44.10	4.572	4.551	63104	1.85	0.0185	9.40	
Dichlorodifluoromethane	22	120.91	4.679	4.658	31468	0.39	0.0039	0.71	J
Chloromethane	22	50.49	5.067	5.035	7885	0.12	0.0012	0.54	J
Butane	22	58.12	5.982	5.950	194354	3.32	0.0332	12.78	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.930	356700	7.72	0.0772	37.53	
Trichlorofluoromethane	22	137.37	8.351	8.297	722439	11.92	0.1192	19.44	
Isopropyl Alcohol	22	60.10	8.437	8.341	53683	0.50	0.0050	1.87	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.910	679602	29.89	0.2989	115.28	
Pentane	22	72.00	9.018	8.976	70221	0.72	0.0072	2.25	J
Methylene Chloride	22	84.93	9.761	9.708	10641	0.25	0.0025	0.67	J
112trichloro122trifluoroethane	22	187.38	10.246	10.182	8199	0.22	0.0022	0.27	J
Propanenitrile	22	55.08	10.999	10.924	107847	2.11	0.0211	8.57	
Propanol	22	60.10	11.021	10.935	163991	1.50	0.0150	5.58	
2-Methylpentane	22	86.18	12.184	12.098	20119	0.17	0.0017	0.45	J
Butanal	22	72.11	12.334	12.281	19583	0.83	0.0083	2.58	J
2-Butanone	22	72.11	12.539	12.464	889664	6.32	0.0632	19.62	
1-Hexene	22	84.16	13.185	13.121	5584	0.11	0.0011	0.29	J
Hexane	22	86.18	13.777	13.702	23279	0.34	0.0034	0.88	J
Chloroform	22	119.38	13.949	13.864	31273	0.51	0.0051	0.96	J
Tetrahydrofuran	22	72.11	14.681	14.650	3348	0.12	0.0012	0.37	J
Butanenitrile	29	69.11	15.866	15.769	256285	2.31	0.0231	7.49	
Benzene	29	78.11	16.749	16.685	19613	0.11	0.0011	0.32	J
Carbon Tetrachloride	29	153.82	17.039	16.964	3579	0.07	0.0007	0.10	J
2-Pentanone	29	86.13	17.416	17.363	30629	0.21	0.0021	0.55	J
1-Butanol	29	74.12	16.350	16.275	362128	7.40	0.0740	22.37	
3-Methylhexane	29	100.20	17.976	17.890	7941	0.09	0.0009	0.21	J
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257				0.0009	0.20	U
4-Methyl-2-Pentanone	29	100.16	20.463				0.0017	0.38	U
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m^3	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.531	13146	0.18	0.0018	0.43	J
2-Hexanone	41	100.16	23.015				0.0049	1.10	U
Octane	41	114.23	24.662				0.0012	0.24	U
Tetrachloroethylene	41	165.83	25.157	25.104	42486	1.68	0.0168	2.27	J
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633				0.0014	0.30	U
p/m-Xylene	41	106.17	28.053				0.0065	1.37	U
3-Heptanone	41	114.19	28.150	28.097	42333	0.92	0.0092	1.81	J
2-Heptanone	53	114.19	28.269	28.280	10108	0.14	0.0014	0.28	J
Cyclohexanone	53	98.14	28.506	28.452	11452	0.90	0.0090	2.06	J
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722				0.0009	0.16	U
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.723	13.648	3879281	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.234	11158178	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.579	8659928	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.401	4720146	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124				0.0772	13.49	U
Decane	53	142.20	34.406	34.503	8492	0.25	0.0025	0.40	J

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m^3	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.919	5155099	49.64	0.4964		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	12462356
Difluorobenzene (IS)	29	24665852
Chlorobenzene-d5 (IS)	41	25699518
1-Bromo-4-Fluorobenzene (IS)	53	26460048

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:44

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Page 2

E01 999

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X; rep

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-013.C020; AZ Stack; 200 ml; 2X; rep

HNF-4073
Rev. 0

Sample Info : VP702-010.C160; AZ Stack; 200 mL; 2X;

Instrument ID : hpdos1.i
 Method : sas_stdTO14.m
 File : 28122407.D
 Injection Date : 07-NOV-1998 05:52 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-010.C160
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.485	132956	1.29	0.0129	6.88	
Propane	22	44.10	4.572	4.550	49215	1.50	0.0150	7.61	
Dichlorodifluoromethane	22	120.91	4.679	4.647	31743	0.40	0.0040	0.75	J
Chloromethane	22	50.49	5.067	5.034	7190	0.12	0.0012	0.51	J
Butane	22	58.12	5.982	5.950	123471	2.19	0.0219	8.43	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.929	338581	7.61	0.0761	36.99	
Trichlorofluoromethane	22	137.37	8.351	8.297	665463	11.40	0.1140	18.59	
Isopropyl Alcohol	22	60.10	8.437	8.340	54427	0.53	0.0053	1.97	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.909	481320	21.98	0.2198	84.77	
Pentane	22	72.00	9.018	8.975	57866	0.62	0.0062	1.93	J
Methylene Chloride	22	84.93	9.761	9.707	10443	0.26	0.0026	0.68	J
1,1,2-trichloro-2,2,2-trifluoroethane	22	187.38	10.246	10.181	8282	0.23	0.0023	0.28	J
Propanenitrile	22	55.08	10.999	10.924	96267	1.95	0.0195	7.94	
Propanol	22	60.10	11.021	10.934	179600	1.70	0.0170	6.34	
2-Methylpentane	22	86.18	12.184	12.076	31097	0.28	0.0028	0.72	J
Butanal	22	72.11	12.334	12.270	20597	0.91	0.0091	2.82	J
2-Butanone	22	72.11	12.539	12.463	999266	7.36	0.0736	22.88	
1-Hexene	22	84.16	13.185				0.0023	0.60	U
Hexane	22	86.18	13.777	13.712	23225	0.35	0.0035	0.91	J
Chloroform	22	119.38	13.949	13.874	30183	0.51	0.0051	0.96	J
Tetrahydrofuran	22	72.11	14.681	14.649	2959	0.11	0.0011	0.34	J
Butanenitrile	29	69.11	15.866	15.779	23508	2.06	0.0206	6.66	
Benzene	29	78.11	16.749	16.673	16963	0.10	0.0010	0.28	J
Carbon Tetrachloride	29	153.82	17.039	16.964	3270	0.06	0.0006	0.09	J
2-Pentanone	29	86.13	17.416	17.362	34823	0.25	0.0025	0.64	J
1-Butanol	29	74.12	16.350	16.264	590910	12.32	0.1232	37.23	
3-Methylhexane	29	100.20	17.976	17.879	6139	0.07	0.0007	0.16	J
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257				0.0009	0.20	U
4-Methyl-2-Pentanone	29	100.16	20.463	20.409	3343	0.03	0.0003	0.07	J
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.530	12137	0.17	0.0017	0.41	J
2-Hexanone	41	100.16	23.015	22.971	8357	0.11	0.0011	0.24	J
Octane	41	114.23	24.662				0.0012	0.24	U
Tetrachloroethylene	41	165.83	25.157	25.082	37697	1.54	0.0154	2.09	J
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633				0.0014	0.30	U
p/m-Xylene	41	106.17	28.053				0.0065	1.37	U
3-Heptanone	41	114.19	28.150	28.096	59030	1.33	0.0133	2.61	J
2-Heptanone	53	114.19	28.269	28.269	15571	0.23	0.0023	0.45	J
Cyclohexanone	53	98.14	28.506				0.0029	0.66	U
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722				0.0009	0.16	U
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.723	13.648	3736042	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.222	10940829	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.578	8363832	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.411	4594697	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124				0.0772	13.49	U
Decane	53	142.20	34.406	34.362	12237	0.37	0.0037	0.59	J

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.917	5502430	54.16	0.5416		J
Unknown	22	0		4.101	2208152	21.73	0.2173		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	12191537
Difluorobenzene (IS)	29	24302247
Chlorobenzene-d5 (IS)	41	24945213
1-Bromo-4-Fluorobenzene (IS)	53	25734436

CLP Qualifier Flags--

J--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:44

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Page 2

E02 003

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-010.C160; AZ Stack; 200 ml; 2X;

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-010.C160; AZ Stack; 200 ml; 2X;

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : VP702-007.C301; AZ Stack; 200 mL; 2X;

Instrument ID : hpdos1.i
 Method : sas stdTO14.m
 File : 28122408.D
 Injection Date : 07-NOV-1998 07:31 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-007.C301
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.486	122276	1.15	0.0115	6.11	J
Propane	22	44.10	4.572	4.551	48237	1.42	0.0142	7.20	
Dichlorodifluoromethane	22	120.91	4.679	4.659	31683	0.39	0.0039	0.72	J
Chloromethane	22	50.49	5.067	5.046	8503	0.13	0.0013	0.59	J
Butane	22	58.12	5.982	5.951	106145	1.81	0.0181	6.99	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.920	332978	7.22	0.0722	35.11	
Trichlorofluoromethane	22	137.37	8.351	8.298	677729	11.21	0.1121	18.27	
Isopropyl Alcohol	22	60.10	8.437	8.341	55139	0.52	0.0052	1.92	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.910	471588	20.79	0.2079	80.17	
Pentane	22	72.00	9.018	8.965	46814	0.48	0.0048	1.50	J
Methylene Chloride	22	84.93	9.761	9.708	10374	0.25	0.0025	0.65	J
1,1,2-trichloro-1,2,2-trifluoroethane	22	187.38	10.246	10.182	8034	0.22	0.0022	0.26	J
Propanenitrile	22	55.08	10.999	10.925	108826	2.13	0.0213	8.66	
Propanol	22	60.10	11.021	10.935	134535	1.23	0.0123	4.58	J
2-Methylpentane	22	86.18	12.184	12.109	13138	0.11	0.0011	0.30	J
Butanal	22	72.11	12.334	12.260	7728	0.33	0.0033	1.02	J
2-Butanone	22	72.11	12.539	12.464	603226	4.29	0.0429	13.33	
1-Hexene	22	84.16	13.185	13.121	2330	0.05	0.0005	0.12	J
Hexane	22	86.18	13.777	13.692	21024	0.31	0.0031	0.80	J
Chloroform	22	119.38	13.949	13.864	29898	0.49	0.0049	0.92	J
Tetrahydrofuran	22	72.11	14.681	14.639	3445	0.12	0.0012	0.38	J
Butanenitrile	29	69.11	15.866	15.780	218914	2.04	0.0204	6.62	
Benzene	29	78.11	16.749	16.663	17636	0.10	0.0010	0.30	J
Carbon Tetrachloride	29	153.82	17.039	16.965	3532	0.07	0.0007	0.10	J
2-Pentanone	29	86.13	17.416	17.363	25044	0.18	0.0018	0.47	J
1-Butanol	29	74.12	16.350	16.276	118338	2.50	0.0250	7.56	
3-Methylhexane	29	100.20	17.976	17.891	4593	0.06	0.0006	0.12	J
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257				0.0009	0.20	U
4-Methyl-2-Pentanone	29	100.16	20.463				0.0017	0.38	U
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m^3	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.509	13628	0.19	0.0019	0.47	J
2-Hexanone	41	100.16	23.015	22.800	4302	0.06	0.0006	0.12	J
Octane	41	114.23	24.662				0.0012	0.24	U
Tetrachloroethylene	41	165.83	25.157	25.093	37387	1.54	0.0154	2.09	J
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633	27.570	1917	0.02	0.0002	0.04	J
p/m-Xylene	41	106.17	28.053				0.0065	1.37	U
3-Heptanone	41	114.19	28.150	28.130	3959	0.09	0.0009	0.18	J
2-Heptanone	53	114.19	28.269				0.0056	1.09	U
Cyclohexanone	53	98.14	28.506				0.0029	0.66	U
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722				0.0009	0.16	U
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.723	13.649	3870538	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.223	10786006	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.579	8295656	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.401	4594690	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124				0.0772	13.49	U
Decane	53	142.20	34.406				0.0015	0.24	U

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m^3	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.916	5930659	58.18	0.5818		J
Unknown	22	0		5.380	1763089	17.29	0.1729		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	12233319
Difluorobenzene (IS)	29	23918791
Chlorobenzene-d5 (IS)	41	24761382
1-Bromo-4-Fluorobenzene (IS)	53	25411371

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 14:42

28122408.D

Page 2

E02 008

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-007.C301; AZ Stack; 200 ml; 2X;

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-007.C301; AZ Stack; 200 ml; 2X;

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-004.C429; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Instrument ID : hpdosl.i
 Method : sas stdTO14.m
 File : 28122409.D
 Injection Date : 07-NOV-1998 08:59 Operator : Alex
 Matrix : AIR Lab. Sample ID: VP702-004.C429
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.486	21846	0.22	0.0022	1.17	J
Propane	22	44.10	4.572	4.551	9913	0.31	0.0031	1.59	J
Dichlorodifluoromethane	22	120.91	4.679	4.659	26830	0.35	0.0035	0.66	J
Chloromethane	22	50.49	5.067	5.035	8140	0.14	0.0014	0.60	J
Butane	22	58.12	5.982	5.950	15796	0.29	0.0029	1.12	J
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.984	14398	0.34	0.0034	1.63	J
Trichlorofluoromethane	22	137.37	8.351	8.308	14867	0.26	0.0026	0.43	J
Isopropyl Alcohol	22	60.10	8.437	8.362	12146	0.12	0.0012	0.46	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.953	51728	2.45	0.0245	9.46	
Pentane	22	72.00	9.018	8.965	9210	0.10	0.0010	0.32	J
Methylene Chloride	22	84.93	9.761	9.697	9543	0.25	0.0025	0.65	J
112trichlorol22trifluoroethane	22	187.38	10.246	10.192	7133	0.21	0.0021	0.25	J
Propanenitrile	22	55.08	10.999				0.0019	0.77	U
Propanol	22	60.10	11.021				0.0014	0.52	U
2-Methylpentane	22	86.18	12.184				0.0024	0.61	U
Butanal	22	72.11	12.334				0.0030	0.94	U
2-Butanone	22	72.11	12.539	12.518	19363	0.15	0.0015	0.46	J
1-Hexene	22	84.16	13.185				0.0023	0.60	U
Hexane	22	86.18	13.777				0.0016	0.42	U
Chloroform	22	119.38	13.949	13.853	5076	0.09	0.0009	0.17	J
Tetrahydrofuran	22	72.11	14.681				0.0008	0.25	U
Butanenitrile	29	69.11	15.866				0.0017	0.55	U
Benzene	29	78.11	16.749	16.674	21153	0.13	0.0013	0.37	J
Carbon Tetrachloride	29	153.82	17.039	16.943	2147	0.04	0.0004	0.06	J
2-Pentanone	29	86.13	17.416	17.374	9624	0.07	0.0007	0.19	J
1-Butanol	29	74.12	16.350	17.223	499895	10.97	0.1097	33.14	
3-Methylhexane	29	100.20	17.976				0.0027	0.60	U
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257				0.0009	0.20	U
4-Methyl-2-Pentanone	29	100.16	20.463				0.0017	0.38	U
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

02/08/99 15:56

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Page 1

E02 011

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.520	21067	0.31	0.0031	0.74	J
2-Hexanone	41	100.16	23.015				0.0049	1.10	U
Octane	41	114.23	24.662				0.0012	0.24	U
Tetrachloroethylene	41	165.83	25.157				0.0021	0.28	U
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633	27.559	6870	0.06	0.0006	0.13	J
p/m-Xylene	41	106.17	28.053	27.968	7823	0.25	0.0025	0.53	J
3-Heptanone	41	114.19	28.150				0.0057	1.13	U
2-Heptanone	53	114.19	28.269				0.0056	1.09	U
Cyclohexanone	53	98.14	28.506				0.0029	0.66	U
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722				0.0009	0.16	U
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.723	13.649	3598292	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.223	10397304	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.568	8080334	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.401	4432565	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124				0.0772	13.49	U
Decane	53	142.20	34.406				0.0015	0.24	U

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.916	6046803	73.47	0.7347		J

Internal Standard Information for TICS

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	9876229
Difluorobenzene (IS)	29	23392306
Chlorobenzene-d5 (IS)	41	24112601
1-Bromo-4-Fluorobenzene (IS)	53	24901911

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICS

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:56

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Page 2

E02 013

Sample Info : VP702-004.C429; AZ Stack; 200 ml; 2X;

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-004.C429; AZ Stack; 200 ml; 2X;

HNF-4073
Rev. 0

Sample Info : VP006-127.C295; postshutdown; 200 ml; 2X

Instrument ID : hpdos1.i
 Method : sas stdTO14.m
 File : 28122604.D
 Injection Date : 09-NOV-1998 01:27 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.497	5643103	47.25	0.4725	281.51	
Propane	22	44.10	4.572	4.551	1467981	38.47	0.3847	195.38	
Dichlorodifluoromethane	22	120.91	4.679	4.659	32969	0.36	0.0036	0.67	J
Chloromethane	22	50.49	5.067	5.036	10874	0.15	0.0015	0.67	J
Butane	22	58.12	5.982	5.962	7443443	113.48	1.1348	437.36	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.952	3686703	71.30	0.7130	346.67	
Trichlorofluoromethane	22	137.37	8.351	8.309	185687	2.74	0.0274	4.46	
Isopropyl Alcohol	22	60.10	8.437	8.363	150929	1.26	0.0126	4.70	J
Furan	22	68.08	8.663	8.546	17636	0.24	0.0024	0.79	J
Acetone	22	58.08	7.963	7.921	1647260	64.75	0.6475	249.73	
Pentane	22	72.00	9.018	8.987	4577002	42.13	0.4213	131.06	
Methylene Chloride	22	84.93	9.761	9.730	15764	0.34	0.0034	0.89	J
112trichlorol22trifluoroethane	22	187.38	10.246	10.204	10543	0.26	0.0026	0.31	J
Propanenitrile	22	55.08	10.999	10.925	747716	13.05	0.1305	53.09	
Propanol	22	60.10	11.021	10.936	396450	3.23	0.0323	12.05	
2-Methylpentane	22	86.18	12.184	12.131	629972	4.86	0.0486	12.64	
Butanal	22	72.11	12.334	12.281	281380	10.66	0.1066	33.12	
2-Butanone	22	72.11	12.539	12.475	2475312	15.70	0.1570	48.78	
1-Hexene	22	84.16	13.185	13.132	4582945	79.15	0.7915	210.67	
Hexane	22	86.18	13.777	13.724	2932310	38.22	0.3822	99.34	
Chloroform	22	119.38	13.949	13.886	20426	0.30	0.0030	0.56	J
Tetrahydrofuran	22	72.11	14.681	14.650	88566	2.83	0.0283	8.79	
Butanenitrile	29	69.11	15.866	15.781	2546162	17.73	0.1773	57.47	
Benzene	29	78.11	16.749	16.696	301712	1.33	0.0133	3.81	
Carbon Tetrachloride	29	153.82	17.039				0.0017	0.25	U
2-Pentanone	29	86.13	17.416	17.363	1716372	9.18	0.0918	23.87	
1-Butanol	29	74.12	16.350	16.276	2171924	34.29	0.3429	103.63	
3-Methylhexane	29	100.20	17.976	17.912	379556	3.42	0.0342	7.65	
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.215	6112074	119.41	1.1941	266.95	
4-Methyl-2-Pentanone	29	100.16	20.463	20.389	384384	2.70	0.0270	6.04	
1,1,2-Trichloroethane	29	133.40	21.959	21.831	61561	1.42	0.0142	2.39	

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
Toluene	41	92.14	22.595	22.553	1344534	13.62	0.1362	33.10	
2-Hexanone	41	100.16	23.015	22.951	4299281	39.87	0.3987	89.16	
Octane	41	114.23	24.662	24.620	1059276	29.63	0.2963	58.09	
Tetrachloroethylene	41	165.83	25.157	25.115	11941	0.35	0.0035	0.48	J
Chlorobenzene	41	112.56	26.761	26.752	45013	0.40	0.0040	0.79	J
Ethylbenzene	41	106.17	27.633	27.581	69715	0.44	0.0044	0.92	J
p/m-Xylene	41	106.17	28.053	27.990	44191	0.99	0.0099	2.08	J
3-Heptanone	41	114.19	28.150	28.108	41341709	673.78	6.7378	1321.71	E
2-Heptanone	53	114.19	28.269	28.216	19414160	195.52	1.9552	383.55	
Cyclohexanone	53	98.14	28.506	28.431	1379862	77.05	0.7705	175.87	
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216	29.131	119647	2.68	0.0268	3.57	
o-Xylene	53	106.17	29.302	29.250	18169	0.37	0.0037	0.78	J
Nonane	53	128.26	29.722	29.680	1932066	29.42	0.2942	51.38	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.116	29661	0.33	0.0033	0.61	J
Bromochloromethane (IS)	22	129.40	13.723	13.670	4340440	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.245	14447284	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.601	11567588	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.423	6670879	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.072	875421	10.62	0.1062	18.56	J
Decane	53	142.20	34.406	34.353	4007356	84.17	0.8417	132.59	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/08/99 15:56

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HNF-4073

Rev. 0 Page 2

E02 018

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-127.C295; postshutdown; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-127.C295; postshutdown; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : VP006-017.C235; 200 ml; 2X

Instrument ID : hpdos1.i
 Method : sas stdTO14.m
 File : 28122605.D
 Injection Date : 09-NOV-1998 02:52 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.518	4.495	5974565	45.06	0.4506	239.84	
Propane	22	44.10	4.572	4.549	1635722	38.61	0.3861	196.09	
Dichlorodifluoromethane	22	120.91	4.679	4.667	30612	0.30	0.0030	0.56	J
Chloromethane	22	50.49	5.067	5.044	10600	0.13	0.0013	0.59	J
Butane	22	58.12	5.982	5.959	6497086	89.22	0.8922	343.85	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.950	2347446	40.89	0.4089	198.82	
Trichlorofluoromethane	22	137.37	8.351	8.317	166573	2.21	0.0221	3.61	J
Isopropyl Alcohol	22	60.10	8.437	8.360	64474	0.48	0.0048	1.81	J
Furan	22	68.08	8.663	8.630	6496	0.08	0.0008	0.26	J
Acetone	22	58.08	7.963	7.930	862498	30.54	0.3054	117.78	
Pentane	22	72.00	9.018	8.985	3134896	25.99	0.2599	80.85	
Methylene Chloride	22	84.93	9.761	9.717	15505	0.30	0.0030	0.79	J
112trichloro122trifluoroethane	22	187.38	10.246	10.201	11320	0.25	0.0025	0.30	J
Propanenitrile	22	55.08	10.999	10.934	294747	4.64	0.0464	18.85	
Propanol	22	60.10	11.021	10.944	312399	2.29	0.0229	8.55	
2-Methylpentane	22	86.18	12.184	12.139	442320	3.07	0.0307	7.99	
Butanal	22	72.11	12.334	12.279	141269	4.82	0.0482	14.98	
2-Butanone	22	72.11	12.539	12.484	1366321	7.81	0.0781	24.25	
1-Hexene	22	84.16	13.185	13.141	2787400	43.36	0.4336	115.41	
Hexane	22	86.18	13.777	13.722	1858923	21.82	0.2182	56.73	
Chloroform	22	119.38	13.949	13.884	14574	0.19	0.0019	0.36	J
Tetrahydrofuran	22	72.11	14.681	14.659	57888	1.67	0.0167	5.18	
Butanenitrile	29	69.11	15.866	15.779	972871	6.64	0.0664	21.54	
Benzene	29	78.11	16.749	16.694	150895	0.65	0.0065	1.87	J
Carbon Tetrachloride	29	153.82	17.039	16.974	3920	0.06	0.0006	0.08	J
2-Pentanone	29	86.13	17.416	17.372	746636	3.92	0.0392	10.18	J
1-Butanol	29	74.12	16.350	16.274	1176222	18.21	0.1821	55.04	
3-Methylhexane	29	100.20	17.976	17.910	195105	1.73	0.0173	3.86	J
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.213	3992215	76.49	0.7649	171.01	
4-Methyl-2-Pentanone	29	100.16	20.463	20.387	175210	1.21	0.0121	2.70	J
1,1,2-Trichloroethane	29	133.40	21.959	21.829	32758	0.74	0.0074	1.25	J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.551	607208	6.09	0.0609	14.82	
2-Hexanone	41	100.16	23.015	22.949	1437650	13.21	0.1321	29.55	
Octane	41	114.23	24.662	24.618	534581	14.82	0.1482	29.06	
Tetrachloroethylene	41	165.83	25.157	25.113	8505	0.25	0.0025	0.34	J
Chlorobenzene	41	112.56	26.761	26.739	24168	0.21	0.0021	0.42	J
Ethylbenzene	41	106.17	27.633	27.579	36159	0.22	0.0022	0.47	J
p/m-Xylene	41	106.17	28.053	27.998	27986	0.62	0.0062	1.30	J
3-Heptanone	41	114.19	28.150	28.074	20538108	331.75	3.3175	650.77	
2-Heptanone	53	114.19	28.269	28.203	5796670	58.70	0.5870	115.15	
Cyclohexanone	53	98.14	28.506	28.429	572478	32.14	0.3214	73.37	
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216	29.118	52928	1.19	0.0119	1.59	J
o-Xylene	53	106.17	29.302	29.215	8084	0.17	0.0017	0.35	J
Nonane	53	128.26	29.722	29.678	1050297	16.08	0.1608	28.08	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.103	13954	0.15	0.0015	0.29	J
Bromochloromethane (IS)	22	129.40	13.723	13.668	4818846	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.254	14730961	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.599	11671371	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.421	6634328	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.080	317713	3.88	0.0388	6.77	J
Decane	53	142.20	34.406	34.351	2395554	50.59	0.5059	79.70	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.927	4534698	21.73	0.2173		J
Unknown	22	0		6.519	3399114	16.29	0.1629		J
Unknown	22	0		8.543	6807228	32.61	0.3261		J
Unknown	29	0		18.578	8462208	25.17	0.2517		J
Unknown	29	0		19.062	43516794	129.46	1.2946		J
Unknown	29	0		19.439	50377716	149.87	1.4987		J
Unknown	29	0		19.934	36645654	109.02	1.0902		J
Unknown	29	0		20.387	5662436	16.85	0.1685		J
Unknown	29	0		21.722	11775930	35.03	0.3503		J
Unknown	41	0		22.841	11465503	37.19	0.3719		J
Unknown	41	0		23.078	5966774	19.35	0.1935		J
Unknown	41	0		23.283	25945963	84.16	0.8416		J
Unknown	41	0		23.950	27410237	88.91	0.8891		J
Unknown	41	0		24.446	6482586	21.03	0.2103		J
Unknown	41	0		25.027	5543569	17.98	0.1798		J
Unknown	41	0		27.439	14910292	48.36	0.4836		J
Unknown	41	0		28.074	56794534	184.22	1.8422		J
Unknown	53	0		28.731	4297478	19.60	0.1960		J
Unknown	53	0		30.970	7797828	35.56	0.3556		J
Unknown	53	0		31.088	11951153	54.50	0.5450		J
Unknown	53	0		31.175	10370310	47.29	0.4729		J
Unknown	53	0		31.465	13842648	63.12	0.6312		J
Unknown	53	0		33.737	5874859	26.79	0.2679		J
Unknown	53	0		34.975	7471454	34.07	0.3407		J

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
*****	*****	*****	*****	****	*****	*****	*****	*****	*****
Unknown	53	0		35.481	4760229	21.71	0.2171		J
Unknown	53	0		38.679	16794770	76.58	0.7658		J
Unknown	53	0		42.706	16980687	77.43	0.7743		J
Unknown	53	0		46.463	11203301	51.09	0.5109		J

Internal Standard Information for TICS

Internal Standard	ISTD #	Area
*****	*****	*****
Bromochloromethane (IS)	22	25046703
Difluorobenzene (IS)	29	32606013
Chlorobenzene-d5 (IS)	41	34221287
1-Bromo-4-Fluorobenzene (IS)	53	39473989

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICS

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:56

28122605.D

Page 3

E02 024

Sample Info : VP006-017.C235; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-017.C235; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : VP006-009.C143; 200 ml; 2X

Instrument ID : hpdosl.i
 Method : sas_stdT014.m
 File : 28122606.D
 Injection Date : 09-NOV-1998 04:25 Operator : Alex
 Matrix : AIR Lab. Sample ID: C-106
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	22	42.08	4.518	4.506	790994	6.05	0.0605	32.22	
Propane	22	44.10	4.572	4.560	247607	5.93	0.0593	30.12	
Dichlorodifluoromethane	22	120.91	4.679	4.667	32475	0.33	0.0033	0.60	J
Chloromethane	22	50.49	5.067	5.044	18183	0.23	0.0023	1.02	J
Butane	22	58.12	5.982	5.959	416342	5.80	0.0580	22.36	
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.950	1329350	23.50	0.2350	114.26	
Trichlorofluoromethane	22	137.37	8.351	8.317	159784	2.15	0.0215	3.51	J
Isopropyl Alcohol	22	60.10	8.437	8.360	44450	0.34	0.0034	1.26	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.940	451704	16.23	0.1623	62.59	
Pentane	22	72.00	9.018	8.995	381780	3.21	0.0321	9.99	
Methylene Chloride	22	84.93	9.761	9.728	14847	0.29	0.0029	0.76	J
112trichloro122trifluoroethane	22	187.38	10.246	10.201	10608	0.24	0.0024	0.28	J
Propanenitrile	22	55.08	10.999	10.944	74218	1.18	0.0118	4.82	J
Propanol	22	60.10	11.021	10.955	348252	2.60	0.0260	9.67	
2-Methylpentane	22	86.18	12.184	12.128	28108	0.20	0.0020	0.52	J
Butanal	22	72.11	12.334	12.290	95320	3.30	0.0330	10.25	
2-Butanone	22	72.11	12.539	12.484	617769	3.58	0.0358	11.13	
1-Hexene	22	84.16	13.185	13.141	58939	0.93	0.0093	2.48	J
Hexane	22	86.18	13.777	13.733	198056	2.36	0.0236	6.13	
Chloroform	22	119.38	13.949				0.0013	0.24	U
Tetrahydrofuran	22	72.11	14.681	14.659	33878	0.99	0.0099	3.07	
Butanenitrile	29	69.11	15.866	15.800	245821	1.75	0.0175	5.66	
Benzene	29	78.11	16.749	16.693	34291	0.15	0.0015	0.44	J
Carbon Tetrachloride	29	153.82	17.039				0.0017	0.25	U
2-Pentanone	29	86.13	17.416	17.383	155589	0.85	0.0085	2.21	J
1-Butanol	29	74.12	16.350	16.284	1044715	16.82	0.1682	50.84	
3-Methylhexane	29	100.20	17.976	17.910	83708	0.77	0.0077	1.72	J
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.213	129852	2.59	0.0259	5.78	
4-Methyl-2-Pentanone	29	100.16	20.463	20.419	13797	0.10	0.0010	0.22	J
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

02/08/99 15:56

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Page 1

E02 027

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.540	137497	1.48	0.0148	3.60	
2-Hexanone	41	100.16	23.015	22.970	144486	1.42	0.0142	3.18	J
Octane	41	114.23	24.662	24.618	47831	1.42	0.0142	2.79	
Tetrachloroethylene	41	165.83	25.157	25.113	7828	0.25	0.0025	0.33	J
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633	27.589	16884	0.11	0.0011	0.24	J
p/m-Xylene	41	106.17	28.053	27.977	22193	0.53	0.0053	1.11	J
3-Heptanone	41	114.19	28.150	28.084	1700060	29.43	0.2943	57.74	
2-Heptanone	53	114.19	28.269	28.224	353812	3.90	0.0390	7.65	J
Cyclohexanone	53	98.14	28.506	28.450	25797	1.58	0.0158	3.60	J
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722	29.678	61972	1.03	0.0103	1.80	
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.723	13.668	4748546	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.243	14166334	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.599	10889651	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.421	6095599	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124				0.0772	13.49	U
Decane	53	142.20	34.406	34.361	377394	8.67	0.0867	13.66	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.929	3256578	24.97	0.2497		J
Unknown	22	0		5.324	1574347	12.07	0.1207		J
Unknown	53	0		38.689	4008194	22.15	0.2215		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	15652361
Difluorobenzene (IS)	29	30744170
Chlorobenzene-d5 (IS)	41	31501275
1-Bromo-4-Fluorobenzene (IS)	53	32566383

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:56

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Page 2

E02 029

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-009.C143; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-009.C143; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-002.C428; 200 mL; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.1
Method : sas_stdTO14.m
File : 28122607.D
Injection Date : 09-NOV-1998 05:46 Operator : Alex
Matrix : AIR Lab. Sample ID: VP702-002.C428
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m^3	ppbv	Flags
Propene	22	42.08	4.518	4.497	75176	0.59	0.0059	3.14	J
Propane	22	44.10	4.572	4.551	47151	1.16	0.0116	5.89	J
Dichlorodifluoromethane	22	120.91	4.679	4.669	39187	0.40	0.0040	0.75	J
Chloromethane	22	50.49	5.067	5.057	9719	0.13	0.0013	0.56	J
Butane	22	58.12	5.982	5.972	76888	1.10	0.0110	4.24	J
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005	6.941	461630	8.37	0.0837	40.71	
Trichlorofluoromethane	22	137.37	8.351	8.319	970158	13.42	0.1342	21.88	
Isopropyl Alcohol	22	60.10	8.437	8.351	74601	0.58	0.0058	2.18	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.931	864083	31.86	0.3186	122.87	
Pentane	22	72.00	9.018	8.986	57004	0.49	0.0049	1.53	J
Methylene Chloride	22	84.93	9.761	9.740	13898	0.28	0.0028	0.73	J
1,1,2-trichloro-2,2,2-trifluoroethane	22	187.38	10.246	10.214	12157	0.28	0.0028	0.33	J
Propanenitrile	22	55.08	10.999	10.946	185552	3.04	0.0304	12.36	
Propanol	22	60.10	11.021	10.957	243867	1.86	0.0186	6.95	
2-Methylpentane	22	86.18	12.184	12.141	11974	0.09	0.0009	0.23	J
Butanal	22	72.11	12.334	12.281	11168	0.40	0.0040	1.23	J
2-Butanone	22	72.11	12.539	12.496	680960	4.05	0.0405	12.59	
1-Hexene	22	84.16	13.185				0.0023	0.60	U
Hexane	22	86.18	13.777	13.734	37054	0.45	0.0045	1.18	J
Chloroform	22	119.38	13.949	13.885	43918	0.60	0.0060	1.13	J
Tetrahydrofuran	22	72.11	14.681	14.693	6228	0.19	0.0019	0.58	J
Butanenitrile	29	69.11	15.866	15.802	370771	2.76	0.0276	8.94	
Benzene	29	78.11	16.749	16.695	23878	0.11	0.0011	0.32	J
Carbon Tetrachloride	29	153.82	17.039	16.986	6155	0.10	0.0010	0.14	J
2-Pentanone	29	86.13	17.416	17.384	34340	0.20	0.0020	0.51	J
1-Butanol	29	74.12	16.350	16.308	109896	1.85	0.0185	5.60	
3-Methylhexane	29	100.20	17.976				0.0027	0.60	U
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257				0.0009	0.20	U
4-Methyl-2-Pentanone	29	100.16	20.463				0.0017	0.38	U
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

02/08/99 15:56

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Page 1

E02 032

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.552	19177	0.22	0.0022	0.52	J
2-Hexanone	41	100.16	23.015				0.0049	1.10	U
Octane	41	114.23	24.662				0.0012	0.24	U
Tetrachloroethylene	41	165.83	25.157	25.104	61643	2.02	0.0202	2.73	J
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633				0.0014	0.30	U
p/m-Xylene	41	106.17	28.053				0.0065	1.37	U
3-Heptanone	41	114.19	28.150	28.172	6087	0.11	0.0011	0.22	J
2-Heptanone	53	114.19	28.269				0.0056	1.09	U
Cyclohexanone	53	98.14	28.506				0.0029	0.66	U
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722				0.0009	0.16	U
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.723	13.670	4627739	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.244	13523932	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.600	10430604	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.423	5636347	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124				0.0772	13.49	U
Decane	53	142.20	34.406	34.406	10140	0.25	0.0025	0.40	J

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.929	6033210	49.36	0.4936		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	14666035
Difluorobenzene (IS)	29	29455516
Chlorobenzene-d5 (IS)	41	30408929
1-Bromo-4-Fluorobenzene (IS)	53	30550467

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:56

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Page 2

E02 034

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP702-002.C428; 200 ml; 2X

02/08/99 15:56

28122607.D
E02 035

Page 3

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 28122607.D

HNF-4073
Rev. 0

Sample Info : VP702-002.C428; 200 ml; 2X

02/08/99 15:56

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E02 036 ~~000~~

Page 4

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-024.C277; amb.air 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdosl.i
Method : sas_stdT014.m
File : 28122608.D
Injection Date : 09-NOV-1998 07:55 Operator : Alex
Matrix : AIR Lab. Sample ID: C-106; amb.air
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	22	42.08	4.518	4.496	30267	0.25	0.0025	1.31	J
Propane	22	44.10	4.572	4.561	9959	0.25	0.0025	1.29	J
Dichlorodifluoromethane	22	120.91	4.679	4.668	32615	0.35	0.0035	0.64	J
Chloromethane	22	50.49	5.067	5.067	10193	0.14	0.0014	0.61	J
Butane	22	58.12	5.982	5.971	22033	0.33	0.0033	1.26	J
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005				0.0020	0.97	U
Trichlorofluoromethane	22	137.37	8.351	8.329	13817	0.20	0.0020	0.32	J
Isopropyl Alcohol	22	60.10	8.437	8.383	10839	0.09	0.0009	0.33	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	8.027	43384	1.65	0.0165	6.38	J
Pentane	22	72.00	9.018	8.986	22741	0.20	0.0020	0.63	J
Methylene Chloride	22	84.93	9.761	9.739	13257	0.27	0.0027	0.72	J
112trichloro122trifluoroethane	22	187.38	10.246	10.202	9737	0.23	0.0023	0.27	J
Propanenitrile	22	55.08	10.999				0.0019	0.77	U
Propanol	22	60.10	11.021				0.0014	0.52	U
2-Methylpentane	22	86.18	12.184	12.140	10180	0.08	0.0008	0.20	J
Butanal	22	72.11	12.334				0.0030	0.94	U
2-Butanone	22	72.11	12.539	12.539	37300	0.23	0.0023	0.71	J
1-Hexene	22	84.16	13.185	13.152	19037	0.32	0.0032	0.85	J
Hexane	22	86.18	13.777	13.734	19248	0.24	0.0024	0.63	J
Chloroform	22	119.38	13.949	13.874	6075	0.09	0.0009	0.16	J
Tetrahydrofuran	22	72.11	14.681				0.0008	0.25	U
Butanenitrile	29	69.11	15.866				0.0017	0.55	U
Benzene	29	78.11	16.749	16.684	34870	0.17	0.0017	0.49	J
Carbon Tetrachloride	29	153.82	17.039				0.0017	0.25	U
2-Pentanone	29	86.13	17.416	17.405	17025	0.10	0.0010	0.26	J
1-Butanol	29	74.12	16.350	17.244	619753	10.91	0.1091	32.98	
3-Methylhexane	29	100.20	17.976				0.0027	0.60	U
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.214	82802	1.80	0.0180	4.03	
4-Methyl-2-Pentanone	29	100.16	20.463				0.0017	0.38	U
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.541	36193	0.42	0.0042	1.03	J
2-Hexanone	41	100.16	23.015	22.982	31612	0.34	0.0034	0.76	J
Octane	41	114.23	24.662	24.608	15089	0.49	0.0049	0.95	J
Tetrachloroethylene	41	165.83	25.157				0.0021	0.28	U
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633	27.590	7772	0.06	0.0006	0.12	J
p/m-Xylene	41	106.17	28.053	27.989	8439	0.22	0.0022	0.46	J
3-Heptanone	41	114.19	28.150	28.085	1625073	30.56	0.3056	59.94	
2-Heptanone	53	114.19	28.269	28.225	336375	4.04	0.0404	7.92	J
Cyclohexanone	53	98.14	28.506	28.430	17207	1.14	0.0114	2.61	J
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722	29.679	54969	1.00	0.0100	1.74	
1,2,4-Trimethylbenzene	53	120.19	34.158	34.125	4257	0.06	0.0006	0.10	J
Bromochloromethane (IS)	22	129.40	13.723	13.680	4475470	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.244	12955009	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.600	10026080	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.422	5598265	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.103	25381	0.37	0.0037	0.64	J
Decane	53	142.20	34.406	34.362	218818	5.48	0.0548	8.63	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.928	3196931	29.96	0.2996		J
Unknown	53	0		42.706	4419220	25.84	0.2584		J
Unknown	53	0		46.464	8243893	48.21	0.4821		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	12804920
Difluorobenzene (IS)	29	28548592
Chlorobenzene-d5 (IS)	41	29356390
1-Bromo-4-Fluorobenzene (IS)	53	30782111

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:56

28122608.D

Page 2

E02 039

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-024.C277; amb.air 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-024.C277; amb.air 200 ml; 2X

02/08/99 15:57

28122608.D
E02 041

Page 4

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : VP006-024.C277; amb.air 200 ml; 2X; rep

Instrument ID : hpdos1.i
Method : sas_stdTO14.m
File : 28122609.D
Injection Date : 09-NOV-1998 09:14 Operator : Alex
Matrix : AIR Lab. Sample ID: C-106; amb.air
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	22	42.08	4.518	4.497	26380	0.22	0.0022	1.15	J
Propane	22	44.10	4.572	4.561	9032	0.23	0.0023	1.18	J
Dichlorodifluoromethane	22	120.91	4.679	4.658	28721	0.31	0.0031	0.57	J
Chloromethane	22	50.49	5.067	5.057	8962	0.12	0.0012	0.54	J
Butane	22	58.12	5.982	5.961	18108	0.27	0.0027	1.05	J
Chloroethane	22	64.51	6.811				0.0027	0.94	U
Ethanol	22	46.07	7.005				0.0020	0.97	U
Trichlorofluoromethane	22	137.37	8.351	8.308	12071	0.17	0.0017	0.29	J
Isopropyl Alcohol	22	60.10	8.437	8.416	11230	0.09	0.0009	0.34	J
Furan	22	68.08	8.663				0.0036	1.17	U
Acetone	22	58.08	7.963	7.964	41653	1.61	0.0161	6.20	J
Pentane	22	72.00	9.018	8.997	18945	0.17	0.0017	0.53	J
Methylene Chloride	22	84.93	9.761	9.729	12203	0.26	0.0026	0.67	J
112trichloro122trifluoroethane	22	187.38	10.246	10.214	8926	0.21	0.0021	0.25	J
Propanenitrile	22	55.08	10.999				0.0019	0.77	U
Propanol	22	60.10	11.021				0.0014	0.52	U
2-Methylpentane	22	86.18	12.184				0.0024	0.61	U
Butanal	22	72.11	12.334				0.0030	0.94	U
2-Butanone	22	72.11	12.539	12.529	34385	0.21	0.0021	0.67	J
1-Hexene	22	84.16	13.185	13.142	20053	0.34	0.0034	0.91	J
Hexane	22	86.18	13.777	13.735	19548	0.25	0.0025	0.65	J
Chloroform	22	119.38	13.949				0.0013	0.24	U
Tetrahydrofuran	22	72.11	14.681				0.0008	0.25	U
Butanenitrile	29	69.11	15.866	15.866	10531	0.08	0.0008	0.27	J
Benzene	29	78.11	16.749	16.695	34511	0.17	0.0017	0.50	J
Carbon Tetrachloride	29	153.82	17.039				0.0017	0.25	U
2-Pentanone	29	86.13	17.416	17.417	18310	0.11	0.0011	0.29	J
1-Butanol	29	74.12	16.350	17.244	599259	10.87	0.1087	32.86	
3-Methylhexane	29	100.20	17.976				0.0027	0.60	U
1,4-Dioxane	29	88.11	18.676				0.0047	1.19	U
Heptane	29	100.20	19.257	19.204	80417	1.81	0.0181	4.04	
4-Methyl-2-Pentanone	29	100.16	20.463				0.0017	0.38	U
1,1,2-Trichloroethane	29	133.40	21.959				0.0014	0.24	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.595	22.541	34770	0.40	0.0040	0.98	J
2-Hexanone	41	100.16	23.015	22.972	35374	0.38	0.0038	0.84	J
Octane	41	114.23	24.662	24.619	16215	0.52	0.0052	1.02	J
Tetrachloroethylene	41	165.83	25.157				0.0021	0.28	U
Chlorobenzene	41	112.56	26.761				0.0013	0.26	U
Ethylbenzene	41	106.17	27.633				0.0014	0.30	U
p/m-Xylene	41	106.17	28.053				0.0065	1.37	U
3-Heptanone	41	114.19	28.150	28.086	1640150	30.70	0.3070	60.22	
2-Heptanone	53	114.19	28.269	28.226	316585	3.81	0.0381	7.48	J
Cyclohexanone	53	98.14	28.506	28.431	23879	1.59	0.0159	3.64	J
Styrene	53	104.15	28.990				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.216				0.0021	0.28	U
o-Xylene	53	106.17	29.302				0.0014	0.30	U
Nonane	53	128.26	29.722	29.680	55841	1.02	0.0102	1.78	
1,2,4-Trimethylbenzene	53	120.19	34.158				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.723	13.670	4418945	120.00	1.2000	207.73	
Difluorobenzene (IS)	29	114.00	17.308	17.244	12569741	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.654	26.600	10072089	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.476	30.423	5577335	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.124	33.114	23633	0.34	0.0034	0.60	J
Decane	53	142.20	34.406	34.352	216993	5.45	0.0545	8.59	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.928	4968309	37.55	0.3755		J
Unknown	53	0		42.718	4644184	27.21	0.2721		J
Unknown	53	0		46.475	7274305	42.62	0.4262		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	15875622
Difluorobenzene (IS)	29	27740759
Chlorobenzene-d5 (IS)	41	29516897
1-Bromo-4-Fluorobenzene (IS)	53	30720918

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/08/99 15:57

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Page 2

E02 044

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-024.C277; amb.air 200 ml; 2X; rep

HNF-4073
REV. 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : VP006-024.C277; amb.air 200 ml; 2X; rep

02/08/99 15:57

28122609.D

E02 046-A

Page 4

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-006.C042;200 ml 2X

Instrument ID : hpdos1.i
 Method : sas_stdTO14.m
 File : 29010504.D
 Injection Date : 19-NOV-1998 01:44 Operator : Alex
 Matrix : AIR Lab. Sample ID: AY-102 VP102-006.C042
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Propene	22	42.08	4.476	4.484	256408	2.62	0.0262	13.93	
Propane	22	44.10	4.530	4.538	90634	2.81	0.0281	14.29	
Dichlorodifluoromethane	22	120.91	4.638	4.646	25099	0.32	0.0032	0.59	J
Chloromethane	22	50.49	5.014	5.033	7168	0.11	0.0011	0.49	J
Butane	22	58.12	5.930	5.938	332943	5.34	0.0534	20.57	
Chloroethane	22	64.51	6.759				0.0027	0.94	U
Ethanol	22	46.07	6.963	6.886	1366956	36.22	0.3622	176.10	
Trichlorofluoromethane	22	137.37	8.287	8.286	181125	3.14	0.0314	5.11	
Isopropyl Alcohol	22	60.10	8.384	8.286	76705	0.87	0.0087	3.25	J
Furan	22	68.08	8.600				0.0036	1.17	U
Acetone	22	58.08	7.900	7.877	728542	40.16	0.4016	154.90	
Pentane	22	72.00	8.955	8.954	305322	3.38	0.0338	10.50	
Methylene Chloride	22	84.93	9.698	9.697	10153	0.28	0.0028	0.74	J
112trichloro122trifluoroethane	22	187.38	10.182	10.150	9865	0.28	0.0028	0.33	J
Propanenitrile	22	55.08	10.936	10.893	25410	0.74	0.0074	3.00	J
Propanol	22	60.10	10.979	10.871	285427	3.27	0.0327	12.18	
2-Methylpentane	22	86.18	12.110	12.099	27310	0.26	0.0026	0.66	J
Butanal	22	72.11	12.271	12.239	388729	20.62	0.2062	64.06	
2-Butanone	22	72.11	12.476	12.433	1598292	14.52	0.1452	45.11	
1-Hexene	22	84.16	13.122	13.101	179215	3.85	0.0385	10.26	
Hexane	22	86.18	13.714	13.682	238771	3.62	0.0362	9.41	
Chloroform	22	119.38	13.875	13.844	27899	0.51	0.0051	0.95	J
Tetrahydrofuran	22	72.11	14.607	14.619	9602	0.40	0.0040	1.25	J
Butanenitrile	29	69.11	15.802	15.739	375101	5.36	0.0536	17.37	
Benzene	29	78.11	16.675	16.655	45467	0.33	0.0033	0.94	J
Carbon Tetrachloride	29	153.82	16.965				0.0017	0.25	U
2-Pentanone	29	86.13	17.342	17.312	735645	6.98	0.0698	18.16	
1-Butanol	29	74.12	16.298	16.213	1067468	28.47	0.2847	86.05	
3-Methylhexane	29	100.20	17.902	17.829	293027	3.26	0.0326	7.30	
1,4-Dioxane	29	88.11	18.602				0.0047	1.19	U
Heptane	29	100.20	19.183	19.164	597940	18.39	0.1839	41.12	
4-Methyl-2-Pentanone	29	100.16	20.400	20.360	41630	0.50	0.0050	1.13	J
1,1,2-Trichloroethane	29	133.40	21.875				0.0014	0.24	U

02/26/99 14:28

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Page 1

E02 045-B

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.521	22.503	95850	1.52	0.0152	3.70	
2-Hexanone	41	100.16	22.941	22.912	622781	10.32	0.1032	23.08	
Octane	41	114.23	24.577	24.581	84227	3.51	0.0351	6.88	
Tetrachloroethylene	41	165.83	25.051	25.077	15003	0.61	0.0061	0.83	J
Chlorobenzene	41	112.56	26.677				0.0013	0.26	U
Ethylbenzene	41	106.17	27.559	27.532	12052	0.12	0.0012	0.25	J
p/m-Xylene	41	106.17	27.958				0.0065	1.37	U
3-Heptanone	41	114.19	28.076	28.039	7304042	198.80	1.9880	389.96	
2-Heptanone	53	114.19	28.216	28.168	2706208	56.75	0.5675	111.32	
Cyclohexanone	53	98.14	28.432	28.394	78172	7.85	0.0785	17.93	
Styrene	53	104.15	28.905				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.142				0.0021	0.28	U
o-Xylene	53	106.17	29.228				0.0014	0.30	U
Nonane	53	128.26	29.648	29.643	132814	2.53	0.0253	4.42	
1,2,4-Trimethylbenzene	53	120.19	34.095				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.649	13.628	3718477	120.00	1.2000	207.73	E
Difluorobenzene (IS)	29	114.00	17.234	17.204	9901227	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.569	26.563	8055132	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.391	30.386	4849448	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.061	33.068	36172	1.39	0.0139	2.43	J
Decane	53	142.20	34.332	34.328	245746	8.16	0.0816	12.85	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.904	4531343	41.42	0.4142		J
Unknown	22	0		5.325	2693769	24.62	0.2462		J
Unknown	41	0		23.235	4066032	19.16	0.1916		J
Unknown	41	0		27.392	5805222	27.36	0.2736		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	13127000
Difluorobenzene (IS)	29	23327710
Chlorobenzene-d5 (IS)	41	23549848
1-Bromo-4-Fluorobenzene (IS)	53	24821704

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
REV. 0

02/26/99 14:28

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Page 2

E02 046-D

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-006.C042;200 ml 2X

02/26/99 14:28

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Page 3

E02 046-E

HNF-4013
REV. 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-006.C042;200 ml 2X

02/26/99 14:28

29010504.D

Page 4

E02 046-F

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-002.C050;200 ml 2X

Instrument ID : hpdos1.i
 Method : sas_stdT014.m
 File : 29010505.D
 Injection Date : 19-NOV-1998 03:17 Operator : Alex
 Matrix : AIR Lab. Sample ID: AY-102 VP102-002.C050
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	22	42.08	4.476	4.484	72873	0.78	0.0078	4.14	J
Propane	22	44.10	4.530	4.538	50792	1.65	0.0165	8.37	
Dichlorodifluoromethane	22	120.91	4.638	4.646	24025	0.32	0.0032	0.59	J
Chloromethane	22	50.49	5.014	5.023	6341	0.10	0.0010	0.45	J
Butane	22	58.12	5.930	5.938	98559	1.65	0.0165	6.36	
Chloroethane	22	64.51	6.759				0.0027	0.94	U
Ethanol	22	46.07	6.963	6.886	1062732	29.43	0.2943	143.10	
Trichlorofluoromethane	22	137.37	8.287	8.297	122570	2.22	0.0222	3.62	J
Isopropyl Alcohol	22	60.10	8.384	8.297	64883	0.77	0.0077	2.87	J
Furan	22	68.08	8.600				0.0036	1.17	U
Acetone	22	58.08	7.900	7.877	645153	37.17	0.3717	143.37	
Pentane	22	72.00	8.955	8.954	106334	1.23	0.0123	3.82	J
Methylene Chloride	22	84.93	9.698	9.686	9503	0.28	0.0028	0.73	J
1,1,2-trichloro-1,2,2-trifluoroethane	22	187.38	10.182	10.171	8404	0.25	0.0025	0.30	J
Propanenitrile	22	55.08	10.936	10.892	18853	0.57	0.0057	2.33	J
Propanol	22	60.10	10.979	10.882	220924	2.64	0.0264	9.86	
2-Methylpentane	22	86.18	12.110	12.088	28393	0.28	0.0028	0.72	J
Butanal	22	72.11	12.271	12.239	118301	6.56	0.0656	20.38	
2-Butanone	22	72.11	12.476	12.432	1353040	12.85	0.1285	39.91	
1-Hexene	22	84.16	13.122				0.0023	0.60	U
Hexane	22	86.18	13.714	13.692	65734	1.04	0.0104	2.71	J
Chloroform	22	119.38	13.875	13.832	16318	0.31	0.0031	0.58	J
Tetrahydrofuran	22	72.11	14.607	14.597	5475	0.24	0.0024	0.75	J
Butanenitrile	29	69.11	15.802	15.739	314915	4.55	0.0455	14.74	
Benzene	29	78.11	16.675	16.654	25597	0.19	0.0019	0.54	J
Carbon Tetrachloride	29	153.82	16.965				0.0017	0.25	U
2-Pentanone	29	86.13	17.342	17.322	492586	4.73	0.0473	12.29	
1-Butanol	29	74.12	16.298	16.223	672064	18.12	0.1812	54.76	
3-Methylhexane	29	100.20	17.902	17.839	35291	0.40	0.0040	0.89	J
1,4-Dioxane	29	88.11	18.602				0.0047	1.19	U
Heptane	29	100.20	19.183	19.174	37691	1.17	0.0117	2.62	
4-Methyl-2-Pentanone	29	100.16	20.400	20.370	16137	0.20	0.0020	0.44	J
1,1,2-Trichloroethane	29	133.40	21.875				0.0014	0.24	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.521	22.502	34676	0.56	0.0056	1.36	J
2-Hexanone	41	100.16	22.941	22.912	258483	4.35	0.0435	9.72	J
Octane	41	114.23	24.577	24.581	10050	0.43	0.0043	0.83	J
Tetrachloroethylene	41	165.83	25.051	25.066	8326	0.34	0.0034	0.47	J
Chlorobenzene	41	112.56	26.677				0.0013	0.26	U
Ethylbenzene	41	106.17	27.559				0.0014	0.30	U
p/m-Xylene	41	106.17	27.958				0.0065	1.37	U
3-Heptanone	41	114.19	28.076	28.038	4241161	117.18	1.1718	229.86	
2-Heptanone	53	114.19	28.216	28.189	1261251	27.11	0.2711	53.18	
Cyclohexanone	53	98.14	28.432	28.383	15593	1.61	0.0161	3.67	J
Styrene	53	104.15	28.905				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.142				0.0021	0.28	U
o-Xylene	53	106.17	29.228				0.0014	0.30	U
Nonane	53	128.26	29.648	29.643	13642	0.27	0.0027	0.46	J
1,2,4-Trimethylbenzene	53	120.19	34.095				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.649	13.628	3557618	120.00	1.2000	207.73	E
Difluorobenzene (IS)	29	114.00	17.234	17.203	9795004	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.569	26.563	7935074	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.391	30.386	4731606	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.061				0.0772	13.49	U
Decane	53	142.20	34.332	34.328	13575	0.46	0.0046	0.73	J

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.916	4662242	45.48	0.4548		J
Unknown	22	0		4.101	2503757	24.42	0.2442		J
Unknown	22	0		5.335	1997391	19.48	0.1948		J
Unknown	41	0		27.403	2884783	13.87	0.1387		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	12301196
Difluorobenzene (IS)	29	22667178
Chlorobenzene-d5 (IS)	41	23080311
1-Bromo-4-Fluorobenzene (IS)	53	24001614

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
REV 0

02/26/99 14:29

29010505.D

Page 2

E02 046-I

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-002.C050;200 ml 2X

02/26/99 14:29

29010505.D

E02 046-J

Page 3

HNH-4013
REV 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-002.C050;200 ml 2X

02/26/99 14:29

29010505.D

E02 046-K

Page 4

HNF-4013
REV 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-010.C134; 200 ml; 2X

Instrument ID : hpdos1.i
 Method : sas_stdT014.m
 File : 29010604.D
 Injection Date : 20-NOV-1998 01:52 Operator : Alex
 Matrix : AIR Lab. Sample ID: AY-102 VP102-010.C134
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	22	42.08	4.476	4.507	376211	3.23	0.0323	17.19	
Propane	22	44.10	4.530	4.561	122682	3.20	0.0320	16.27	
Dichlorodifluoromethane	22	120.91	4.638	4.668	30440	0.32	0.0032	0.60	J
Chloromethane	22	50.49	5.014	5.056	9228	0.12	0.0012	0.53	J
Butane	22	58.12	5.930	5.960	530745	7.16	0.0716	27.59	
Chloroethane	22	64.51	6.759				0.0027	0.94	U
Ethanol	22	46.07	6.963	6.908	1554726	34.66	0.3466	168.54	
Trichlorofluoromethane	22	137.37	8.287	8.318	224355	3.27	0.0327	5.33	
Isopropyl Alcohol	22	60.10	8.384	8.307	96938	0.93	0.0093	3.45	J
Furan	22	68.08	8.600				0.0036	1.17	U
Acetone	22	58.08	7.900	7.898	869009	40.31	0.4031	155.47	
Pentane	22	72.00	8.955	8.986	423694	3.94	0.0394	12.26	
Methylene Chloride	22	84.93	9.698	9.718	11885	0.28	0.0028	0.73	J
112trichlorol22trifluoroethane	22	187.38	10.182	10.213	12271	0.29	0.0029	0.35	J
Propanenitrile	22	55.08	10.936	10.924	30995	0.76	0.0076	3.08	J
Propanol	22	60.10	10.979	10.902	388043	3.74	0.0374	13.94	
2-Methylpentane	22	86.18	12.110	12.140	161398	1.27	0.0127	3.30	J
Butanal	22	72.11	12.271	12.270	534790	23.87	0.2387	74.16	
2-Butanone	22	72.11	12.476	12.463	2236915	17.10	0.1710	53.12	
1-Hexene	22	84.16	13.122	13.142	307484	5.56	0.0556	14.81	
Hexane	22	86.18	13.714	13.723	383514	4.89	0.0489	12.71	
Chloroform	22	119.38	13.875	13.884	31962	0.49	0.0049	0.92	J
Tetrahydrofuran	22	72.11	14.607	14.649	11892	0.42	0.0042	1.30	J
Butanenitrile	29	69.11	15.802	15.769	398835	4.55	0.0455	14.75	
Benzene	29	78.11	16.675	16.695	62298	0.36	0.0036	1.03	J
Carbon Tetrachloride	29	153.82	16.965				0.0017	0.25	U
2-Pentanone	29	86.13	17.342	17.351	941554	7.14	0.0714	18.57	
1-Butanol	29	74.12	16.298	16.253	1238576	26.38	0.2638	79.74	
3-Methylhexane	29	100.20	17.902	17.868	433603	3.86	0.0386	8.62	
1,4-Dioxane	29	88.11	18.602				0.0047	1.19	U
Heptane	29	100.20	19.183	19.203	1098070	26.97	0.2697	60.30	
4-Methyl-2-Pentanone	29	100.16	20.400	20.387	61476	0.59	0.0059	1.33	J
1,1,2-Trichloroethane	29	133.40	21.875				0.0014	0.24	U

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.521	22.541	144291	1.85	0.0185	4.51	
2-Hexanone	41	100.16	22.941	22.950	884944	11.87	0.1187	26.55	
Octane	41	114.23	24.577	24.619	154274	5.21	0.0521	10.21	
Tetrachloroethylene	41	165.83	25.051	25.103	17683	0.58	0.0058	0.79	J
Chlorobenzene	41	112.56	26.677				0.0013	0.26	U
Ethylbenzene	41	106.17	27.559	27.590	17184	0.14	0.0014	0.29	J
p/m-Xylene	41	106.17	27.958	27.989	12011	0.24	0.0024	0.50	J
3-Heptanone	41	114.19	28.076	28.075	10093373	222.45	2.2245	436.37	
2-Heptanone	53	114.19	28.216	28.215	3668330	59.98	0.5998	117.66	
Cyclohexanone	53	98.14	28.432	28.419	166543	13.05	0.1305	29.78	
Styrene	53	104.15	28.905				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.142	29.130	16059	0.35	0.0035	0.47	J
o-Xylene	53	106.17	29.228				0.0014	0.30	U
Nonane	53	128.26	29.648	29.679	245012	3.64	0.0364	6.35	
1,2,4-Trimethylbenzene	53	120.19	34.095	34.136	8166	0.12	0.0012	0.22	J
Bromochloromethane (IS)	22	129.40	13.649	13.669	4418986	120.00	1.2000	207.73	E
Difluorobenzene (IS)	29	114.00	17.234	17.244	12397520	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.569	26.600	9947467	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.391	30.422	6219734	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.061	33.124	49478	1.49	0.0149	2.60	J
Decane	53	142.20	34.332	34.362	364470	9.43	0.0943	14.86	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.932	2181708	15.99	0.1599		J
Unknown	29	0		19.052	3289199	10.97	0.1097		J
Unknown	29	0		19.429	3579401	11.94	0.1194		J
Unknown	41	0		23.273	7552119	28.43	0.2843		J
Unknown	41	0		23.940	4460793	16.79	0.1679		J
Unknown	41	0		27.440	7885973	29.68	0.2968		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	16374008
Difluorobenzene (IS)	29	29075250
Chlorobenzene-d5 (IS)	41	29489707
1-Bromo-4-Fluorobenzene (IS)	53	31654764

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
REV 0

02/26/99 14:29

29010604.D

Page 2

E02 046-N

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-010.C134; 200 ml; 2X

02/26/99 14:29

29010604.D

E02 046-0

Page 3

HNF-40B
REV 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-010.C134; 200 ml; 2X

HN1-4013
REV 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-014.C298; 200 ml; 2X

Instrument ID : hpdos1.i
Method : sas_stdT014.m
File : 29010605.D
Injection Date : 20-NOV-98 03:24 Operator : Alex
Matrix : AIR Lab. Sample ID: AY-102 VP102-014.C298
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	22	42.08	4.476	4.497	489823	4.41	0.0441	23.49	
Propane	22	44.10	4.530	4.561	132449	3.63	0.0363	18.43	
Dichlorodifluoromethane	22	120.91	4.638	4.669	29909	0.33	0.0033	0.62	J
Chloromethane	22	50.49	5.014	5.046	8407	0.11	0.0011	0.50	J
Butane	22	58.12	5.930	5.961	698629	9.89	0.0989	38.11	
Chloroethane	22	64.51	6.759			0.0027	0.0027	0.94	U
Ethanol	22	46.07	6.963	6.908	1464499	34.26	0.3426	166.57	
Trichlorofluoromethane	22	137.37	8.287	8.319	177750	2.72	0.0272	4.43	
Isopropyl Alcohol	22	60.10	8.384	8.308	78544	0.79	0.0079	2.94	J
Furan	22	68.08	8.600				0.0036	1.17	U
Acetone	22	58.08	7.900	7.899	715122	34.81	0.3481	134.24	
Pentane	22	72.00	8.955	8.986	593735	5.80	0.0580	18.03	
Methylene Chloride	22	84.93	9.698	9.708	11967	0.29	0.0029	0.77	J
112trichlorol22trifluoroethane	22	187.38	10.182	10.203	10241	0.26	0.0026	0.31	J
Propanenitrile	22	55.08	10.936	10.913	27630	0.71	0.0071	2.88	J
Propanol	22	60.10	10.979	10.903	309992	3.13	0.0313	11.68	
2-Methylpentane	22	86.18	12.110	12.119	120391	0.99	0.0099	2.58	J
Butanal	22	72.11	12.271	12.270	684459	32.06	0.3206	99.59	
2-Butanone	22	72.11	12.476	12.453	1875025	15.04	0.1504	46.72	
1-Hexene	22	84.16	13.122	13.131	544194	10.33	0.1033	27.49	
Hexane	22	86.18	13.714	13.724	550740	7.37	0.0737	19.16	
Chloroform	22	119.38	13.875	13.874	26959	0.43	0.0043	0.81	J
Tetrahydrofuran	22	72.11	14.607	14.628	10795	0.40	0.0040	1.24	J
Butanenitrile	29	69.11	15.802	15.769	339376	3.92	0.0392	12.71	
Benzene	29	78.11	16.675	16.695	70428	0.41	0.0041	1.18	J
Carbon Tetrachloride	29	153.82	16.965				0.0017	0.25	U
2-Pentanone	29	86.13	17.342	17.341	879969	6.76	0.0676	17.57	
1-Butanol	29	74.12	16.298	16.254	1048974	22.63	0.2263	68.40	
3-Methylhexane	29	100.20	17.902	17.858	668538	6.02	0.0602	13.46	
1,4-Dioxane	29	88.11	18.602				0.0047	1.19	U
Heptane	29	100.20	19.183	19.204	1790821	44.56	0.4456	99.61	
4-Methyl-2-Pentanone	29	100.16	20.400	20.377	77745	0.76	0.0076	1.70	J
1,1,2-Trichloroethane	29	133.40	21.875	21.906	9309	0.30	0.0030	0.51	J

02/26/99 14:29

29010605.D

Page 1

E02 046-Q

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Toluene	41	92.14	22.521	22.541	205660	2.61	0.0261	6.35	
2-Hexanone	41	100.16	22.941	22.940	1066964	14.15	0.1415	31.65	
Octane	41	114.23	24.577	24.608	256510	8.56	0.0856	16.78	
Tetrachloroethylene	41	165.83	25.051	25.104	15671	0.51	0.0051	0.69	J
Chlorobenzene	41	112.56	26.677				0.0013	0.26	U
Ethylbenzene	41	106.17	27.559	27.580	19432	0.15	0.0015	0.33	J
p/m-Xylene	41	106.17	27.958	27.989	13516	0.26	0.0026	0.56	J
3-Heptanone	41	114.19	28.076	28.064	10550150	229.85	2.2985	450.88	
2-Heptanone	53	114.19	28.216	28.204	3856786	62.70	0.6270	123.00	
Cyclohexanone	53	98.14	28.432	28.420	250377	19.50	0.1950	44.52	
Styrene	53	104.15	28.905				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	53	167.85	29.142	29.120	16856	0.36	0.0036	0.49	J
o-Xylene	53	106.17	29.228				0.0014	0.30	U
Nonane	53	128.26	29.648	29.669	414894	6.12	0.0612	10.69	
1,2,4-Trimethylbenzene	53	120.19	34.095				0.0014	0.26	U
Bromochloromethane (IS)	22	129.40	13.649	13.659	4211764	120.00	1.2000	207.73	B
Difluorobenzene (IS)	29	114.00	17.234	17.244	12239932	97.00	0.9700	190.60	
Chlorobenzene-d5 (IS)	41	119.56	26.569	26.600	10063065	111.00	1.1100	207.96	
1-Bromo-4-Fluorobenzene (IS)	53	174.00	30.391	30.412	6254962	180.00	1.8000	231.72	
2-Octanone	53	128.21	33.061	33.114	85233	2.54	0.0254	4.45	J
Decane	53	142.20	34.332	34.352	634003	16.32	0.1632	25.71	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Unknown	22	0		3.930	5725405	39.98	0.3998		J
Unknown	22	0		4.102	2046995	14.29	0.1429		J
Unknown	22	0		5.326	2658141	18.56	0.1856		J
Unknown	22	0		8.017	1978421	13.81	0.1381		J
Unknown	29	0		19.053	7245969	24.39	0.2439		J
Unknown	29	0		19.430	8009811	26.96	0.2696		J
Unknown	29	0		19.925	5983265	20.14	0.2014		J
Unknown	41	0		22.843	3986314	15.02	0.1502		J
Unknown	41	0		23.273	12767218	48.10	0.4810		J
Unknown	41	0		23.941	8707769	32.81	0.3281		J
Unknown	41	0		27.429	8408446	31.68	0.3168		J
Unknown	53	0		31.176	4274285	23.81	0.2381		J
Unknown	53	0		38.691	3321370	18.51	0.1851		J
Unknown	53	0		42.728	4073886	22.70	0.2270		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	22	17185714
Difluorobenzene (IS)	29	28818586
Chlorobenzene-d5 (IS)	41	29461815
1-Bromo-4-Fluorobenzene (IS)	53	32306748

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

B--Exceeds upper quantitation limit

E02 046-R

02/26/99 14:29

29010605.D

Page 2

E02 046-S

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-014.C298; 200 ml; 2X

HNF-4073
REV 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-014.C298; 200 ml; 2X

02/26/99 14:29

29010605.D

Page 4

E02 046-u

HNF-4073

Rev. 0

SUMMA BATCH FILE

19010502.b

E02 047

AY-102 Case Narrative (batch file 19010502.b)

This analytical sequence was run using 200 ml volumes to quantify target compounds in each AY-102 tank sample at a dilution of 2X.

Tetradecane surpassed 0.05 RF criteria for the initial calibration.

Due to the initial calibration performance the uncertainty associated with the results is higher than normal.

Nine target compounds (chloromethane – 49.5 %, methanol – 46.4 %, vinyl chloride – 61.9 %, butane – 60.9 %, bromomethane – 34.6 %, chloroethane – 39.7%, acetonitrile – 48.7%, pyridine – 86.4% and tetradecane – 54.9%) were outside the 25% Difference acceptance criteria for the continuing calibration verification (CCV) sample. However, the CCV passed the procedural criterion requiring $\pm 25\%$ D passage for 85% of all target compounds.

Results of tetradecane determinations were mentioned above. Methanol and butane were found in all tank samples at concentrations between their EQL and UQL. Vinyl chloride and bromomethane were not found in the tank samples at concentrations higher than their IDL. Acetonitrile and chloromethane were found in both samples at concentrations between their IDL and EQL.

No target compound was detected in the CCB above its EQL.

After completing a valid BFB tune, the 12-hour clock criterion for an analytical sequence was not exceeded within the batch.

The tank sample's internal standard quant area % recoveries were within the acceptance criterion ($50\% < \text{quant} < 200\%$) allowed by TVP-03, Rev. 1.

Instrument detection limits, precision, and accuracy have not been experimentally evaluated for methanol, ethanol. Sample results are flagged with a "J" when the absolute number of nanograms calculated in the sample is less than the lowest concentration standard used in the initial calibration. Methanol and ethanol results falling within their calibration range are quantitative results as evidenced by a valid calibration for these compounds.

Miller 2/22/99

Rev. 0

Data File : C:\HPCHEM\1\DATA\19010501.B\19010501.D

Acq On : 18 Nov 98 9:19 pm

Sample : Tune Check BFB

Misc : Tune Check BFB 56391-5-01

Vial: 1
Operator: Alex

Inst : System 1

Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\SUM1601.M

Title : exp

Peak Apex is scan: 2620

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.3	18744	PASS
75	95	30	66	43.3	42112	PASS
95	95	100	100	100.0	97232	PASS
96	95	5	9	6.5	6291	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	89.2	86696	PASS
175	174	4	9	7.2	6229	PASS
176	174	93	101	97.7	84680	PASS
177	176	5	9	6.7	5647	PASS

SAMPLE INFORMATION SUMMARY

HNF-4073
Rev. 0

BATCH: /chem/hpdos1.i/19010502.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
19010502.D	19-NOV-98 22:22	Continuing Cal	1.00	hpdos1	InCal2_53097.m	
19010503.D	19-NOV-98 00:09	Unknown	1.00	hpdos1	InCal2_53097.m	19010502.b
19010504.D	19-NOV-98 01:44	Unknown	2.00	hpdos1	InCal2_53097.m	19010502.b
19010505.D	19-NOV-98 03:17	Unknown	2.00	hpdos1	InCal2_53097.m	19010502.b

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
19010502.D	GAS	VAPOR	CCV	SDGa12870	200mL	SDGa12870
19010503.D	GAS	VAPOR	CCB	SDGa12870	200mL Nitrogen	SDGa12870
19010504.D	GAS	VAPOR	AY-102 VP102-006.C042	2	200 ml 2X	SDGa12870
19010505.D	GAS	VAPOR	AY-102 VP102-002.C050	0	200 ml 2X	SDGa12870

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
19010502.D	all1.sub		1038552	1038553	1035843	1038550
19010503.D	all1.sub		1038556	1038553	1035843	1038550
19010504.D	all1.sub		1038557	1038553	1035843	1038550
19010505.D	all1.sub		1038558	1038553	1035843	1038550

Page 1

E02 050

INTERNAL STANDARD AREA SUMMARY (as of 02/04/99 16:39)

Datafile	Internal Standard	RT	TotalArea	QuantArea	AreaRatio	Percent
19010502.D	Bromochloromethane (IS)	13.68	53102701	2921164	18.18	100.00
19010502.D	Difluorobenzene (IS)	17.22	57649516	8086065	7.13	100.00
19010502.D	D5-Chlorobenzene (IS)	26.55	24425703	8495061	2.88	100.00
19010502.D	1-Bromo-4-Fluorobenzene (IS)	30.38	26267099	5229486	5.02	100.00
19010503.D	Bromochloromethane (IS)	13.63	13788228	3267194	4.22	111.85
19010503.D	Difluorobenzene (IS)	17.20	22875838	10402259	2.20	128.64
19010503.D	D5-Chlorobenzene (IS)	26.55	23187348	8054335	2.88	94.81
19010503.D	1-Bromo-4-Fluorobenzene (IS)	30.39	22255417	4383850	5.08	83.83
19010504.D	Bromochloromethane (IS)	13.63	13127000	3077161	4.27	105.34
19010504.D	Difluorobenzene (IS)	17.20	23327710	9901227	2.36	122.45
19010504.D	D5-Chlorobenzene (IS)	26.56	23549848	8055132	2.92	94.82
19010504.D	1-Bromo-4-Fluorobenzene (IS)	30.39	24821704	4849448	5.12	92.73
19010505.D	Bromochloromethane (IS)	13.63	12301196	3320088	3.71	113.66
19010505.D	Difluorobenzene (IS)	17.20	22667178	9795004	2.31	121.13
19010505.D	D5-Chlorobenzene (IS)	26.56	23080311	7935074	2.91	93.41
19010505.D	1-Bromo-4-Fluorobenzene (IS)	30.39	24001614	4731606	5.07	90.48

HNF-4073
Rev. 0

Pacific Northwest National Laboratory

CONTINUING CALIBRATION COMPOUNDS

HNF-4073
Rev. 0

Instrument ID: hpdos1.i
Lab File ID: 19010502.D
Analysis Type: AIR
Lab Sample ID: CCV
Quant Type: ISTD

Injection Date: 18-NOV-98 22:22
Init. Calibration Date(s): 06/06/97 06/06/97
Init. Calibration Times: 10:35 16:58
Method File: /chem/hpdos1.i/19010502.B/InCal2_53097.

COMPOUND	RRF	RF200	RRF	%D	%D
1 Dichlorodifluoromethane	2.257	2.530	0.050	12.1	25.0
2 Chloromethane	1.420	2.124	0.050	49.5	25.0
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	1.033	1.216	0.050	17.7	25.0
4 Methanol	1.159	1.696	0.050	46.4	25.0
5 Vinyl Chloride	0.726	1.175	0.050	61.9	25.0
7 Butane	0.350	0.564	0.050	60.9	25.0
8 Bromomethane	0.380	0.512	0.050	34.6	25.0
9 Chloroethane	0.767	0.463	0.050	39.7	25.0
10 Ethanol	2.247	1.687	0.050	24.9	25.0
11 Acetonitrile	3.138	1.611	0.050	48.7	25.0
12 Acetone	4.744	3.929	0.050	17.2	25.0
13 Trichlorofluoromethane	2.010	1.616	0.050	19.6	25.0
14 Pentane	3.927	3.639	0.050	7.3	25.0
15 1,1-Dichloroethene	1.047	0.992	0.050	5.3	25.0
16 Methylene Chloride	1.183	1.042	0.050	11.9	25.0
17 1,1,2-trichloro-1,2,2-trifluoroethane	0.958	0.993	0.050	3.6	25.0
18 Propanenitrile	1.789	1.675	0.050	6.4	25.0
19 Propanol	1.799	1.894	0.050	5.3	25.0
20 1,1-Dichloroethane	2.189	2.211	0.050	1.0	25.0
21 2-Butanone	1.168	1.128	0.050	3.4	25.0
22 cis-1,2-Dichloroethene	1.163	1.202	0.050	3.5	25.0
24 Hexane	2.403	2.184	0.050	9.1	25.0
25 Chloroform	2.015	2.084	0.050	3.4	25.0
26 Tetrahydrofuran	0.902	0.916	0.050	1.5	25.0
27 1,2-Dichloroethane	0.450	0.484	0.050	7.7	25.0
28 1,1,1-Trichloroethane	0.447	0.472	0.050	5.7	25.0
29 Butanenitrile	1.072	1.141	0.050	6.5	25.0
30 1-Butanol	0.202	0.195	0.050	3.6	25.0
31 Benzene	1.288	1.460	0.050	13.4	25.0
32 Carbon Tetrachloride	0.422	0.472	0.050	11.7	25.0
33 Cyclohexane	0.500	0.502	0.050	0.3	25.0
35 1,2-Dichloropropane	0.369	0.404	0.050	9.3	25.0
36 Trichloroethene	0.346	0.376	0.050	8.9	25.0
37 Heptane	0.444	0.437	0.050	1.4	25.0
38 cis-1,3-Dichloropropene	0.452	0.482	0.050	6.8	25.0
39 4-Methyl-2-Pentanone	0.420	0.494	0.050	17.4	25.0
40 Pyridine	0.715	0.097	0.050	86.4	25.0
41 trans-1,3-Dichloropropene	0.311	0.317	0.050	2.1	25.0
42 Pentanenitrile	0.368	0.404	0.050	9.8	25.0
43 1,1,2-Trichloroethane	0.279	0.305	0.050	9.2	25.0

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: hpdos1.i
Lab File ID: 19010502.D
Analysis Type: AIR
Lab Sample ID: CCV
Quant Type: ISTD

Injection Date: 18-NOV-98 22:22
Init. Calibration Date(s): 06/06/97 06/06/97
Init. Calibration Times: 10:35 16:58
Method File: /chem/hpdos1.i/19010502.B/InCal2_53097.

COMPOUND	RRF	RF200	RRF	%D	%D
44 Toluene	0.900	0.914	0.050	1.5	25.0
45 1,2-Dibromoethane	0.369	0.361	0.050	2.3	25.0
46 Octane	0.456	0.440	0.050	3.4	25.0
47 Bromoform	0.466	0.472	0.050	1.3	25.0
48 Tetrachloroethylene	0.314	0.333	0.050	6.3	25.0
50 Chlorobenzene	0.991	0.997	0.050	0.6	25.0
51 Hexanenitrile	0.519	0.535	0.050	3.2	25.0
52 Ethylbenzene	1.620	1.629	0.050	0.6	25.0
53 p/m-Xylene	0.627	0.595	0.050	5.0	25.0
54 Cyclohexanone	0.263	0.257	0.050	2.2	25.0
55 Styrene	2.161	1.738	0.050	19.6	25.0
56 1,1,2,2-Tetrachloroethane	1.289	1.336	0.050	3.6	25.0
57 o-Xylene	1.409	1.488	0.050	5.6	25.0
58 Nonane	2.542	2.636	0.050	3.7	25.0
60 1-Ethyl-2-Methyl-Benzene	3.134	3.314	0.050	5.7	25.0
61 1,3,5-Trimethylbenzene	2.714	2.821	0.050	3.9	25.0
62 1,2,4-Trimethylbenzene	2.699	2.741	0.050	1.5	25.0
63 Decane	1.600	1.597	0.050	0.2	25.0
64 1,3-Dichlorobenzene	1.655	1.761	0.050	6.4	25.0
65 1,4-Dichlorobenzene	1.625	1.723	0.050	6.0	25.0
66 1,2-Dichlorobenzene	1.465	1.536	0.050	4.8	25.0
67 Undecane	0.355	0.367	0.050	3.3	25.0
68 1,2,4-Trichlorobenzene	0.468	0.570	0.050	21.8	25.0
69 Dodecane	0.410	0.375	0.050	8.7	25.0
70 Hexachloro-1,3-butadiene	0.375	0.422	0.050	12.7	25.0
71 Tridecane	0.275	0.214	0.050	22.2	25.0
72 Tetradecane	0.019	0.009	0.050	54.9	25.0

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

INITIAL CALIBRATION DATA

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Calibration File Names:

Level 1: /chem/hpdos1.i/17060603.b/17060601.d
 Level 2: /chem/hpdos1.i/17060603.b/17060602.d
 Level 3: /chem/hpdos1.i/17060603.b/17060603.d
 Level 4: /chem/hpdos1.i/17060603.b/17060605.d
 Level 6: /chem/hpdos1.i/17060603.b/17060606.d
 Level 7: /chem/hpdos1.i/17060603.b/17060607.d

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRP	% RSD
1 Dichlorodifluoromethane	2.43862	2.21722	2.14282	2.48912	2.30074	1.95123	2.25700	8.794
2 Chloromethane	1.51670	1.36577	1.28327	1.66862	1.44729	1.23883	1.42000	11.195
3 1,2-dichloroethane	1.15696	1.03824	1.00931	1.11913	0.95411	0.92118	1.03300	8.881
4 Methanol	1.25346	1.16123	1.09867	1.29715	1.16982	0.97297	1.15900	9.942
5 Vinyl Chloride	0.71266	0.66882	0.65695	0.81333	0.77441	0.72917	0.72590	8.310
6 1,3-Butadiene	++++	++++	++++	++++	++++	++++	++++	++++
7 Butane	0.34398	0.31603	0.30881	0.37911	0.38102	0.37213	0.35020	9.197
8 Bromomethane	0.37120	0.34556	0.34262	0.42377	0.41003	0.38728	0.38010	8.751
9 Chloroethane	0.69294	0.74027	0.73558	0.80065	0.78056	0.85420	0.76740	7.396
10 Ethanol	2.33627	2.28573	2.21551	2.45731	2.10420	2.08464	2.24700	6.338
11 Acetonitrile	3.28791	3.10332	2.96812	3.46874	3.10207	2.89528	3.13800	6.718
12 Acetone	5.45540	4.89912	4.61756	5.24640	4.33599	3.90917	4.74400	12.153
13 Trichlorofluoromethane	2.04790	1.83001	1.79202	2.17301	2.08433	2.13406	2.01000	7.985
14 Pentane	4.26438	3.85542	3.71679	4.44576	3.80975	3.47097	3.92718	9.209
15 1,1-Dichloroethene	1.02274	0.91480	0.91574	1.10362	1.12103	1.20364	1.04700	11.181
16 Methylene Chloride	1.23125	1.06542	1.03565	1.21823	1.23680	1.31207	1.18300	9.154
17 1,1,2-trichloroethane	0.94001	0.82539	0.82920	0.99190	1.03530	1.12834	0.95840	12.402
18 Propanenitrile	1.92391	1.79091	1.70988	1.99267	1.73228	1.58660	1.78900	8.294
19 Propanol	2.10040	1.88320	1.80504	2.08617	1.55076	1.36782	1.79890	16.264
20 1,1-Dichloroethane	2.23981	2.03770	1.98200	2.33671	2.27178	2.26540	2.18890	6.552
21 2-Butanone	1.19644	1.10909	1.08435	1.28664	1.18454	1.14876	1.16800	6.172
22 cis-1,2-Dichloroethene	1.12732	1.02685	1.01888	1.20742	1.27325	1.30987	1.16100	10.640
24 Hexane	2.88095	2.52056	2.41983	2.73619	2.15002	1.70990	2.40300	17.636
25 Chloroform	2.07444	1.85421	1.81941	2.12416	2.11530	2.10292	2.01500	6.925
26 Tetrahydrofuran	0.86957	0.81350	0.80200	0.96237	0.96959	0.99783	0.90250	9.439
27 1,2-Dichloroethane	0.43891	0.40298	0.38542	0.47386	0.47183	0.52574	0.44980	11.461

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HNF-4073

INITIAL CALIBRATION DATA

Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
28 1,1,1-Trichloroethane	0.45189	0.40828	0.39368	0.47799	0.46542	0.48342	0.44680	8.369
29 Butanenitrile	1.20704	1.11050	1.04656	1.21895	0.93633	0.91047	1.07200	12.271
30 1-Butanol	0.20749	0.19006	0.17665	0.23326	0.19447	0.21209	0.20230	9.761
31 Benzene	1.25728	1.14460	1.11280	1.33554	1.34939	1.53041	1.28800	11.873
32 Carbon Tetrachloride	0.40288	0.36319	0.35398	0.44031	0.45646	0.51784	0.42240	14.653
33 Cyclohexane	0.57805	0.49512	0.46019	0.55230	0.46170	0.45591	0.50050	10.513
35 1,2-Dichloropropane	0.37408	0.33321	0.31771	0.39037	0.38123	0.41983	0.36940	10.220
36 Trichloroethene	0.33845	0.30906	0.29949	0.36774	0.36606	0.39292	0.34560	10.560
37 Heptane	0.47230	0.43007	0.41365	0.50164	0.43896	0.40409	0.44350	8.350
38 cis-1,3-Dichloropropene	0.42950	0.40459	0.39475	0.49761	0.47756	0.50569	0.45160	10.688
39 4-Methyl-2-Pentanone	0.44922	0.41369	0.39148	0.47706	0.38758	0.40368	0.42050	8.428
40 Pyridine	0.74450	0.65035	0.61730	0.81950	0.71325	0.74466	0.71490	10.163
41 trans-1,3-Dichloropropene	0.28504	0.27757	0.26849	0.34413	0.33239	0.35709	0.31080	12.276
42 Pentanenitrile	0.37851	0.35454	0.33769	0.41598	0.35567	0.36492	0.36790	7.368
43 1,1,2-Trichloroethane	0.27063	0.24933	0.24070	0.30528	0.29478	0.31256	0.27890	10.737
44 Toluene	0.96561	0.87608	0.87112	1.04495	0.89074	0.75183	0.90010	10.972
45 1,2-Dibromoethane	0.38994	0.35145	0.35511	0.43452	0.37184	0.31318	0.36930	11.069
46 Octane	0.48174	0.44086	0.44653	0.54029	0.45429	0.36995	0.45560	12.217
47 Bromoform	0.43323	0.41873	0.42953	0.55635	0.51617	0.44458	0.46640	12.043
48 Tetrachloroethylene	0.32676	0.29200	0.29846	0.37138	0.32923	0.26300	0.31350	11.946
50 Chlorobenzene	1.09890	0.96828	0.96251	1.15541	0.96969	0.79105	0.99100	12.799
51 Hexanenitrile	0.59961	0.55446	0.54595	0.63118	0.43524	0.34496	0.51860	20.835
52 Ethylbenzene	1.76694	1.63023	1.61026	1.93511	1.53765	1.24094	1.62000	14.384
53 p/m-Xylene	0.70370	0.64289	0.63834	0.77037	0.58102	0.42493	0.62690	18.843
54 Cyclohexanone	0.28661	0.26115	0.24924	0.31865	0.24845	0.21561	0.26330	13.487
55 Styrene	2.17696	2.10051	2.12953	2.53465	2.16265	1.86392	2.16100	9.983
60 1,1,2,2-Tetrachloroethane	1.49708	1.34361	1.32572	1.51752	1.14624	0.90150	1.28900	18.046
57 o-Xylene	1.50299	1.41727	1.42008	1.69164	1.35059	1.06866	1.40900	14.486
58 Nonane	3.09792	2.83073	2.76713	3.03283	1.96311	1.55904	2.54200	24.791
61 1-Ethyl-2-Methyl-Benzene	3.23089	3.19082	3.16107	3.78398	3.00123	2.43646	3.13400	13.835
60 1,3,5-Trimethylbenzene	2.85800	2.75168	2.72974	3.24772	2.57358	2.12440	2.71400	13.533
62 1,2,4-Trimethylbenzene	2.77520	2.74984	2.71140	3.24214	2.56270	2.15471	2.69900	13.028
63 Decane	1.95316	1.82047	1.76343	1.90270	1.18211	0.97712	1.60000	25.837
64 1,3-Dichlorobenzene	1.59354	1.58350	1.61639	2.00362	1.70320	1.43165	1.65500	11.593

Pacific Northwest National Laboratory

HNF-4073

INITIAL CALIBRATION DATA

Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdosl.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10	30	50	100	300	450	RRF	% RSD
Level 1	Level 2	Level 3	Level 4	Level 6	Level 7			
65 1,4-Dichlorobenzene	1.57185	1.56049	1.59150	1.98394	1.64309	1.39866	1.62500	11.949
66 1,2-Dichlorobenzene	1.43440	1.40496	1.42115	1.76383	1.47400	1.28979	1.46500	10.861
67 Undecane	0.31703	0.34344	0.34966	0.43709	0.35929	0.32633	0.35550	12.055
68 1,2,4-Trichlorobenzene	0.33583	0.39450	0.43207	0.50291	0.57264	0.56758	0.46760	20.567
69 Dodecane	0.34700	0.38982	0.42963	0.48048	0.41909	0.39707	0.41050	10.882
70 Hexachloro-1,3-butadiene	0.37281	0.35925	0.36522	0.41551	0.38933	0.34633	0.37470	6.554
71 Tridecane	0.26054	0.31961	0.34992	0.30368	0.22299	0.19515	0.27530	21.620
72 Tetradecane	0.01457	0.02319	0.02140	0.02540	0.01595	0.01452	0.01917	24.807

HNF-4073
Rev. 0

Pacific Northwest National Laboratory

Data file : /chem/hpdos1.i/19010502.b/19010502.D
Lab Smp Id: CCV Client Smp ID: 200mL
Inj Date : 18-NOV-1998 22:22
Operator : Alex Inst ID: hpdos1.i
Smp Info : CCV; 200mL; 54934-151-01
Misc Info :
Comment :
Method : /chem/hpdos1.i/19010502.b/InCal2_53097.m
Meth Date : 04-Feb-1999 16:38 john Quant Type: ISTD
Cal Date : 18-NOV-1998 22:22 Cal File: 19010502.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all1.sub
Target Version: 3.10

Compounds	QUANT SIG						AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE		CAL-AMT	ON-COL
							(ng)	(ng)
-----	----	---	-----	-----	-----	-----	-----	-----
1 Dichlorodifluoromethane	85.00	4.636	4.636	(0.340)	6651536	108.0	121.1	
2 Chloromethane	50.00	5.013	5.013	(0.368)	2331368	45.10	67.44	
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	85.00	5.228	5.228	(0.384)	4527222	153.0	180.0	
4 Methanol	31.00	5.325	5.325	(0.391)	4872962	118.0	172.7 (Q)	
5 Vinyl Chloride	62.00	5.508	5.508	(0.404)	1595906	55.80	90.31	
7 Butane	43.00	5.928	5.928	(0.435)	1301851	94.90	152.7	
8 Bromomethane	94.00	6.402	6.402	(0.470)	1056093	84.80	114.1	
9 Chloroethane	64.00	6.747	6.747	(0.495)	649226	57.60	34.75	
10 Ethanol	31.00	6.887	6.887	(0.506)	4641342	113.0	84.85	
11 Acetonitrile	41.00	7.382	7.382	(0.542)	4665631	119.0	61.08 (Q)	
12 Acetone	43.00	7.878	7.878	(0.578)	11669761	122.0	101.0 (M)	
13 Trichlorofluoromethane	101.00	8.276	8.276	(0.608)	4839386	123.0	98.90 (M)	
14 Pentane	43.00	8.944	8.944	(0.657)	7193316	81.20	75.24	
15 1,1-Dichloroethane	96.00	9.493	9.493	(0.697)	2090628	86.60	82.03	
16 Methylene Chloride	84.00	9.666	9.666	(0.710)	1922057	75.80	66.74	
17 1,1,1-Trichloro-2,2,2-trifluoroethane	151.00	10.161	10.161	(0.746)	4038276	167.0	173.1	
18 Propanenitrile	54.00	10.893	10.893	(0.800)	7300179	179.0	167.6	
19 Propanol	31.00	10.861	10.861	(0.798)	4655554	101.0	106.3	
20 1,1-Dichloroethane	63.00	11.798	11.798	(0.866)	4758282	88.40	89.30	
21 2-Butanone	72.00	12.433	12.433	(0.913)	3515797	128.0	123.6 (Q)	
22 cis-1,2-Dichloroethane	96.00	13.317	13.317	(0.978)	2533096	86.60	89.63	
23 Bromochloromethane (IS)	49.00	13.618	13.618	(1.000)	2921164	120.0	(Q)	
24 Hexane	57.00	13.694	13.694	(1.006)	8667118	163.0	148.2	
25 Chloroform	83.00	13.844	13.844	(1.017)	5428856	107.0	110.7	
26 Tetrahydrofuran	72.00	14.587	14.587	(1.071)	2033507	91.20	92.56 (Q)	
27 1,2-Dichloroethane	62.00	15.255	15.255	(0.887)	3569933	88.40	95.21	
28 1,1,1-Trichloroethane	97.00	15.772	15.772	(0.917)	4662562	119.0	125.8	
29 Butanenitrile	41.00	15.740	15.740	(0.915)	10845717	114.0	121.4	
30 1-Butanol	56.00	16.214	16.214	(0.942)	2080248	128.0	123.4	

E02 057

HNF-4073
Rev. 0
AMOUNTS

Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng)	ON-COL (ng)
-----	----	----	--	-----	-----	-----	-----	-----
31 Benzene		78.00	16.655	16.655	(0.968)	8485930	69.70	79.03 (Q)
32 Carbon Tetrachloride		117.00	16.946	16.946	(0.985)	5388908	137.0	153.0
33 Cyclohexane		41.00	17.215	17.215	(1.001)	5403395	129.1	129.5 (Q)
* 34 Difluorobenzene (IS)		114.00	17.205	17.205	(1.000)	8086065	97.00	(Q)
35 1,2-Dichloropropane		63.00	18.217	18.217	(1.059)	3398446	101.0	110.4
36 Trichloroethene		95.00	18.659	18.659	(1.085)	3669602	117.0	127.4 (Q)
37 Heptane		71.00	19.165	19.165	(1.114)	4339879	119.0	117.4
38 cis-1,3-Dichloropropene		75.00	20.349	20.349	(1.183)	3584720	89.20	95.22
39 4-Methyl-2-Pentanone		43.00	20.360	20.360	(1.183)	6624898	161.0	189.0
40 Pyridine		79.00	20.608	20.608	(1.198)	844219	104.0	14.16 (Q)
41 trans-1,3-Dichloropropene		75.00	21.416	21.416	(1.245)	2360377	89.20	91.10
42 Pentanenitrile		54.00	21.437	21.437	(1.246)	3638188	108.0	118.6
43 1,1,2-Trichloroethane		83.00	21.846	21.846	(1.270)	3021876	119.0	130.0
44 Toluene		92.00	22.503	22.503	(0.847)	5756622	82.30	83.57 (Q)
45 1,2-Dibromoethane		107.00	24.033	24.033	(0.905)	4638050	168.0	164.1
46 Octane		85.00	24.571	24.571	(0.925)	2631663	78.10	75.47
47 Bromoform		173.00	28.233	28.233	(1.063)	4266130	118.0	119.5 (Q)
48 Tetrachloroethylene		164.00	25.067	25.067	(0.944)	3773547	148.0	157.3 (Q)
* 49 D5-Chlorobenzene (IS)		117.00	26.553	26.553	(1.000)	8495061	111.0	(Q)
50 Chlorobenzene		112.00	26.661	26.661	(1.004)	7706769	101.0	101.6
51 Hexanenitrile		41.00	26.930	26.930	(1.014)	6309125	154.0	159.0
52 Ethylbenzene		91.00	27.544	27.544	(1.037)	11821025	94.80	95.34
53 p/m-Xylene		106.00	27.996	27.996	(1.054)	8658986	190.0	180.5 (Q)
54 Cyclohexanone		55.00	28.395	28.395	(1.069)	2145336	108.9	106.5 (Q)
55 Styrene		104.00	28.890	28.890	(0.951)	4696826	93.00	74.81 (Q)
56 1,1,2,2-Tetrachloroethane		83.00	29.116	29.116	(0.959)	5820654	150.0	155.4
57 o-Xylene		106.00	29.192	29.192	(0.961)	4098633	94.80	100.1 (Q)
58 Nonane		57.00	29.644	29.644	(0.976)	7105700	92.80	96.22
* 59 1-Bromo-4-Fluorobenzene (IS)		95.00	30.376	30.376	(1.000)	5229486	180.0	(Q)
60 1-Ethyl-2-Methyl-Benzene		105.00	32.584	32.584	(1.073)	10300568	107.0	113.1
61 1,3,5-Trimethylbenzene		105.00	32.810	32.810	(1.080)	8768986	107.0	111.2 (Q)
62 1,2,4-Trimethylbenzene		105.00	34.070	34.070	(1.122)	8519491	107.0	108.6 (Q)
63 Decane		43.00	34.318	34.318	(1.130)	7143536	154.0	153.7
64 1,3-Dichlorobenzene		146.00	34.587	34.587	(1.139)	6702272	131.0	139.4
65 1,4-Dichlorobenzene		146.00	34.792	34.792	(1.145)	6557894	131.0	138.9
66 1,2-Dichlorobenzene		146.00	35.912	35.912	(1.182)	5846009	131.0	137.4
67 Undecane		71.00	38.648	38.648	(1.272)	1184437	111.0	114.7
68 1,2,4-Trichlorobenzene		180.00	42.148	42.148	(1.388)	2681620	162.0	197.4 (QM)
69 Dodecane		71.00	42.676	42.676	(1.405)	1230187	113.0	103.2
70 Hexachloro-1,3-butadiene		225.00	43.979	43.979	(1.448)	2858989	233.0	262.6
71 Tridecane		57.00	46.467	46.467	(1.530)	591861	95.10	74.00
72 Tetradecane		57.00	50.258	50.258	(1.655)	20403	81.20	36.63 (M)

QC Flag Legend

Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

E02 058

Data File: /chem/hpdos1.i/19010502.b/19010502.D

Page 1

Date : 18-NOV-1998 22:22

Client ID: 200mL

Instrument: hpdos1.i

Sample Info: CCV; 200mL; 54934-151-01

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

E02 059

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCV; 200mL; 54934-151-01

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 19010502.D
 Injection Date : 18-NOV-1998 22:22 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCV
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CCALIB_5

VolumeFactor: 100 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	ng/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.636	4.636	6651536	121.06	1.2106	224.29	
Chloromethane	23	50.49	5.013	5.013	2331368	67.44	0.6744	299.22	
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.228	5.228	4527222	180.03	1.8003	235.95	
Methanol	23	32.04	5.325	5.325	4872962	172.72	1.7272	1207.51	
Vinyl Chloride	23	62.50	5.508	5.508	1595906	90.31	0.9031	323.69	
Butane	23	58.12	5.928	5.928	1301851	152.71	1.5271	588.56	
Bromomethane	23	94.94	6.402	6.402	1056093	114.14	1.1414	269.30	
Chloroethane	23	64.51	6.747	6.747	649226	34.75	0.3475	120.68	
Ethanol	23	46.01	6.887	6.887	4641342	84.85	0.8485	413.11	
Acetonitrile	23	41.05	7.382	7.382	4665631	61.08	0.6108	333.29	
Acetone	23	58.08	7.878	7.878	11669761	101.05	1.0105	369.73	
Trichlorofluoromethane	23	137.37	8.276	8.276	4839386	98.91	0.9891	161.28	
Pentane	23	72.15	8.944	8.944	7193316	75.24	0.7524	233.61	
1,1-Dichloroethene	23	96.94	9.493	9.493	2090628	82.03	0.8203	189.54	
Methylene Chloride	23	84.93	9.666	9.666	1922057	66.74	0.6674	176.03	
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.161	10.161	4038276	173.09	1.7309	206.92	
Propanenitrile	23	55.08	10.893	10.893	7300179	167.63	1.6763	681.71	
Propanol	23	60.10	10.861	10.861	4655554	106.31	1.0631	396.24	
1,1-Dichloroethane	23	98.96	11.798	11.798	4758282	89.30	0.8930	202.13	
2-Butanone	23	72.11	12.433	12.433	3515797	123.65	1.2365	384.11	
cis-1,2-Dichloroethene	23	96.94	13.317	13.317	2533096	89.63	0.8963	207.10	
Hexane	23	86.18	13.694	13.694	8667118	148.17	1.4817	385.11	
Chloroform	23	119.38	13.844	13.844	5428856	110.68	1.1068	207.67	
Tetrahydrofuran	23	72.11	14.587	14.587	2033507	92.56	0.9256	287.53	
1,2-Dichloroethane	34	98.96	15.255	15.255	3569933	95.21	0.9521	215.51	
1,1,1-Trichloroethane	34	133.40	15.772	15.772	4686256	125.82	1.2582	211.27	
Butanenitrile	34	69.11	15.740	15.740	10845717	121.37	1.2137	393.37	
1-Butanol	34	74.12	16.214	16.214	2080248	123.35	1.2335	372.79	
Benzene	34	78.11	16.655	16.655	8485930	79.03	0.7903	226.65	
Carbon Tetrachloride	34	153.82	16.946	16.946	5388908	153.04	1.5304	222.87	
Cyclohexane	34	84.16	17.215	17.215	5403395	129.51	1.2951	344.70	
1,2-Dichloropropane	34	112.99	18.217	18.217	3398446	110.36	1.1036	218.79	
Trichloroethene	34	131.39	18.659	18.659	3669602	127.37	1.2737	217.15	

02/04/99 16:40

19010502.D

Page 1

E02 060

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.165	19.165	4339879	117.39	1.1739	262.42	
cis-1,3-Dichloropropene	34	110.97	20.349	20.349	3584720	95.22	0.9522	192.21	
4-Methyl-2-Pentanone	34	100.16	20.360	20.360	6624898	188.99	1.8899	422.67	
Pyridine	34	79.10	20.608	20.608	844219	14.17	0.1417	40.12	
trans-1,3-Dichloropropene	34	110.97	21.416	21.416	2360377	91.10	0.9110	183.90	
Pentanenitrile	34	83.13	21.437	21.437	3638188	118.63	1.1863	319.65	
1,1,2-Trichloroethane	34	133.40	21.846	21.846	3021876	129.98	1.2998	218.25	
Toluene	49	92.14	22.503	22.503	5756622	83.57	0.8357	203.16	
1,2-Dibromoethane	49	187.86	24.033	24.033	4638050	164.10	1.6410	195.67	
Octane	49	114.23	24.571	24.571	2631663	75.47	0.7547	148.00	
Bromoform	49	175.00	28.233	28.233	4266130	119.52	1.1952	152.98	
Tetrachloroethylene	49	165.83	25.067	25.067	3773547	157.28	1.5728	212.45	
Chlorobenzene	49	112.56	26.661	26.661	7706769	101.61	1.0161	202.22	
Hexanenitrile	49	97.13	26.930	26.930	6309125	158.96	1.5896	366.60	
Ethylbenzene	49	106.17	27.544	27.544	11821025	95.34	0.9534	201.16	
p/m-Xylene	49	106.17	27.996	27.996	8658986	180.48	1.8048	380.78	
Cyclohexanone	49	98.14	28.395	28.395	2145336	106.46	1.0646	243.00	
Styrene	59	104.15	28.890	28.890	4696826	74.81	0.7481	160.90	
1,1,2,2-Tetrachloroethane	59	167.85	29.116	29.116	5820654	155.43	1.5543	207.42	
o-Xylene	59	106.17	29.192	29.192	4098633	100.12	1.0012	211.25	
Nonane	59	128.26	29.644	29.644	7105700	96.22	0.9622	168.04	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.584	32.584	10300568	113.13	1.1313	210.84	
1,3,5-Trimethylbenzene	59	120.19	32.810	32.810	8768986	111.21	1.1121	207.27	
1,2,4-Trimethylbenzene	59	120.19	34.070	34.070	8519491	108.65	1.0865	202.49	
Decane	59	142.28	34.318	34.318	7143536	153.68	1.5368	241.94	
1,3-Dichlorobenzene	59	147.00	34.587	34.587	6702272	139.39	1.3939	212.41	
1,4-Dichlorobenzene	59	147.00	34.792	34.792	6557894	138.91	1.3891	211.67	
1,2-Dichlorobenzene	59	147.00	35.912	35.912	5846009	137.35	1.3735	209.30	
Undecane	59	156.31	38.648	38.648	1184437	114.68	1.1468	164.34	
1,2,4-Trichlorobenzene	59	181.45	42.148	42.148	2681620	197.40	1.9740	243.68	
Dodecane	59	170.34	42.676	42.676	1230187	103.15	1.0315	135.64	
Hexachloro-1,3-butadiene	59	260.76	43.979	43.979	2858989	262.63	2.6263	225.61	
Tridecane	59	184.36	46.467	46.467	591861	74.00	0.7400	89.91	
Tetradecane	59	198.34	50.258	50.258	20403	36.63	0.3663	41.37	
Bromochloromethane (IS)	23	129.38	13.618	13.618	2921164	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.205	17.205	8086065	97.00	0.9700	190.60	
DS-Chlorobenzene (IS)	49	117.00	26.553	26.553	8495061	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.376	30.376	5229486	180.00	1.8000	231.72	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICS

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

E02 061

02/04/99 16:40

19010502.D

HNF-4073

Rev. 0

Page 2

E02 062

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : CCV; 200mL; 54934-151-01

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCV; 200mL; 54934-151-01

02/04/99 16:40

19010502.D

Page 4

E02 064

Data File: /chem/hpdos1.i/19010502.b/19010503.D

Page 1

Date : 19-NOV-1998 00:09

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB: 200mL Nitrogen

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

E02 065

Date : 19-NOV-1998 00:09

Instrument: hpdos1.i

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

E02 066

Date : 19-NOV-1998 00:09

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

16 Methylene Chloride

E02 067

Date : 19-NOV-1998 00:09

Client ID: 200mL Nitrogen

Sample Info: CCB; 200mL Nitrogen

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

70 Hexachloro-1,3-butadiene

E02 068

Date : 19-NOV-1998 00:09

Client ID: 200mL Nitrogen

Instrument: hpdos1.i

Sample Info: CCB: 200mL Nitrogen

Operator: Alex

HNF-4073

Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
2813-62-9	WILEY138.1	115847	3	C2H2D2	28
10102-43-9	WILEY138.1	115864	3	NO	30

.ALPHA.,.BETA.-D2-ETHYLENE

Nitrogen oxide (NO)

E02 069

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 19010503.D
 Injection Date : 19-NOV-1998 00:09 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCB
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.636				0.0007	0.13	U
Chloromethane	23	50.49	5.013				0.0006	0.27	U
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.228				0.0033	0.43	U
Methanol	23	32.04	5.325				0.0032	2.20	U
Vinyl Chloride	23	62.50	5.508				0.0004	0.14	U
Butane	23	58.12	5.928				0.0006	0.23	U
Bromomethane	23	94.94	6.402				0.0013	0.31	U
Chloroethane	23	64.51	6.747				0.0014	0.47	U
Ethanol	23	46.01	6.887				0.0010	0.49	U
Acetonitrile	23	41.05	7.382				0.0010	0.55	U
Acetone	23	58.08	7.878	7.942	71847	0.67	0.0034	1.30	J
Trichlorofluoromethane	23	137.37	8.276				0.0012	0.20	U
Pentane	23	72.15	8.944				0.0009	0.29	U
1,1-Dichloroethene	23	96.94	9.493				0.0009	0.22	U
Methylene Chloride	23	84.93	9.666	9.687	11025	0.39	0.0019	0.51	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.161				0.0010	0.12	U
Propanenitrile	23	55.08	10.893				0.0009	0.39	U
Propanol	23	60.10	10.861				0.0007	0.26	U
1,1-Dichloroethane	23	98.96	11.798				0.0005	0.11	U
2-Butanone	23	72.11	12.433				0.0007	0.22	U
cis-1,2-Dichloroethene	23	96.94	13.317				0.0009	0.20	U
Hexane	23	86.18	13.694				0.0008	0.21	U
Chloroform	23	119.38	13.844				0.0006	0.12	U
Tetrahydrofuran	23	72.11	14.587				0.0004	0.12	U
1,2-Dichloroethane	34	98.96	15.255				0.0005	0.12	U
1,1,1-Trichloroethane	34	133.40	15.772				0.0008	0.13	U
Butanenitrile	34	69.11	15.740				0.0009	0.28	U
1-Butanol	34	74.12	16.214				0.0008	0.24	U
Benzene	34	78.11	16.655				0.0004	0.11	U
Carbon Tetrachloride	34	153.82	16.946				0.0009	0.12	U
Cyclohexane	34	84.16	17.215				0.0009	0.24	U
1,2-Dichloropropane	34	112.99	18.217				0.0008	0.15	U
Trichloroethene	34	131.39	18.659				0.0006	0.10	U

02/04/99 16:40

19010503.D

Page 1

E02 070

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.165				0.0004	0.10	U
cis-1,3-Dichloropropene	34	110.97	20.349				0.0006	0.12	U
4-Methyl-2-Pentanone	34	100.16	20.360				0.0009	0.19	U
Pyridine	34	79.10	20.608				0.0046	1.32	U
trans-1,3-Dichloropropene	34	110.97	21.416				0.0004	0.09	U
Pentanenitrile	34	83.13	21.437				0.0011	0.28	U
1,1,2-Trichloroethane	34	133.40	21.846				0.0007	0.12	U
Toluene	49	92.14	22.503				0.0005	0.12	U
1,2-Dibromoethane	49	187.86	24.033				0.0013	0.16	U
Octane	49	114.23	24.571				0.0006	0.12	U
Bromoform	49	175.00	28.233				0.0029	0.38	U
Tetrachloroethylene	49	165.83	25.067				0.0011	0.14	U
Chlorobenzene	49	112.56	26.661				0.0006	0.13	U
Hexanenitrile	49	97.13	26.930				0.0013	0.30	U
Ethylbenzene	49	106.17	27.544				0.0007	0.15	U
p/m-Xylene	49	106.17	27.996				0.0033	0.69	U
Cyclohexanone	49	98.14	28.395				0.0015	0.33	U
Styrene	59	104.15	28.890				0.0005	0.12	U
1,1,2,2-Tetrachloroethane	59	167.85	29.116				0.0011	0.14	U
o-Xylene	59	106.17	29.192				0.0007	0.15	U
Nonane	59	128.26	29.644				0.0004	0.07	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.584				0.0004	0.08	U
1,3,5-Trimethylbenzene	59	120.19	32.810				0.0004	0.08	U
1,2,4-Trimethylbenzene	59	120.19	34.070				0.0006	0.12	U
Decane	59	142.28	34.318				0.0008	0.12	U
1,3-Dichlorobenzene	59	147.00	34.587				0.0004	0.07	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0004	0.07	U
1,2-Dichlorobenzene	59	147.00	35.912				0.0004	0.07	U
Undecane	59	156.31	38.648				0.0070	1.01	U
1,2,4-Trichlorobenzene	59	181.45	42.148				0.0007	0.09	U
Dodecane	59	170.34	42.676				0.0024	0.32	U
Hexachloro-1,3-butadiene	59	260.76	43.979	44.054	21061	2.05	0.0102	0.88	J
Tridecane	59	184.36	46.467				0.0015	0.18	U
Tetradecane	59	198.34	50.258				0.0011	0.12	U
Bromochloromethane (IS)	23	129.38	13.618	13.629	3267194	120.00	0.6000	103.88	
Difluorobenzene (IS)	34	114.00	17.205	17.204	10402259	97.00	0.4850	95.30	
D5-Chlorobenzene (IS)	49	117.00	26.553	26.564	8054335	111.00	0.5550	106.26	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.376	30.387	4383850	180.00	0.9000	115.86	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
.ALPHA.,.BETA.-D2-ETHYLENE	23	28	2813-62-9	3.802	797865	6.94	0.0347	27.78	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	13788228
Difluorobenzene (IS)	34	22875838
D5-Chlorobenzene (IS)	49	23187348
1-Bromo-4-Fluorobenzene (IS)	59	22255417

E02 071

CLP Qualifier Flags--
U--Compound not detected
J--Estimated quantity used for detection below EQL or for TICs
E--Exceeds upper quantitation limit
N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/04/99 16:40

19010503.D

Page 2

E02 072

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL Nitrogen

02/04/99 16:40

19010503.D

Page 4

E02 074

Data File: /chem/hpdos1.i/19010502.b/19010504.D

Page 1

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042;200 ml 2X

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

E02 075

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

1 Dichlorodifluoromethane

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

2 Chloromethane

E02 077

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

4 Methanol

E02 078

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

E02 079

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Ethanol

E02 C80

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Acetonitrile

E02 081

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

12 Acetone

E02 082

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006,C042;200 ml 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

13 Trichlorofluoromethane

E02 083

Date: 19-NOV-98 01:44

Client ID: 200 ml 2K

Sample Info: AY-102 VP102-006.C042;200 ml 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Pentane

E02 084

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

16 Methylene Chloride

F02 085

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006,C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0,32

HNF-4073

Rev. 0

Column phase: DB-1

17 112trichloro122trifluoroethane

F02 086

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanenitrile

E02 087

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

19 Propanol

F02 088

Date : 19-NOV-98 01:44

Client ID: 200 ml 2K

Instrument: hpdos1.1

Sample Info: AY-102 VP102-006.C042;200 ml 2K

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

21 2-Butanone

E02 089

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

E02 090

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

25 Chloroform

F02 091

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

F02 092

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Butanenitrile

E02 093

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

30 1-Butanol

E02 094

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.D042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

31 Benzene

E02 095

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

33 Cyclohexane

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.D042:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

37 Heptane

E02 097

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006,C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

39 4-Methyl-2-Pentanone

P02 098

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

40 Pyridine

E02 099

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

42 Pentanenitrile

E02 100

Date : 19-NOV-98 01:24

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Toluene

E02 101

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006,C042;200 ml 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

46 Octane

E02 102

Date : 19-NOV-98 01:44

Client ID: 200 ml 2K

Sample Info: AY-102 VP102-006.C042;200 ml 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 Tetrachloroethylene

Date : 19-NOV-98 01:44

Client ID: 200 ml 2K

Sample Info: AY-102 VP102-006.C042;200 ml 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

51 Hexanenitrile

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

54 Cyclohexanone

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

58 Nonane

E02 106

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

63 Decane

E02 107

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

67 Undecane

E02 108

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

69 Dodecane

E02 109

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

70 Hexachloro-1,3-butadiene

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

71 Tridecane

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Furan, 2,5-dihydro-	1708-29-8	nbs75k.1	62432	78	C4H6O	70

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	50	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Acetaldehyde	75-07-0	nbs75k.1	62264	4	C2H4O	44

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.1	131	9	CH3NO2	61
Ethylenediamine	107-15-3	nbs75k.1	120	5	C2H8N2	60
Monoethanolamine	141-43-5	nbs75k.1	133	5	C2H7NO	61

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	36	86	C2H4O	44
Acetaldehyde	75-07-0	nbs75k.1	62264	78	C2H4O	44
Acetaldehyde	75-07-0	nbs75k.1	62265	78	C2H4O	44

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	90	C4H8	56

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

1-Pentene

109-67-1

nbs75k.1

62466

86

C₅H₁₀

70

1-Pentene

109-67-1

nbs75k.1

230

86

C₅H₁₀

70

Cyclopropane, ethyl-

1191-96-4

nbs75k.1

227

78

C₅H₁₀

70

E02 117

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006,C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Silanol, trimethyl-	1066-40-6	nbs75k.l	62980	78	C ₃ H ₁₀ OSi	90
Silanol, trimethyl-	1066-40-6	nbs75k.l	907	72	C ₃ H ₁₀ OSi	90
Ethanethioamide	62-55-5	nbs75k.l	347	9	C ₂ H ₅ NS	75

E02 118

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006,C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62487	91	C4H8O	72
Butanal	123-72-8	WILEY138.1	116379	91	C4H8O	72
Butanal	123-72-8	nbs75k.1	62490	90	C4H8O	72

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62755	95	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84

E02 120

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	86	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	78	C7H14	98
1-Octene, 7-methyl-	13151-06-9	nbs75k.1	4641	59	C9H18	126

E02 121

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-192 VP102-006,C042:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

	CAS Number	Library	Entry	Quality	Formula	Weight
Pentanal	110-62-3	WILEY138.1	117024	87	C5H10O	86
Pentanal	110-62-3	nbs75k.1	62820	86	C5H10O	86
Pentanal	110-62-3	WILEY138.1	117028	78	C5H10O	86

E02 122

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63242	81	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	81	C7H14	98
1-Hexene	592-41-6	nbs75k.1	586	64	C6H12	84

E02 123

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-76-9	nbs75k.1	1339	94	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	95	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	91	C7H14	98

E02 124

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	1337	97	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene, (E)-	14686-13-6	WILEY138.1	898	96	C7H14	98

E02 125

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	94	C7H14	98
2-Heptene	592-77-8	nbs75k.1	1337	97	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	96	C7H14	98

E02 126

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	98	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	97	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	97	C7H12	96

E02 127

Data File: /chem/hpdos1.i/19010502.b/19010504.D

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Page 54

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	rhs75k.1	63386	91	C6H12O	100
2-Hexanone	591-78-6	rhs75k.1	63385	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117991	91	C6H12O	100

E02 128-A

Data File: /chem/hpdos1.i/19010502.b/19010504.D

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-192 VP102-006.C042:200 ml 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	91	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	91	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	86	C8H16	112

E02 128-B

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006,C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	64227	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119370	90	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	90	C8H18	114

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal	66-25-1	nbs75k.l	63408	90	C6H12O	100
Hexanal	66-25-1	nbs75k.l	1573	90	C6H12O	100
Hexanal	66-25-1	nbs75k.l	63409	90	C6H12O	100

Date : 19-NOV-98 01:44

Client ID: 200 ml 2K

Sample Info: AY-102 VP102-006,C042;200 ml 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	94	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	94	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha.)	4850-28-6	nbs75k.1	2684	86	C8H16	112

Data File: /chem/hpdos1.i/19010502.b/19010504.D

Date : 19-NOV-98 01:44

Client ID: 200 ml 2K

Sample Info: AY-102 VP102-006.C042;200 ml 2K

Instrument: hpdos1.i

Page 59

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64151	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	3092	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119314	91	C7H14O	114

HNF-4073
REVO

Data File: /chem/hpdos1.i/19010502.b/19010504.D

Date: 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Page 60

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	rhs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	WILEY138.1	119309	91	C7H14O	114
3-Heptanone	106-35-4	WILEY138.1	119310	91	C7H14O	114

E02 132-B

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042:200 ml 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119304	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119301	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119305	86	C7H14O	114

E02 133

Data File: /chem/hpdos1.i/19010502.b/19010504.D

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

Page 62

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		nbs75k.1	22401	64		128
2,2'-Bioxepane	74793-02-5	WILEY138.1	33981	59	C12H22O2	198
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	53	C6H13BO2	128

E02 134-A

Data File: /chem/hpdos1.i/19010502.b/19010504.D

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006,C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

1,2-Diethyl-1,4-epoxybutane

nbs75k.1

1373

59

128

GLYCOCYANIDINE

503-86-6

WILEY138.1

955

59

C3H5N3O

99

1-Ethylcyclohexanol

1940-18-7

WILEY138.1

6017

50

C8H16O

128

E02 134-B

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006, C042:200 ml 2X

Instrument: hpdos1.i

HMF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown C9 Alkene/Cycloalkane (mw 126)
1,3-Cyclobutanediol, 2,2,4,4-tetramethyl
Hexanal, 2-ethyl-
1-Octyn-3-ol, 4-ethyl-

CAS Number	Library	Entry	Quality	Formula	Weight
3010-96-6	nbs75k.1	66315	64	C8H16O2	144
123-05-7	nbs75k.1	65087	64	C8H16O	128
5877-42-9	nbs75k.1	67148	64	C10H18O	154

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-ethyl-	74764-46-8	nbs75k.1	4663	53	C ₉ H ₁₈	126
Cyclohexane, 1-ethyl-4-methyl-, cis-	4926-78-7	nbs75k.1	64934	43	C ₉ H ₁₈	126
Cyclohexane, 1-ethyl-4-methyl-, cis-	4926-78-7	nbs75k.1	64933	42	C ₉ H ₁₈	126

E02 136

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Hydrocarbon						
Butanedinitrile, 2,3-dimethyl-	16411-13-5	nbs75k.1	2112	38	C6H8N2	108
1,2-Nonadiene	22433-33-6	nbs75k.1	4223	33	C9H16	124
Hexanenitrile	628-73-9	nbs75k.1	63154	33	C6H11N	97

E02 137

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006,C042;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	66067	53	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66056	53	C10H20	140
3,7-Decadiene, 2,9-dimethyl-	74630-13-0	nbs75k.1	14176	53	C12H22	166

Date : 19-NOV-98 01:44

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-006.C042;200 ml 2X

Instrument: hpdos1.i

HNF-4073

Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 2-methyl	6975-98-0	nbs75k.1	19020	78		142
Dodecane, 4,6-dimethyl-	61141-72-8	nbs75k.1	22539	72	C14H30	198
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	25995	72	C15H32	212

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Sample Info : AY-102 VP102-006.C042;200 ml 2X

Instrument ID : hpdos1.1
 Method : InCal2 53097.m
 File : 19010504.D
 Injection Date : 19-NOV-98 01:44 Operator : Alex
 Matrix : AIR Lab. Sample ID: AY-102 VP102-006.C042
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.636	4.646	24856	0.38	0.0038	0.71	J
Chloromethane	23	50.49	5.013	5.023	7219	0.13	0.0013	0.59	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.228				0.0065	0.85	U
Methanol	23	32.04	5.325	5.346	960136	22.07	0.2207	154.31	
Vinyl Chloride	23	62.50	5.508				0.0008	0.29	U
Butane	23	58.12	5.928	5.938	331336	22.93	0.2293	88.37	
Bromomethane	23	94.94	6.402				0.0026	0.61	U
Chloroethane	23	64.51	6.747				0.0027	0.94	U
Ethanol	23	46.01	6.887	6.886	1356183	31.34	0.3134	152.60	
Acetonitrile	23	41.05	7.382	7.425	76068	1.84	0.0184	10.05	J
Acetone	23	58.08	7.878	7.877	3206418	31.82	0.3182	122.73	
Trichlorofluoromethane	23	137.37	8.276	8.286	181125	4.37	0.0437	7.13	
Pentane	23	72.15	8.944	8.954	288551	3.09	0.0309	9.60	
1,1-Dichloroethene	23	96.94	9.493				0.0019	0.44	U
Methylene Chloride	23	84.93	9.666	9.697	10109	0.38	0.0038	1.00	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.161	10.150	9865	0.39	0.0039	0.46	J
Propanenitrile	23	55.08	10.893	10.893	26425	0.62	0.0062	2.50	J
Propanol	23	60.10	10.861	10.871	282736	5.82	0.0582	21.70	
1,1-Dichloroethane	23	98.96	11.798				0.0010	0.23	U
2-Butanone	23	72.11	12.433	12.422	320627	11.08	0.1108	34.42	
cis-1,2-Dichloroethene	23	96.94	13.317				0.0017	0.39	U
Hexane	23	86.18	13.694	13.682	238771	4.26	0.0426	11.08	
Chloroform	23	119.38	13.844	13.844	27899	0.52	0.0052	0.98	J
Tetrahydrofuran	23	72.11	14.587	14.619	9643	0.41	0.0041	1.28	J
1,2-Dichloroethane	34	98.96	15.255				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.772				0.0016	0.27	U
Butanenitrile	34	69.11	15.740	15.739	344734	2.96	0.0296	9.59	
1-Butanol	34	74.12	16.214	16.213	1131959	56.88	0.5688	171.90	
Benzene	34	78.11	16.655	16.655	45467	0.30	0.0030	0.87	J
Carbon Tetrachloride	34	153.82	16.946				0.0017	0.25	U
Cyclohexane	34	84.16	17.215	17.236	12814	0.25	0.0025	0.67	J
1,2-Dichloropropane	34	112.99	18.217				0.0015	0.30	U
Trichloroethene	34	131.39	18.659				0.0012	0.20	U

02/04/99 16:40

19010504.D

Page 1

E02 140

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.165	19.164	592619	13.27	0.1327	29.67	
cis-1,3-Dichloropropene	34	110.97	20.349				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.360	20.360	41241	0.82	0.0082	1.83	J
Pyridine	34	79.10	20.608	20.715	104116	10.47	0.1047	29.66	
trans-1,3-Dichloropropene	34	110.97	21.416				0.0009	0.18	U
Pentanenitrile	34	83.13	21.437	21.426	52359	1.27	0.0127	3.42	J
1,1,2-Trichloroethane	34	133.40	21.846				0.0014	0.24	U
Toluene	49	92.14	22.503	22.503	95850	1.45	0.0145	3.51	
1,2-Dibromoethane	49	187.86	24.033				0.0026	0.31	U
Octane	49	114.23	24.571	24.581	84227	2.64	0.0264	5.17	
Bromoform	49	175.00	28.233				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.067	25.077	15003	0.62	0.0062	0.84	J
Chlorobenzene	49	112.56	26.661				0.0013	0.26	U
Hexanenitrile	49	97.13	26.930	26.940	28590	0.74	0.0074	1.70	J
Ethylbenzene	49	106.17	27.544				0.0014	0.30	U
p/m-Xylene	49	106.17	27.996				0.0065	1.37	U
Cyclohexanone	49	98.14	28.395	28.319	21924	1.17	0.0117	2.68	J
Styrene	59	104.15	28.890				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.116				0.0021	0.28	U
o-Xylene	59	106.17	29.192				0.0014	0.30	U
Nonane	59	128.26	29.644	29.643	132354	1.86	0.0186	3.26	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.584				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.810				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.070				0.0013	0.24	U
Decane	59	142.28	34.318	34.328	244711	5.69	0.0569	8.96	
1,3-Dichlorobenzene	59	147.00	34.587				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.912				0.0009	0.14	U
Undecane	59	156.31	38.648	38.658	91001	9.20	0.0920	13.18	J
1,2,4-Trichlorobenzene	59	181.45	42.148				0.0014	0.17	U
Dodecane	59	170.34	42.676	42.750	97341	9.64	0.0964	12.68	
Hexachloro-1,3-butadiene	59	260.76	43.979	43.989	11682	1.03	0.0103	0.88	J
Tridecane	59	184.36	46.467	46.606	75297	13.05	0.1305	15.85	
Tetradecane	59	198.34	50.258				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.618	13.628	3077161	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.205	17.204	9901227	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.553	26.563	8055132	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.376	30.386	4849448	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42	115-07-1	4.484	662831	6.06	0.0606	32.32	NJ
Propane	23	44	74-98-6	4.528	352359	3.22	0.0322	16.40	NJ
Methyl nitrite	23	61	624-91-9	4.818	91136	0.83	0.0083	3.06	NJ
Acetaldehyde	23	44	75-07-0	5.325	2693769	24.62	0.2462	125.36	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.745	738627	6.75	0.0675	27.01	NJ
1-Pentene	23	70	109-67-1	8.512	426665	3.90	0.0390	12.48	NJ
Silanol, trimethyl-	23	90	1066-40-6	11.539	232741	2.13	0.0213	5.30	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Butanal	23	72	123-72-8	12.239	2924502	26.73	0.2673	83.17	NJ
1-Hexene	23	84	592-41-6	13.101	1078520	9.86	0.0986	26.29	NJ
3-Heptene, (E)-	34	98	14686-14-7	17.645	143959	0.60	0.0060	1.37	NJ
Pentanal	34	86	110-62-3	17.829	3584259	14.90	0.1490	38.82	NJ
1-Heptene	34	98	592-76-7	18.539	628780	2.61	0.0261	5.98	NJ
3-Heptene	34	98	592-78-9	19.013	1517995	6.31	0.0631	14.43	NJ
2-Heptene	34	98	592-77-8	19.390	1364439	5.67	0.0567	12.97	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.886	1231630	5.12	0.0512	11.71	NJ
2-Heptyne	49	96	1119-65-9	22.804	1458188	6.87	0.0687	16.04	NJ
2-Hexanone	49	100	591-78-6	22.912	1480877	6.98	0.0698	15.64	NJ
2-Octene, (E)-	49	112	13389-42-9	23.030	759045	3.58	0.0358	7.16	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.235	4066032	19.16	0.1916	37.66	NJ
Hexanal	49	100	66-25-1	23.451	435256	2.05	0.0205	4.60	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.903	2288311	10.79	0.1079	21.57	NJ
4-Heptanone	49	114	123-19-3	27.392	5805222	27.36	0.2736	53.76	NJ
3-Heptanone	49	114	106-35-4	28.039	19794577	93.30	0.9330	183.33	NJ
2-Heptanone	49	114	110-43-0	28.168	5869443	27.67	0.2767	54.36	NJ
1,3-Diethyl-1,4-epoxybutane	59	128		30.936	1257428	9.12	0.0912	15.96	NJ
1,2-Diethyl-1,4-epoxybutane	59	128		31.140	1888708	13.70	0.1370	23.97	NJ
Unknown C9 Alkene/Cycloalkane (mw 126)	59	126		31.593	972549	7.05	0.0705	12.54	J
3-Heptene, 3-ethyl-	59	126	74764-46-8	32.540	209512	1.52	0.0152	2.70	NJ
Unknown Hydrocarbon	59	0		33.725	1053420	7.64	0.0764		J
Cyclohexane, (2-methylpropyl)-	59	140	1678-98-4	36.278	193737	1.40	0.0140	2.25	NJ
Decane, 2-methyl	59	142	6975-98-0	37.096	395265	2.87	0.0287	4.52	NJ

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	13127000
Difluorobenzene (IS)	34	23327710
D5-Chlorobenzene (IS)	49	23549848
1-Bromo-4-Fluorobenzene (IS)	59	24821704

CLP Qualifier Flags--

U--Compound not detected

E--Estimated quantity used for detection below EQL or for TICs

R--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/04/99 16:40

19010504.D

Page 3

E02 143

EO2 144

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-006.C042;200 ml 2X

02/04/99 16:40

19010504.D

Page 5

E02 145

Data File: /chem/hpdos1.i/19010502.b/19010505.D

Page 1

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Instrument: hpdos1.i

HNF-4073

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Operator: Alex

Rev. 0

Column phase: DB-1

Column diameter: 0.32

E02 146

Date: 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Dichlorodifluoromethane

E02 147

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002,C050;200 ml 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

4 Methanol

HNF-4073
REV 0

Data File: /chem/hpdos1.i/19010502.b/19010505.D

Date : 19-NOV-98 03:17

Client ID: 200 ml 2K

Sample Info: AY-102 VP102-002.C050;200 ml 2K

Instrument: hpdos1.i

Page 4

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

7 Butane

002 149-A

Data File: /chem/hpdos1.i/19010502.b/19010505.D

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

10 Ethanol

E02 149-B.

Date: 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002,C050;200 ml 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

11 Acetonitrile

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

E02 151

Date : 19-NOV-98 03:17

Client ID: 200 ml 2K

Sample Info: AY-102 VP102-002.C050:200 ml 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

13 Trichlorofluoromethane

E02 152

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

14 Pentane

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002,C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

16 Methylene Chloride

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date: 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanenitrile

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-002.C050:200 ml 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

19 Propanol

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

21 2-Butanone

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Hexane

E02 159

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

25 Chloroform

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

26 Tetrahydrofuran

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

29 Butanenitrile

Date: 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

30 1-Butanol

102 163

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002,C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

31. Benzene

Date : 19-NOV-98 03:17

Client ID: 200 ml 2K

Instrument: hpdos1.i

Sample Info: AY-102 VP102-002.C050;200 ml 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

37 Heptane

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050:200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 4-Methyl-2-Pentanone

E02 166

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

40 Pyridine

F02 167

Date : 19-NOV-98 03:17

Client ID: 200 ml 2K

Sample Info: AY-102 VP102-002.C050:200 ml 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

42 Pentanenitrile

Date: 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050:200 ml 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

44 Toluene

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

46 Octane

E02 170

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002,C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 Tetrachloroethylene

Date: 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

51 Hexanenitrile

E02 172

Date: 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

54 Cyclohexanone

E02 173

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

58 Nonane

E02 174

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

63 Decane

E02 175-A

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Instrument: hpdos1.i

Sample Info: AY-102 VP102-002.C050:200 ml 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	86	C3H6	42
2-Butenal, (E)-	123-73-9	nbs75k.1	62443	78	C4H6O	70
Furan, 2,5-dihydro-	1708-29-8	nbs75k.1	62431	78	C4H6O	70

E02 175-B

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.D050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	80	C3H8	44
Propane	74-98-6	nbs75k.1	62268	64	C3H8	44
Propane	74-98-6	nbs75k.1	38	32	C3H8	44

E02 176

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002,C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.1	131	7	CH3NO2	61
Monoethanolamine	141-43-5	nbs75k.1	62369	4	C2H7NO	61
Monoethanolamine	141-43-5	nbs75k.1	133	4	C2H7NO	61

202 177

Date : 19-NOV-98 03:17

Client ID: 200 ml 2K

Sample Info: AY-102 VP102-002.C050;200 ml 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	62264	42	C2H4O	44
Acetaldehyde	75-07-0	nbs75k.1	62265	42	C2H4O	44
Ethylene oxide	75-21-8	nbs75k.1	62267	9	C2H4O	44

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	86	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	80	C4H8	56
2-Butene, (Z)-	590-18-1	nbs75k.1	77	64	C4H8	56

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Sample Info: AY-102 VP102-002,C050;200 ml 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.1	62465	83	C5H10	70
Cyclopropane, 1,2-dimethyl-, trans-	2402-06-4	nbs75k.1	226	42	C5H10	70
Cyclopropane, 1,2-dimethyl-, cis-	930-18-7	nbs75k.1	232	42	C5H10	70

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050:200 ml 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62487	91	C4H8O	72
Butanal	123-72-8	WILEY138.1	116379	91	C4H8O	72
Butanal	123-72-8	nbs75k.1	62486	90	C4H8O	72

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002,C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Nitric acid, ethyl ester	625-58-1	nbs75k.1	63012	64	C2H5NO3	91
Nitric acid, ethyl ester	625-58-1	WILEY138.1	368	64	C2H5NO3	91
Ethanol, 2-chloro-, nitrate	21823-34-7	nbs75k.1	4284	50	C2H4ClNO3	125

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentanal	110-62-3	nbs75k.1	62819	90	CEH100	86
Pentanal	110-62-3	nbs75k.1	62818	86	CEH100	86
Butanal, 3-methyl-	590-86-3	nbs75k.1	62813	78	CEH100	86

E02 183

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64151	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	3092	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64153	90	C7H14O	114

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002,C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	WILEY138.1	119310	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64174	90	C7H14O	114

E02 185

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119301	86	C7H14O	114
2-Hexanone, 5-methyl-	110-12-3	nbs75k.1	64147	78	C7H14O	114
2-Heptanone	110-43-0	nbs75k.1	64165	78	C7H14O	114

E02 186

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64384	78	C7H16O	116
3-Heptanol	589-82-2	nbs75k.1	64381	43	C7H16O	116
3-Hexanol, 5-methyl-	623-55-2	nbs75k.1	64371	43	C7H16O	116

E02 187

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		nbs75k.1	22401	64		128
Glycocyanidine	503-86-6	nbs75k.1	1373	59	C2H5N3O	99
1,3,2-Dioxaborolane, 2,4-diethyl-	57633-63-3	nbs75k.1	4896	56	C6H13BO2	128

E02 188

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		nbs75k.1	69622	56		128
1-Hydroxycyclohexanecarboxylic acid	1123-28-0	nbs75k.1	8343	50	C7H12O3	144
1,4-Dioxaspiro[4.5]decane, 8-chloro-	55724-03-3	nbs75k.1	16603	40	C8H13ClO2	176

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	5098	64	C ₈ H ₁₆ O	128
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	65087	64	C ₈ H ₁₆ O	128
Pentane, 1-(1-butenyloxy)-, (Z)-	56052-76-7	nbs75k.1	8018	59	C ₉ H ₁₈ O	142

Date : 19-NOV-98 03:17

Client ID: 200 ml 2X

Sample Info: AY-102 VP102-002.C050;200 ml 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

Unknown hydrocarbon

Nonadecane

Decane, 2,4,6-trimethyl-

Octacosane

CAS Number

Library

Entry

Quality

Formula

Weight

629-92-5

nbs75k.1

37469

78

C19H40

268

62108-27-4

nbs75k.1

19032

72

C13H28

184

630-02-4

nbs75k.1

74211

64

C28H58

394

Date : 19-NOV-98 03:17

Client ID: 200 ml 2K

Instrument: hpdos1.i

Sample Info: AY-102 VP102-002.C050;200 ml 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
Undecane, 5,7-dimethyl-	17312-83-3	nbs75k.1	19013	72	C13H28	184
Dotriacontane	544-85-4	nbs75k.1	74490	72	C32H66	451
Pentacosane	629-99-2	nbs75k.1	73718	72	C25H52	352

E02 192

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-002.C050;200 ml 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2 53097.m
 File : 19010505.D
 Injection Date : 19-NOV-98 03:17 Operator : Alex
 Matrix : AIR Lab. Sample ID: AY-102 VP102-002.C050
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.636	4.646	23769	0.34	0.0034	0.63	J
Chloromethane	23	50.49	5.013				0.0012	0.53	U
1,2-dichloro1,1,2,2-tetrafluoroethane	23	170.92	5.228				0.0065	0.85	U
Methanol	23	32.04	5.325	5.346	830904	17.70	0.1770	123.77	
Vinyl Chloride	23	62.50	5.508				0.0008	0.29	U
Butane	23	58.12	5.928	5.938	96802	6.21	0.0621	23.93	
Bromomethane	23	94.94	6.402				0.0026	0.61	U
Chloroethane	23	64.51	6.747				0.0027	0.94	U
Ethanol	23	46.01	6.887	6.886	1062732	22.76	0.2276	110.83	
Acetonitrile	23	41.05	7.382	7.532	57992	1.30	0.0130	7.10	J
Acetone	23	58.08	7.878	7.877	2869120	26.39	0.2639	101.78	
Trichlorofluoromethane	23	137.37	8.276	8.297	122570	2.74	0.0274	4.47	
Pentane	23	72.15	8.944	8.954	89736	0.89	0.0089	2.77	J
1,1-Dichloroethene	23	96.94	9.493				0.0019	0.44	U
Methylene Chloride	23	84.93	9.666	9.686	9504	0.33	0.0033	0.87	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.161	10.171	8404	0.31	0.0031	0.37	J
Propanenitrile	23	55.08	10.893	10.892	18893	0.41	0.0041	1.66	J
Propanol	23	60.10	10.861	10.882	217558	4.15	0.0415	15.48	
1,1-Dichloroethane	23	98.96	11.798				0.0010	0.23	U
2-Butanone	23	72.11	12.433	12.432	274316	8.79	0.0879	27.30	
cis-1,2-Dichloroethene	23	96.94	13.317				0.0017	0.39	U
Hexane	23	86.18	13.694	13.692	65734	1.09	0.0109	2.83	J
Chloroform	23	119.38	13.844	13.832	16225	0.28	0.0028	0.53	J
Tetrahydrofuran	23	72.11	14.587	14.597	5436	0.21	0.0021	0.67	J
1,2-Dichloroethane	34	98.96	15.255				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.772				0.0016	0.27	U
Butanenitrile	34	69.11	15.740	15.739	289640		0.0251	8.15	
1-Butanol	34	74.12	16.214	16.223	684670	34.78	0.3478	105.10	
Benzene	34	78.11	16.655	16.654	25839	0.18	0.0018	0.50	J
Carbon Tetrachloride	34	153.82	16.946				0.0017	0.25	U
Cyclohexane	34	84.16	17.215				0.0018	0.48	U
1,2-Dichloropropane	34	112.99	18.217				0.0015	0.30	U
Trichloroethene	34	131.39	18.659				0.0012	0.20	U

02/04/99 16:41

19010505.D

Page 1

E02 193

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073
Rev. 0

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.165	19.174	37691	0.85	0.0085	1.91	J
cis-1,3-Dichloropropene	34	110.97	20.349				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.360	20.370	15983	0.32	0.0032	0.72	J
Pyridine	34	79.10	20.608	20.758	54401	5.53	0.0553	15.67	J
trans-1,3-Dichloropropene	34	110.97	21.416				0.0009	0.18	U
Pentanenitrile	34	83.13	21.437	21.436	28459	0.70	0.0070	1.88	J
1,1,2-Trichloroethane	34	133.40	21.846				0.0014	0.24	U
Toluene	49	92.14	22.503	22.502	34676	0.53	0.0053	1.29	J
1,2-Dibromoethane	49	187.86	24.033				0.0026	0.31	U
Octane	49	114.23	24.571	24.581	10099	0.32	0.0032	0.63	J
Bromoform	49	175.00	28.233				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.067	25.066	8370	0.35	0.0035	0.47	J
Chlorobenzene	49	112.56	26.661				0.0013	0.26	U
Hexanenitrile	49	97.13	26.930	26.950	12676	0.33	0.0033	0.76	J
Ethylbenzene	49	106.17	27.544				0.0014	0.30	U
p/m-Xylene	49	106.17	27.996				0.0065	1.37	U
Cyclohexanone	49	98.14	28.395	28.426	18789	1.02	0.0102	2.33	J
Styrene	59	104.15	28.890				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.116				0.0021	0.28	U
o-Xylene	59	106.17	29.192				0.0014	0.30	U
Nonane	59	128.26	29.644	29.643	13538	0.20	0.0020	0.34	J
1-Ethyl-2-Methyl-Benzene	59	120.19	32.584				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.810				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.070				0.0013	0.24	U
Decane	59	142.28	34.318	34.328	16146	0.38	0.0038	0.61	J
1,3-Dichlorobenzene	59	147.00	34.587				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.792				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.912				0.0009	0.14	U
Undecane	59	156.31	38.648				0.0141	2.02	U
1,2,4-Trichlorobenzene	59	181.45	42.148				0.0014	0.17	U
Dodecane	59	170.34	42.676				0.0049	0.64	U
Hexachloro-1,3-butadiene	59	260.76	43.979				0.0023	0.20	U
Tridecane	59	184.36	46.467				0.0030	0.36	U
Tetradecane	59	198.34	50.258				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.618	13.628	3320088	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.205	17.203	9795004	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.553	26.563	7935074	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.376	30.386	4731606	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42	115-07-1	4.527	397969	3.88	0.0388	20.71	NJ
Propane	23	44	74-98-6	4.527	397969	3.88	0.0388	19.76	NJ
Methyl nitrite	23	61	624-91-9	4.818	89275	0.87	0.0087	3.20	NJ
Acetaldehyde	23	44	75-07-0	5.335	1997391	19.48	0.1948	99.20	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.733	159606	1.56	0.0156	6.23	NJ
1-Pentene	23	70	109-67-1	8.555	68128	0.66	0.0066	2.13	NJ
Butanal	23	72	123-72-8	12.239	914521	8.92	0.0892	27.76	NJ

02/04/99 16:41

19010505.D

Page 2

EO2 194

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Nitric acid, ethyl ester	23	91	625-58-1	13.876	826297	8.06	0.0806	19.84	NJ
Pentanal	34	86	110-62-3	17.839	376320	1.61	0.0161	4.19	NJ
4-Heptanone	49	114	123-19-3	27.403	2884783	13.87	0.1387	27.26	NJ
3-Heptanone	49	114	106-35-4	28.038	11225957	53.99	0.5399	106.08	NJ
2-Heptanone	49	114	110-43-0	28.189	3284044	15.79	0.1579	31.03	NJ
3-Heptanol	59	116	589-82-2	28.717	181123	1.36	0.0136	2.62	NJ
1,3-Diethyl-1,4-epoxybutane	59	128		30.946	354984	2.66	0.0266	4.66	NJ
1,2-Diethyl-1,4-epoxybutane	59	128		31.151	472826	3.55	0.0355	6.21	NJ
Hexanal, 2-ethyl-	59	128	123-05-7	31.614	489793	3.67	0.0367	6.43	NJ
Unknown hydrocarbon	59	0		37.117	357354	2.68	0.0268		J
Unknown hydrocarbon	59	0		37.387	122927	0.92	0.0092		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
-----	-----	-----
Bromochloromethane (IS)	23	12301196
Difluorobenzene (IS)	34	22667178
D5-Chlorobenzene (IS)	49	23080311
1-Bromo-4-Fluorobenzene (IS)	59	24001614

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/04/99 16:41

19010505.D

Page 3

E02 196

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-002.C050;200 ml 2X

02/04/99 16:41

19010505.D
E02 197

Page 4

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-002.C050;200 ml 2X

02/04/99 16:41

19010505.D
E02 198

Page 5

**This document was too large to scan
as a single document; therefore, it has
been divided into smaller sections.**

Section 13 OF 13

Document Information			
Document #	HNF-4073	Revision	0
Title	DATA PACKAGE OF GAS & VAPOR ANALYSES OF SAMPLES FROM THE 12/16/1998 TANK 241-C-106 WASTE RETRIEVAL SLUICING SYSTEM PROCESS TEST		
Date	03/10/1999		
Originator	J.C.EVANS, K.H. POOL, M.W. GOHEN, L.M. SASAKI*	Originator Co.	PNNL, LMHC
Recipient		Recipient Co.	
References	EDT-611448		
Keywords	WRSS,C FARM,GAS,VAPOR SAMPLING		
Projects	TFARM,TWRS		
Other Information	THIS SECTION CONTAINS E02-199 THRU PAGE E02- 409 *ALSO ORGINATORS J.L. HUCKABY, A.V. MITROSHKOV, T.L. ALMEIDA, B.M. THORNTON AND K.L. SILVERS		

HNF-4073

Rev. 0

SUMMA BATCH FILE

19010602.b

HNF-4073
REV 0

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E02 200

HNF-4073
REV 0

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E02 201

AY-102 Case Narrative (batch file 19010602.b)

This analytical sequence was run using 200 ml volumes to quantify target compounds in each AY-102 tank sample at a 2X dilution.

Tetradecane surpassed 0.05 RF criteria for the initial calibration.

Tetradecane was not found in all tank samples at concentrations higher than its instrumental detection limits (IDLs). Due to the initial calibration performance the uncertainty associated with the results is higher than normal.

Ten target compounds (chloromethane – 50 %, methanol – 51.9 %, vinyl chloride – 67.6 %, butane – 64.7 %, bromomethane – 38.5 %, chloroethane – 37.6%, acetonitrile – 46.7%, pyridine – 85.7%, tridecane - 41.3% and tetradecane – 73.89%) were outside the 25% Difference acceptance criteria for the continuing calibration verification (CCV) sample. However, the CCV passed the procedural criterion requiring $\pm 25\%$ D passage for 85% of all target compounds.

Results of tetradecane determinations were mentioned above. Methanol, butane and tridecane were found in all tank samples at concentrations between their EQL and upper quantitation limit (UQL). Vinyl chloride and bromomethane were not found in the tank samples at concentrations higher than their IDL. Acetonitrile and chloromethane were found in both samples at concentrations between their IDL and EQL.

No target compound was detected in the CCB above its EQL.

After completing a valid BFB tune, the 12-hour clock criterion for an analytical sequence was not exceeded within the batch.

The tank sample's internal standard quant area % recoveries were within the acceptance criterion (50%<quant<200%) allowed by TVP-03, Rev. 1.

Instrument detection limits, precision, and accuracy have not been experimentally evaluated for methanol, ethanol. Sample results are flagged with a "J" when the absolute number of nanograms calculated in the sample is less than the lowest concentration standard used in the initial calibration. Methanol and ethanol results falling within their calibration range are quantitative results as evidenced by a valid calibration for these compounds.

Miller 2/22/99

SAMPLE INFORMATION SUMMARY

HNF-4073
Rev. 0

BATCH: /chem/hpdos1.i/19010602.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
19010602.D	19-NOV-1998 21:56	Continuing Cal		1.00 hpdos1	InCal2_53097.m	19010602.b
19010603.D	20-NOV-98 00:04	Unknown		1.00 hpdos1	InCal2_53097.m	19010602.b
19010604.D	20-NOV-1998 01:52	Unknown		2.00 hpdos1	InCal2_53097.m	19010602.b
19010605.D	20-NOV-98 03:24	Unknown		2.00 hpdos1	InCal2_53097.m	19010602.b

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
19010602.D	GAS	VAPOR	CCV	SDGal2878	200mL	SDGal2878
19010603.D	GAS	VAPOR	CCB	SDGal2878	200mL	SDGal2878
19010604.D	GAS	VAPOR	AY-102 VP102-010.C134 4		200 ml	SDGal2878
19010605.D	GAS	VAPOR	AY-102 VP102-014.C298 8		200 ml	SDGal2878

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
19010602.D	all1.sub		1038554	1038555	1035843	1038551
19010603.D	all1.sub		1039302	1038555	1035843	1038551
19010604.D	all1.sub		1038559	1038555	1035843	1038551
19010605.D	all1.sub		1038560	1038555	1035843	1038551

Data File : C:\HPCHEM\1\DATA\19010601.B\19010601.D
Acq On : 19 Nov 98 8:48 pm
Sample : Tune Check BFB
Misc : Tune Check BFB 56391-5-01

Vial: 1
Operator: Alex
Inst : System 1
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\SUM1601.M
Title : exp

HNF-4073
Rev. 0

Peak Apex is scan: 2623

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.6	11201	PASS
75	95	30	66	43.3	26008	PASS
95	95	100	100	100.0	60096	PASS
96	95	5	9	6.6	3977	PASS
173	174	0	2	0.0	0	PASS
174	95	50	120	86.7	52104	PASS
175	174	4	9	7.5	3892	PASS
176	174	93	101	97.6	50840	PASS
177	176	5	9	6.4	3231	PASS

INTERNAL STANDARD AREA SUMMARY (as of 02/05/99 16:45)

Datafile	Internal Standard	RT	TotalArea	QuantArea	AreaRatio	Percent
19010602.D	Bromochloromethane (IS)	13.71	64790135	3516728	18.42	100.00
19010602.D	Difluorobenzene (IS)	17.24	70724640	10220117	6.92	100.00
19010602.D	D5-Chlorobenzene (IS)	26.60	30599332	10265028	2.98	100.00
19010602.D	1-Bromo-4-Fluorobenzene (IS)	30.42	32707211	6538529	5.00	100.00
19010603.D	Bromochloromethane (IS)	13.67	16871774	4344487	3.88	123.54
19010603.D	Difluorobenzene (IS)	17.25	28272905	12994070	2.18	127.14
19010603.D	D5-Chlorobenzene (IS)	26.60	28095161	9647510	2.91	93.98
19010603.D	1-Bromo-4-Fluorobenzene (IS)	30.42	26179544	5326468	4.91	81.46
19010604.D	Bromochloromethane (IS)	13.67	16374008	3779117	4.33	107.46
19010604.D	Difluorobenzene (IS)	17.24	29075250	12397520	2.35	121.31
19010604.D	D5-Chlorobenzene (IS)	26.60	29489707	9947467	2.96	96.91
19010604.D	1-Bromo-4-Fluorobenzene (IS)	30.42	31654764	6219734	5.09	95.12
19010605.D	Bromochloromethane (IS)	13.66	17185714	3800466	4.52	108.07
19010605.D	Difluorobenzene (IS)	17.24	28818586	12239932	2.35	119.76
19010605.D	D5-Chlorobenzene (IS)	26.60	29461815	10063065	2.93	98.03
19010605.D	1-Bromo-4-Fluorobenzene (IS)	30.42	32306748	6254962	5.16	95.66

HNF-4073
Rev. 0

Report Date: 05-Feb-1999 11:10

Pacific Northwest National Laboratory

HNF-4073

Rev. 0

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: hpdos1.i

Injection Date: 19-NOV-1998 21:56

Lab File ID: 19010602.D

Init. Calibration Date(s): 06/06/97 06/06/97

Analysis Type: AIR

Init. Calibration Times: 10:35 16:58

Lab Sample ID: CCV

Method File: /chem/hpdos1.i/19010602.b/InCal2_53097.

Quant Type: ISTD

COMPOUND	RRF	RF200	MIN	MAX
	RRF	RRF	RD	RD
1 Dichlorodifluoromethane	2.257	2.580 0.050	14.3	25.0
2 Chloromethane	1.420	2.130 0.050	50.0	25.0 <-
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	1.033	1.288 0.050	24.7	25.0
4 Methanol	1.159	1.760 0.050	51.9	25.0 <-
5 Vinyl Chloride	0.726	1.217 0.050	67.6	25.0 <-
7 Butane	0.350	0.577 0.050	64.7	25.0 <-
8 Bromomethane	0.380	0.526 0.050	38.5	25.0 <-
9 Chloroethane	0.767	0.479 0.050	37.6	25.0 <-
10 Ethanol	2.247	1.742 0.050	22.5	25.0
11 Acetonitrile	3.138	1.673 0.050	46.7	25.0 <-
12 Acetone	4.744	3.707 0.050	21.9	25.0
13 Trichlorofluoromethane	2.010	1.574 0.050	21.7	25.0
14 Pentane	3.927	3.353 0.050	14.6	25.0
15 1,1-Dichloroethene	1.047	0.950 0.050	9.3	25.0
16 Methylene Chloride	1.183	1.005 0.050	15.1	25.0
17 1,1,2-trichloro-1,2,2-trifluoroethane	0.958	0.963 0.050	0.5	25.0
18 Propanenitrile	1.789	1.644 0.050	8.1	25.0
19 Propanol	1.799	1.891 0.050	5.1	25.0
20 1,1-Dichloroethane	2.189	2.180 0.050	0.4	25.0
21 2-Butanone	1.168	1.112 0.050	4.8	25.0
22 cis-1,2-Dichloroethene	1.161	1.158 0.050	0.2	25.0
24 Hexane	2.403	2.219 0.050	7.7	25.0
25 Chloroform	2.015	2.073 0.050	2.9	25.0
26 Tetrahydrofuran	0.902	0.898 0.050	0.5	25.0
27 1,2-Dichloroethane	0.450	0.462 0.050	2.7	25.0
28 1,1,1-Trichloroethane	0.447	0.442 0.050	1.1	25.0
29 Butanenitrile	1.072	1.106 0.050	3.2	25.0
30 1-Butanol	0.202	0.192 0.050	5.0	25.0
31 Benzene	1.288	1.380 0.050	7.2	25.0
32 Carbon Tetrachloride	0.422	0.443 0.050	4.9	25.0
33 Cyclohexane	0.500	0.479 0.050	4.3	25.0
35 1,2-Dichloropropane	0.369	0.388 0.050	5.1	25.0
36 Trichloroethene	0.346	0.358 0.050	3.6	25.0
37 Heptane	0.444	0.417 0.050	6.0	25.0
38 cis-1,3-Dichloropropene	0.452	0.445 0.050	1.4	25.0
39 4-Methyl-2-Pentanone	0.420	0.473 0.050	12.4	25.0
40 Pyridine	0.715	0.102 0.050	85.7	25.0 <-
41 trans-1,3-Dichloropropene	0.311	0.294 0.050	5.4	25.0
42 Pentanenitrile	0.368	0.378 0.050	2.8	25.0
43 1,1,2-Trichloroethane	0.279	0.290 0.050	4.0	25.0

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: hpdos1.i
Lab File ID: 19010602.D
Analysis Type: AIR
Lab Sample ID: CCV
Quant Type: ISTD

Injection Date: 19-NOV-1998 21:56
Init. Calibration Date(s): 06/06/97 06/06/97
Init. Calibration Times: 10:35 16:58
Method File: /chem/hpdos1.i/19010602.b/InCal2_53097.

COMPOUND	RRF	RF200	RRF	%D	%D
44 Toluene	0.900	0.926	0.050	2.9	25.0
45 1,2-Dibromoethane	0.369	0.355	0.050	3.9	25.0
46 Octane	0.456	0.432	0.050	5.1	25.0
47 Bromoform	0.466	0.475	0.050	1.9	25.0
48 Tetrachloroethylene	0.314	0.335	0.050	6.9	25.0
50 Chlorobenzene	0.991	0.981	0.050	1.1	25.0
51 Hexanenitrile	0.519	0.535	0.050	3.2	25.0
52 Ethylbenzene	1.620	1.642	0.050	1.4	25.0
53 p/m-Xylene	0.627	0.596	0.050	4.9	25.0
54 Cyclohexanone	0.263	0.255	0.050	3.0	25.0
55 Styrene	2.161	1.669	0.050	22.8	25.0
56 1,1,2,2-Tetrachloroethane	1.289	1.289	0.050	0.0	25.0
57 o-Xylene	1.409	1.434	0.050	1.8	25.0
58 Nonane	2.542	2.597	0.050	2.2	25.0
60 1-Ethyl-2-Methyl-Benzene	3.134	3.138	0.050	0.1	25.0
61 1,3,5-Trimethylbenzene	2.714	2.672	0.050	1.6	25.0
62 1,2,4-Trimethylbenzene	2.699	2.614	0.050	3.1	25.0
63 Decane	1.600	1.537	0.050	4.0	25.0
64 1,3-Dichlorobenzene	1.655	1.715	0.050	3.6	25.0
65 1,4-Dichlorobenzene	1.625	1.690	0.050	4.0	25.0
66 1,2-Dichlorobenzene	1.465	1.504	0.050	2.7	25.0
67 Undecane	0.355	0.304	0.050	14.5	25.0
68 1,2,4-Trichlorobenzene	0.468	0.569	0.050	21.7	25.0
69 Dodecane	0.410	0.346	0.050	15.8	25.0
70 Hexachloro-1,3-butadiene	0.375	0.414	0.050	10.5	25.0
71 Tridecane	0.275	0.162	0.050	41.3	25.0
72 Tetradecane	0.019	0.005	0.050	73.8	25.0

E02 207

Pacific Northwest National Laboratory

INITIAL CALIBRATION DATA

HNF-4073
Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Calibration File Names:

Level 1: /chem/hpdos1.i/17060603.b/17060601.d
 Level 2: /chem/hpdos1.i/17060603.b/17060602.d
 Level 3: /chem/hpdos1.i/17060603.b/17060603.d
 Level 4: /chem/hpdos1.i/17060603.b/17060605.d
 Level 6: /chem/hpdos1.i/17060603.b/17060606.d
 Level 7: /chem/hpdos1.i/17060603.b/17060607.d

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
1 Dichlorodifluoromethane	2.43862	2.21722	2.14282	2.48912	2.30074	1.95123	2.25700	8.794
2 Chloromethane	1.51670	1.36577	1.28327	1.66862	1.44729	1.23883	1.42000	11.195
3 1,2-dichloro-1,1,2,2-tetrafluoroethane	1.15696	1.03824	1.00931	1.11913	0.95411	0.92118	1.03300	8.881
4 Methanol	1.25346	1.16123	1.09867	1.29715	1.16982	0.97297	1.15900	9.942
5 Vinyl Chloride	0.71266	0.66882	0.65695	0.81333	0.77441	0.72917	0.72590	8.310
6 1,3-Butadiene	++++	++++	++++	++++	++++	++++	++++	++++ <-
7 Butane	0.34398	0.31603	0.30881	0.37911	0.38102	0.37213	0.35020	9.197
8 Bromomethane	0.37120	0.34556	0.34262	0.42377	0.41003	0.38728	0.38010	8.751
9 Chloroethane	0.69294	0.74027	0.73558	0.80065	0.78056	0.85420	0.76740	7.396
10 Ethanol	2.33627	2.28573	2.21551	2.45731	2.10420	2.08464	2.24700	6.338
11 Acetonitrile	3.28791	3.10332	2.96812	3.46874	3.10207	2.89528	3.13800	6.718
12 Acetone	5.45540	4.89912	4.61756	5.24640	4.33599	3.90917	4.74400	12.153
13 Trichlorofluoromethane	2.04790	1.83001	1.79202	2.17301	2.08433	2.13406	2.01000	7.985
14 Pentane	4.26438	3.85542	3.71679	4.44576	3.80975	3.47097	3.92718	9.209
15 1,1-Dichloroethene	1.02274	0.91480	0.91574	1.10362	1.12103	1.20364	1.04700	11.181
16 Methylene Chloride	1.23125	1.06542	1.03565	1.21823	1.23680	1.31207	1.18300	9.154
17 1,1,2-trichloro-1,2,2-trifluoroethane	0.94001	0.82539	0.82920	0.99190	1.03530	1.12834	0.95840	12.402
18 Propanenitrile	1.92391	1.79091	1.70988	1.99267	1.73228	1.58660	1.78900	8.294
19 Propanol	2.10040	1.88320	1.80504	2.08617	1.55076	1.36782	1.79890	16.264
20 1,1-Dichloroethane	2.23981	2.03770	1.98200	2.33671	2.27178	2.26540	2.18890	6.552
21 2-Butanone	1.19644	1.10909	1.08435	1.28664	1.18454	1.14876	1.16800	6.172
22 cis-1,2-Dichloroethene	1.12732	1.02685	1.01888	1.20742	1.27325	1.30987	1.16100	10.640
24 Hexane	2.88095	2.52056	2.41983	2.73619	2.15002	1.70990	2.40300	17.636
25 Chloroform	2.07444	1.85421	1.81941	2.12416	2.11530	2.10292	2.01500	6.925
26 Tetrahydrofuran	0.86957	0.81350	0.80200	0.96237	0.96959	0.99783	0.90250	9.439
27 1,2-Dichloroethane	0.43891	0.40298	0.38542	0.47386	0.47183	0.52574	0.44980	11.461

Pacific Northwest National Laboratory

HNF-4073

INITIAL CALIBRATION DATA

Rev. 0

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
28 1,1,1-Trichloroethane	0.45189	0.40828	0.39368	0.47799	0.46542	0.48342	0.44680	8.369
29 Butanenitrile	1.20704	1.11050	1.04656	1.21895	0.93633	0.91047	1.07200	12.271
30 1-Butanol	0.20749	0.19006	0.17665	0.23326	0.19447	0.21209	0.20230	9.761
31 Benzene	1.25728	1.14460	1.11280	1.33554	1.34939	1.53041	1.28800	11.873
32 Carbon Tetrachloride	0.40288	0.36319	0.35398	0.44031	0.45646	0.51784	0.42240	14.653
33 Cyclohexane	0.57805	0.49512	0.46019	0.55230	0.46170	0.45591	0.50050	10.513
35 1,2-Dichloropropane	0.37408	0.33321	0.31771	0.39037	0.38123	0.41983	0.36940	10.220
36 Trichloroethene	0.33845	0.30906	0.29949	0.36774	0.36606	0.39292	0.34560	10.560
37 Heptane	0.47230	0.43007	0.41365	0.50164	0.43896	0.40409	0.44350	8.350
38 cis-1,3-Dichloropropene	0.42950	0.40459	0.39475	0.49761	0.47756	0.50569	0.45160	10.688
39 4-Methyl-2-Pentanone	0.44922	0.41369	0.39148	0.47706	0.38758	0.40368	0.42050	8.428
40 Pyridine	0.74450	0.65035	0.61730	0.81950	0.71325	0.74466	0.71490	10.163
41 trans-1,3-Dichloropropene	0.28504	0.27757	0.26849	0.34413	0.33239	0.35709	0.31080	12.276
42 Pentanenitrile	0.37851	0.35454	0.33769	0.41598	0.35567	0.36492	0.36790	7.368
43 1,1,2-Trichloroethane	0.27063	0.24933	0.24070	0.30528	0.29478	0.31256	0.27890	10.737
44 Toluene	0.96561	0.87608	0.87112	1.04495	0.89074	0.75183	0.90010	10.972
45 1,2-Dibromoethane	0.38994	0.35145	0.35511	0.43452	0.37184	0.31318	0.36930	11.069
46 Octane	0.48174	0.44086	0.44653	0.54029	0.45429	0.36995	0.45560	12.217
47 Bromoform	0.43323	0.41873	0.42953	0.55635	0.51617	0.44458	0.46640	12.043
48 Tetrachloroethylene	0.32676	0.29200	0.29846	0.37138	0.32923	0.26300	0.31350	11.946
50 Chlorobenzene	1.09890	0.96828	0.96251	1.15541	0.96969	0.79105	0.99100	12.799
51 Hexanenitrile	0.59961	0.55446	0.54595	0.63118	0.43524	0.34496	0.51860	20.835
52 Ethylbenzene	1.76694	1.63023	1.61026	1.93511	1.53765	1.24094	1.62000	14.384
53 p/m-Xylene	0.70370	0.64289	0.63834	0.77037	0.58102	0.42493	0.62690	18.843
54 Cyclohexanone	0.28661	0.26115	0.24924	0.31865	0.24845	0.21561	0.26330	13.487
55 Styrene	2.17696	2.10051	2.12953	2.53465	2.16265	1.86392	2.16100	9.983
56 1,1,2,2,2-Tetrachloroethane	1.49708	1.34361	1.32572	1.51752	1.14624	0.90150	1.28900	18.046
57 o-Xylene	1.50299	1.41727	1.42008	1.69164	1.35059	1.06866	1.40900	14.486
58 Nonane	3.09792	2.83073	2.76713	3.03283	1.96311	1.55904	2.54200	24.791
60 1-Ethyl-2-Methyl-Benzene	3.23089	3.19082	3.16107	3.78399	3.00123	2.43646	3.13400	13.835
61 1,3,5-Trimethylbenzene	2.85800	2.75168	2.72974	3.24772	2.73588	2.12440	2.71400	13.533
62 1,2,4-Trimethylbenzene	2.77520	2.74984	2.71140	3.24214	2.56270	2.15471	2.69900	13.028
63 Decane	1.95316	1.82047	1.76343	1.90270	1.18211	0.97732	1.60000	25.837
64 1,3-Dichlorobenzene	1.59354	1.58350	1.61639	2.00362	1.70320	1.43165	1.65500	11.593

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

INITIAL CALIBRATION DATA

Start Cal Date : 06-JUN-97 10:35
 End Cal Date : 06-JUN-97 16:58
 Quant Method : ISTD
 Origin : Included
 Target Version : 3.10
 Integrator : HP RTE
 Method file : /chem/hpdos1.i/18050102.b/InCal2_53097.m
 Cal Date : 04-May-1998 10:33 alex
 Curve Type : Average

Compound	10 Level 1	30 Level 2	50 Level 3	100 Level 4	300 Level 6	450 Level 7	RRF	% RSD
65 1,4-Dichlorobenzene	1.57185	1.56049	1.59150	1.98394	1.64309	1.39866	1.62500	11.949
66 1,2-Dichlorobenzene	1.43440	1.40496	1.42115	1.76383	1.47400	1.28979	1.46500	10.861
67 Undecane	0.31703	0.34344	0.34966	0.43709	0.35929	0.32633	0.35550	12.055
68 1,2,4-Trichlorobenzene	0.33583	0.39450	0.43207	0.50291	0.57264	0.56758	0.46760	20.567
69 Dodecane	0.34700	0.38982	0.42963	0.48048	0.41909	0.39707	0.41050	10.882
70 Hexachloro-1,3-butadiene	0.37281	0.35925	0.36522	0.41551	0.38933	0.34633	0.37470	6.554
71 Tridecane	0.26054	0.31961	0.34992	0.30368	0.22299	0.19515	0.27530	21.620
72 Tetradecane	0.01457	0.02319	0.02140	0.02540	0.01595	0.01452	0.01917	24.807

Pacific Northwest National Laboratory

HNF-4073
Rev. 0

Data file : /chem/hpdos1.i/19010602.B/19010602.D
Lab Smp Id: CCV Client Smp ID: 200mL
Inj Date : 19-NOV-98 21:56
Operator : Alex Inst ID: hpdos1.i
Smp Info : CCV; 200mL; 54934-151-01
Misc Info :
Comment :
Method : /chem/hpdos1.i/19010602.B/InCal2_53097.m
Meth Date : 07-Jan-1999 17:06 Quant Type: ISTD
Cal Date : 19-NOV-98 21:56 Cal File: 19010602.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.000
Integrator: HP RTE Compound Sublist: all1.sub
Target Version: 3.10

Compounds	QUANT SIG				AMOUNTS		
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
1 Dichlorodifluoromethane	85.00	4.657	4.657 (0.341)		8165328	108.0	123.4
2 Chloromethane	50.00	5.034	5.034 (0.369)		2815624	45.10	67.66
3 12dichloro1122-tetrafluoroeth	85.00	5.250	5.250 (0.384)		5776743	153.0	190.8 (M)
4 Methanol	31.00	5.336	5.336 (0.391)		6087400	118.0	179.2 (Q)
5 Vinyl Chloride	62.00	5.540	5.540 (0.406)		1989763	55.80	93.53
7 Butane	43.00	5.960	5.960 (0.436)		1603782	94.90	156.3
8 Bromomethane	94.00	6.434	6.434 (0.471)		1307916	84.80	117.4
9 Chloroethane	64.00	6.778	6.778 (0.496)		807854	57.60	35.92
10 Ethanol	31.00	6.918	6.918 (0.507)		5770424	113.0	87.63
11 Acetonitrile	41.00	7.403	7.403 (0.542)		5832978	119.0	63.43 (Q)
12 Acetone	43.00	7.898	7.898 (0.578)		13254594	122.0	95.34 (M)
13 Trichlorofluoromethane	101.00	8.307	8.307 (0.608)		5673681	123.0	96.32 (M)
14 Pentane	43.00	8.975	8.975 (0.657)		7978969	81.20	69.33
15 1,1-Dichloroethene	96.00	9.524	9.524 (0.697)		2410341	86.60	78.56
16 Methylene Chloride	84.00	9.707	9.707 (0.711)		2232216	75.80	64.39
17 112trichloro122trifluoroethane	151.00	10.202	10.202 (0.747)		4712204	167.0	167.8
18 Propanenitrile	54.00	10.934	10.934 (0.801)		8624667	179.0	164.5
19 Propanol	31.00	10.902	10.902 (0.798)		5596789	101.0	106.2
20 1,1-Dichloroethane	63.00	11.828	11.828 (0.866)		5647595	88.40	88.04
21 2-Butanone	72.00	12.463	12.463 (0.912)		4170244	128.0	121.8 (Q)
22 cis-1,2-Dichloroethene	96.00	13.346	13.346 (0.977)		2939333	86.60	86.39
23 Bromochloromethane (IS)	49.00	13.658	13.658 (1.000)		3516728	120.0	(Q)
24 Hexane	57.00	13.723	13.723 (1.005)		10598574	163.0	150.5
25 Chloroform	83.00	13.884	13.884 (1.017)		6499609	107.0	110.1
26 Tetrahydrofuran	72.00	14.627	14.627 (1.071)		2401157	91.20	90.78 (Q)
27 1,2-Dichloroethane	62.00	15.284	15.284 (0.886)		4303948	88.40	90.82
28 1,1,1-Trichloroethane	97.00	15.811	15.811 (0.917)		5541416	119.0	117.7
29 Butanenitrile	41.00	15.779	15.779 (0.915)		13286787	114.0	117.6
30 1-Butanol	56.00	16.264	16.264 (0.943)		2590899	128.0	121.6

E02 211

HNF-4073
 Rev. 0

Compounds	QUANT SIG				RESPONSE	AMOUNTS	
	MASS	RT	EXP RT	REL RT		CAL-AMT (ng)	ON-COL (ng)
-----	----	--	-----	-----	-----	-----	-----
31 Benzene	78.00	16.694	16.694	(0.968)	10135812	69.70	74.69 (Q)
32 Carbon Tetrachloride	117.00	16.974	16.974	(0.984)	6394929	137.0	143.7
33 Cyclohexane	41.00	17.254	17.254	(1.001)	6515294	129.1	123.6 (Q)
* 34 Difluorobenzene (IS)	114.00	17.243	17.243	(1.000)	10220117	97.00	(Q)
35 1,2-Dichloropropane	63.00	18.255	18.255	(1.059)	4133348	101.0	106.2
36 Trichloroethene	95.00	18.697	18.697	(1.084)	4412083	117.0	121.2 (Q)
37 Heptane	71.00	19.203	19.203	(1.114)	5228723	119.0	111.9
38 cis-1,3-Dichloropropene	75.00	20.387	20.387	(1.182)	4185115	89.20	87.96
39 4-Methyl-2-Pentanone	43.00	20.398	20.398	(1.183)	8020591	161.0	181.0
40 Pyridine	79.00	20.603	20.603	(1.195)	1121190	104.0	14.88 (Q)
41 trans-1,3-Dichloropropene	75.00	21.453	21.453	(1.244)	2763520	89.20	84.39
42 Pentanenitrile	54.00	21.485	21.485	(1.246)	4304377	108.0	111.0
43 1,1,2-Trichloroethane	83.00	21.895	21.895	(1.270)	3637495	119.0	123.8
44 Toluene	92.00	22.541	22.541	(0.847)	7048290	82.30	84.68 (Q)
45 1,2-Dibromoethane	107.00	24.069	24.069	(0.905)	5513012	168.0	161.4
46 Octane	85.00	24.618	24.618	(0.926)	3122840	78.10	74.12
47 Bromoform	173.00	28.268	28.268	(1.063)	5184416	118.0	120.2 (Q)
48 Tetrachloroethylene	164.00	25.103	25.103	(0.944)	4588548	148.0	158.3 (Q)
* 49 D5-Chlorobenzene (IS)	117.00	26.599	26.599	(1.000)	10265028	111.0	(Q)
50 Chlorobenzene	112.00	26.707	26.707	(1.004)	9158168	101.0	99.93
51 Hexanenitrile	41.00	26.976	26.976	(1.014)	7622016	154.0	158.9
52 Ethylbenzene	91.00	27.579	27.579	(1.037)	14398346	94.80	96.11
53 p/m-Xylene	106.00	28.031	28.031	(1.054)	10470054	190.0	180.6 (Q)
54 Cyclohexanone	55.00	28.441	28.441	(1.069)	2572606	108.9	105.6 (Q)
55 Styrene	104.00	28.936	28.936	(0.951)	5638514	93.00	71.83 (Q)
56 1,1,2,2-Tetrachloroethane	83.00	29.162	29.162	(0.959)	7024256	150.0	150.0
57 o-Xylene	106.00	29.227	29.227	(0.961)	4938268	94.80	96.46 (Q)
58 Nonane	57.00	29.679	29.679	(0.976)	8755672	92.80	94.82
* 59 1-Bromo-4-Fluorobenzene (IS)	95.00	30.422	30.422	(1.000)	6538529	180.0	(Q)
60 1-Ethyl-2-Methyl-Benzene	105.00	32.629	32.629	(1.073)	12195917	107.0	107.1
61 1,3,5-Trimethylbenzene	105.00	32.855	32.855	(1.080)	10383644	107.0	105.3 (Q)
62 1,2,4-Trimethylbenzene	105.00	34.114	34.114	(1.121)	10161631	107.0	103.6 (Q)
63 Decane	43.00	34.362	34.362	(1.130)	8595748	154.0	147.9
64 1,3-Dichlorobenzene	146.00	34.621	34.621	(1.138)	8160792	131.0	135.7
65 1,4-Dichlorobenzene	146.00	34.836	34.836	(1.145)	8043287	131.0	136.3
66 1,2-Dichlorobenzene	146.00	35.956	35.956	(1.182)	7158236	131.0	134.5
67 Undecane	71.00	38.679	38.679	(1.271)	1226047	111.0	94.94
68 1,2,4-Trichlorobenzene	180.00	42.189	42.189	(1.387)	3350006	162.0	197.2 (Q)
69 Dodecane	71.00	42.717	42.717	(1.404)	1419364	113.0	95.18
70 Hexachloro-1,3-butadiene	225.00	44.020	44.020	(1.447)	3504980	233.0	257.5
71 Tridecane	57.00	46.528	46.528	(1.529)	558063	95.10	55.80
72 Tetradecane	57.00	50.544	50.544	(1.661)	14842	81.20	21.31 (M)

QC Flag Legend

Q - Qualifier signal failed the ratio test.
 M - Compound response manually integrated.

Data File: /chem/hpdos1.i/19010602.b/19010602.D

Page 1

Date : 19-NOV-1998 21:56

Client ID: 200mL

Instrument: hpdos1.i

Sample Info: CCV; 200mL; 54934-151-01

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

E02 213

Sample Info : CCV; 200mL; 54934-151-01

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 19010602.D
 Injection Date : 19-NOV-1998 21:56 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCV
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: CCALIB_5

VolumeFactor: 100 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.657	4.657	8165328	123.45	1.2345	228.70	
Chloromethane	23	50.49	5.034	5.034	2815624	67.66	0.6766	300.17	
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.250	5.250	5776743	190.82	1.9082	250.08	
Methanol	23	32.04	5.336	5.336	6087400	179.22	1.7922	1252.99	
Vinyl Chloride	23	62.50	5.540	5.540	1989763	93.53	0.9353	335.22	
Butane	23	58.12	5.960	5.960	1603782	156.27	1.5627	602.27	
Bromomethane	23	94.94	6.434	6.434	1307916	117.42	1.1742	277.03	
Chloroethane	23	64.51	6.778	6.778	807854	35.92	0.3592	124.73	
Ethanol	23	46.01	6.918	6.918	5770424	87.63	0.8763	426.62	
Acetonitrile	23	41.05	7.403	7.403	5832978	63.43	0.6343	346.11	
Acetone	23	58.08	7.898	7.898	13254594	95.34	0.9534	367.69	
Trichlorofluoromethane	23	137.37	8.307	8.307	5673681	96.32	0.9632	157.06	
Pentane	23	72.15	8.975	8.975	7978969	69.33	0.6933	215.24	
1,1-Dichloroethene	23	96.94	9.524	9.524	2410341	78.56	0.7856	181.52	
Methylene Chloride	23	84.93	9.707	9.707	2232216	64.39	0.6439	169.82	
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.202	10.202	4712204	167.77	1.6777	200.56	
Propanenitrile	23	55.08	10.934	10.934	8624667	164.50	1.6450	669.00	
Propanol	23	60.10	10.902	10.902	5596789	106.16	1.0616	395.68	
1,1-Dichloroethane	23	98.96	11.828	11.828	5647595	88.04	0.8804	199.28	
2-Butanone	23	72.11	12.463	12.463	4170244	121.83	1.2183	378.45	
cis-1,2-Dichloroethene	23	96.94	13.346	13.346	2939333	86.39	0.8639	199.62	
Hexane	23	86.18	13.723	13.723	10598574	150.50	1.5050	391.18	
Chloroform	23	119.38	13.884	13.884	6499609	110.07	1.1007	206.52	
Tetrahydrofuran	23	72.11	14.627	14.627	2401157	90.79	0.9079	282.01	
1,2-Dichloroethane	34	98.96	15.284	15.284	4303948	90.82	0.9082	205.57	
1,1,1-Trichloroethane	34	133.40	15.811	15.811	5541416	117.71	1.1771	197.66	
Butanenitrile	34	69.11	15.779	15.779	13286787	117.64	1.1764	381.28	
1-Butanol	34	74.12	16.264	16.264	2590899	121.55	1.2155	367.35	
Benzene	34	78.11	16.694	16.694	10135812	74.69	0.7469	214.19	
Carbon Tetrachloride	34	153.82	16.974	16.974	6394929	143.69	1.4369	209.25	
Cyclohexane	34	84.16	17.254	17.254	6515294	123.55	1.2355	328.84	
1,2-Dichloropropane	34	112.99	18.255	18.255	4133348	106.20	1.0620	210.54	
Trichloroethene	34	131.39	18.697	18.697	4412083	121.17	1.2117	206.57	

02/05/99 11:10

19010602.D

Page 1

E02 214

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.203	19.203	5228723	111.90	1.1190	250.15	
cis-1,3-Dichloropropene	34	110.97	20.387	20.387	4185115	87.96	0.8796	177.55	
4-Methyl-2-Pentanone	34	100.16	20.398	20.398	8020591	181.03	1.8103	404.86	
Pyridine	34	79.10	20.603	20.603	1121190	14.89	0.1489	42.15	
trans-1,3-Dichloropropene	34	110.97	21.453	21.453	2763520	84.39	0.8439	170.35	
Pentanenitrile	34	83.13	21.485	21.485	4304377	111.04	1.1104	299.22	
1,1,2-Trichloroethane	34	133.40	21.895	21.895	3637495	123.79	1.2379	207.86	
Toluene	49	92.14	22.541	22.541	7048290	84.68	0.8468	205.85	
1,2-Dibromoethane	49	187.86	24.069	24.069	5513012	161.43	1.6143	192.48	
Octane	49	114.23	24.618	24.618	3122840	74.12	0.7412	145.34	
Bromoform	49	175.00	28.268	28.268	5184416	120.20	1.2020	153.86	
Tetrachloroethylene	49	165.83	25.103	25.103	4588548	158.27	1.5827	213.79	
Chlorobenzene	49	112.56	26.707	26.707	9158168	99.93	0.9993	198.87	
Hexanenitrile	49	97.13	26.976	26.976	7622016	158.93	1.5893	366.52	
Ethylbenzene	49	106.17	27.579	27.579	14398346	96.11	0.9611	202.77	
p/m-Xylene	49	106.17	28.031	28.031	10470054	180.60	1.8060	381.03	
Cyclohexanone	49	98.14	28.441	28.441	2572606	105.65	1.0565	241.15	
Styrene	59	104.15	28.936	28.936	5638514	71.83	0.7183	154.49	
1,1,2,2-Tetrachloroethane	59	167.85	29.162	29.162	7024256	150.02	1.5002	200.20	
o-Xylene	59	106.17	29.227	29.227	4938268	96.48	0.9648	203.56	
Nonane	59	128.26	29.679	29.679	8755672	94.82	0.9482	165.60	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629	32.629	12195917	107.13	1.0713	199.66	
1,3,5-Trimethylbenzene	59	120.19	32.855	32.855	10383644	105.33	1.0533	196.30	
1,2,4-Trimethylbenzene	59	120.19	34.114	34.114	10161631	103.65	1.0365	193.17	
Decane	59	142.28	34.362	34.362	8595748	147.90	1.4790	232.84	
1,3-Dichlorobenzene	59	147.00	34.621	34.621	8160792	135.75	1.3575	206.85	
1,4-Dichlorobenzene	59	147.00	34.836	34.836	8043287	136.26	1.3626	207.64	
1,2-Dichlorobenzene	59	147.00	35.956	35.956	7158236	134.51	1.3451	204.97	
Undecane	59	156.31	38.679	38.679	1226047	94.94	0.9494	136.06	
1,2,4-Trichlorobenzene	59	181.45	42.189	42.189	3350006	197.23	1.9723	243.48	
Dodecane	59	170.34	42.717	42.717	1419364	95.19	0.9519	125.17	
Hexachloro-1,3-butadiene	59	260.76	44.020	44.020	3504980	257.51	2.5751	221.21	
Tridecane	59	184.36	46.528	46.528	558063	55.80	0.5580	67.80	
Tetradecane	59	198.34	50.544	50.544	14842	21.31	0.2131	24.07	
Bromochloromethane (IS)	23	129.38	13.658	13.658	3516728	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.243	17.243	10220117	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.599	26.599	10265028	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.422	6538529	180.00	1.8000	231.72	

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

02/05/99 11:10

19010602.D

HNF-4073

Rev. 0 Page 2

E02 216

Rev. 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCV; 200mL; 54934-151-01

Sample Info : CCV; 200mL; 54934-151-01

Data File: /chem/hpdos1.i/19010602.b/19010603.D

Page 1

Date : 20-NOV-98 00:04

Client ID: 200mL

Instrument: hpdos1.i

HNF-4073

Sample Info: CCB; 200mL; Nitrogen

Operator: Alex

Rev. 0

Column phase: DB-1

Column diameter: 0.32

E02 219

Date : 20-NOV-98 00:04

Client ID: 200mL

Sample Info: CCB; 200mL; Nitrogen

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

12 Acetone

E02 220

Date : 20-NOV-98 00:04

Client ID: 200mL

Sample Info: CCB; 200mL; Nitrogen

Instrument: hpdos1.i

Operator:

Column diam: 0.32

HNF-4073
rev. 0

Column phase: DB-1

16 Methylene Chloride

Date : 20-NOV-98 00:04

Client ID: 200mL

Instrument: hpdos1.i

Sample Info: CCB; 200mL; Nitrogen

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

70 Hexachloro-1,3-butadiene

E02 222

Date : 20-NOV-98 00:04

Client ID: 200mL

Sample Info: CCB; 200mL; Nitrogen

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number Library

Entry

Quality Formula

Weight

Unknown

0

0

0

E02 223

Sample Info : CCB; 200mL; Nitrogen

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 19010603.D
 Injection Date : 20-NOV-98 00:04 Operator : Alex
 Matrix : AIR Lab. Sample ID: CCB
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 1 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Dichlorodifluoromethane	23	120.91	4.657				0.0007	0.13	U
Chloromethane	23	50.49	5.034				0.0006	0.27	U
12dichloro1122-tetrafluoroeth	23	170.92	5.250				0.0033	0.43	U
Methanol	23	32.04	5.336				0.0032	2.20	U
Vinyl Chloride	23	62.50	5.540				0.0004	0.14	U
Butane	23	58.12	5.960				0.0006	0.23	U
Bromomethane	23	94.94	6.434				0.0013	0.31	U
Chloroethane	23	64.51	6.778				0.0014	0.47	U
Ethanol	23	46.01	6.918				0.0010	0.49	U
Acetonitrile	23	41.05	7.403				0.0010	0.55	U
Acetone	23	58.08	7.898	7.987	93372	0.70	0.0035	1.34	J
Trichlorofluoromethane	23	137.37	8.307				0.0012	0.20	U
Pentane	23	72.15	8.975				0.0009	0.29	U
1,1-Dichloroethene	23	96.94	9.524				0.0009	0.22	U
Methylene Chloride	23	84.93	9.707	9.731	11482	0.32	0.0016	0.42	J
112trichlorol22trifluoroethane	23	187.38	10.202				0.0010	0.12	U
Propanenitrile	23	55.08	10.934				0.0009	0.39	U
Propanol	23	60.10	10.902				0.0007	0.26	U
1,1-Dichloroethane	23	98.96	11.828				0.0005	0.11	U
2-Butanone	23	72.11	12.463				0.0007	0.22	U
cis-1,2-Dichloroethene	23	96.94	13.346				0.0009	0.20	U
Hexane	23	86.18	13.723				0.0008	0.21	U
Chloroform	23	119.38	13.884				0.0006	0.12	U
Tetrahydrofuran	23	72.11	14.627				0.0004	0.12	U
1,2-Dichloroethane	34	98.96	15.284				0.0005	0.12	U
1,1,1-Trichloroethane	34	133.40	15.811				0.0008	0.13	U
Butanenitrile	34	69.11	15.779				0.0009	0.28	U
1-Butanol	34	74.12	16.264				0.0008	0.24	U
Benzene	34	78.11	16.694				0.0004	0.11	U
Carbon Tetrachloride	34	153.82	16.974				0.0009	0.12	U
Cyclohexane	34	84.16	17.254				0.0009	0.24	U
1,2-Dichloropropane	34	112.99	18.255				0.0008	0.15	U
Trichloroethene	34	131.39	18.697				0.0006	0.10	U

02/05/99 16:45

19010603.D

Page 1

E02 224

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.203				0.0004	0.10	U
cis-1,3-Dichloropropene	34	110.97	20.387				0.0006	0.12	U
4-Methyl-2-Pentanone	34	100.16	20.398				0.0009	0.19	U
Pyridine	34	79.10	20.603				0.0046	1.32	U
trans-1,3-Dichloropropene	34	110.97	21.453				0.0004	0.09	U
Pentanenitrile	34	83.13	21.485				0.0011	0.28	U
1,1,2-Trichloroethane	34	133.40	21.895				0.0007	0.12	U
Toluene	49	92.14	22.541				0.0005	0.12	U
1,2-Dibromoethane	49	187.86	24.069				0.0013	0.16	U
Octane	49	114.23	24.618				0.0006	0.12	U
Bromoform	49	175.00	28.268				0.0029	0.38	U
Tetrachloroethylene	49	165.83	25.103				0.0011	0.14	U
Chlorobenzene	49	112.56	26.707				0.0006	0.13	U
Hexanenitrile	49	97.13	26.976				0.0013	0.30	U
Ethylbenzene	49	106.17	27.579				0.0007	0.15	U
p/m-Xylene	49	106.17	28.031				0.0033	0.69	U
Cyclohexanone	49	98.14	28.441				0.0015	0.33	U
Styrene	59	104.15	28.936				0.0005	0.12	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162				0.0011	0.14	U
o-Xylene	59	106.17	29.227				0.0007	0.15	U
Nonane	59	128.26	29.679				0.0004	0.07	U
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629				0.0004	0.08	U
1,3,5-Trimethylbenzene	59	120.19	32.855				0.0004	0.08	U
1,2,4-Trimethylbenzene	59	120.19	34.114				0.0006	0.12	U
Decane	59	142.28	34.362				0.0008	0.12	U
1,3-Dichlorobenzene	59	147.00	34.621				0.0004	0.07	U
1,4-Dichlorobenzene	59	147.00	34.836				0.0004	0.07	U
1,2-Dichlorobenzene	59	147.00	35.956				0.0004	0.07	U
Undecane	59	156.31	38.679				0.0070	1.01	U
1,2,4-Trichlorobenzene	59	181.45	42.189				0.0007	0.09	U
Dodecane	59	170.34	42.717				0.0024	0.32	U
Hexachloro-1,3-butadiene	59	260.76	44.020	44.108	27416	2.24	0.0112	0.96	J
Tridecane	59	184.36	46.528				0.0015	0.18	U
Tetradecane	59	198.34	50.544				0.0011	0.12	U
Bromochloromethane (IS)	23	129.38	13.658	13.671	4344487	120.00	0.6000	103.88	
Difluorobenzene (IS)	34	114.00	17.243	17.246	12994070	97.00	0.4850	95.30	
D5-Chlorobenzene (IS)	49	117.00	26.599	26.602	9647510	111.00	0.5550	106.26	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.424	5326468	180.00	0.9000	115.86	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Unknown	23	0		3.825	1066217	7.58	0.0379		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	16871774
Difluorobenzene (IS)	34	28272905
D5-Chlorobenzene (IS)	49	28095161
1-Bromo-4-Fluorobenzene (IS)	59	26179544

CLP Qualifier Flags--
U--Compound not detected
J--Estimated quantity used for detection below EQL or for TICs
E--Exceeds upper quantitation limit
N--Tentatively Identified Compound

HNF-4073
Rev. 0

02/05/99 16:45

19010603.D

Page 2

E02 226

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL; Nitrogen

02/05/99 16:45

19010603.D
E02 227

Page 3

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : CCB; 200mL; Nitrogen

Data File: /chem/hpdos1.i/19010602.b/19010604.D

Page 1

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

E02 229

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

1 Dichlorodifluoromethane

E02 230

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

2 Chloromethane

E02 231

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: BB-1

4 Methanol

E02 232

Date: 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

7 Butane

E02 233

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073

Rev. 0

Column phase: DB-1

10 Ethanol

E02 234

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

11 Acetonitrile

E02 235

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

12 Acetone

E02 236

Data File: /chem/hpdos1.i/19010602.b/19010604.D

Page 9

Date: 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

13 Trichlorofluoromethane

Data File: /chem/hpdos1.i/19010602.b/19010604.D

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

14 Pentane

E02 237-B

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010,C134; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

16 Methylene Chloride

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml: 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

E02 239

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010,C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanenitrile

E02 240

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

19 Propanol

E02 241

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

21 2-Butanone

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

24 Hexane

E02 243

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

25 Chloroform

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

26 Tetrahydrofuran

E02 245

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

29 Butanenitrile

E02 246

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

30 1-Butanol

E02 247

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml: 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

31 Benzene

E02 248

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

33 Cyclohexane

E02 249

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

37 Heptane

E02 250

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

39 4-Methyl-2-Pentanone

Date: 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

40 Pyridine

E02 252

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

42 Pentanenitrile

E02 253

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Toluene

E02 254

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

46 Octane

E02 255

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

47 Bromoform

E02 256

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 Tetrachloroethylene

E02 257

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdosi.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

51 Hexanenitrile

E02 258

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

52 Ethylbenzene

E02 259

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

53 p/n-Xylene

E02 260

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010,C134; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

54 Cyclohexanone

E02 261

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

56 1,1,2,2-Tetrachloroethane

E02 262

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

57 o-Xylene

E02 263

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

58 Nonane

E02 264

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

62 1,2,4-Trimethylbenzene

E02 265

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

63 Decane

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

66 1,2-Dichlorobenzene

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdosi.i

Operator: Alex

Column diameter: 0.32

Column phase: BB-1

HNF-4073
Rev. 0

67 Undecane

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdosi.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

69 Dodecane

E02 269

Date: 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

E02 270

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.1

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

71 Tridecane

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Furan, 2,5-dihydro-	1708-29-8	nbs75k.1	62431	78	C4H6O	70

E02 272

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

HNF-4073
Rev. 0

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	43	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

E02 273

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010,C134; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propyne	74-99-7	nbs75k.1	24	90	C3H4	40
1,2-Propadiene	463-49-0	nbs75k.1	23	83	C3H4	40
Ethanediiimic acid, dihydrazide	3457-37-2	nbs75k.1	3177	1	C2H8N6	116

E02 274

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methyl nitrite	624-91-9	nbs75k.l	131	9	CH3NO2	61
Monoethanolamine	141-43-5	nbs75k.l	62369	4	C2H7NO	61
Monoethanolamine	141-43-5	nbs75k.l	133	4	C2H7NO	61

E02 275

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Acetaldehyde	75-07-0	nbs75k.1	62264	86	C2H4O	44
Acetaldehyde	75-07-0	nbs75k.1	62265	78	C2H4O	44
Diazenedicarboxamide	123-77-3	nbs75k.1	3175	64	C2H4N4O2	116

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	90	C4H8	56

E02 277

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propanal	123-38-6	nbs75k.1	62333	86	C3H6O	58
Propanal	123-38-6	WILEY138.1	116044	86	C3H6O	58
Propanal	123-38-6	WILEY138.1	116037	86	C3H6O	58

E02 278

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Silanol, trimethyl-	1066-40-6	nbs75k.1	62980	78	C3H10OSi	90
Silanol, trimethyl-	1066-40-6	nbs75k.1	907	78	C3H10OSi	90
Propane, 1,1-dimethoxy-	4744-10-9	nbs75k.1	1919	2	C5H12O2	104

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Pentane, 2-methyl-

107-83-5

nbs75k.1

733

90

C6H14

86

Pentane, 2-methyl-

107-83-5

nbs75k.1

62863

87

C6H14

86

Pentane, 2-methyl-

107-83-5

nbs75k.1

62865

87

C6H14

86

E02 280

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62486	91	C4H8O	72
Butanal	123-72-8	WILEY138.1	116385	87	C4H8O	72
Butanal	123-72-8	WILEY138.1	116384	87	C4H8O	72

E02 281

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62755	95	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84

E02 282

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	50	C7H14	98
Cyclohexane, 1-methyl-2-propyl-	4291-79-6	nbs75k.1	66074	59	C10H20	140
1-Pentene, 2-methyl-	763-29-1	nbs75k.1	598	53	C6H12	84

E02 283

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentanal	110-62-3	nbs75k.1	62820	86	CEH100	86
Pentanal	110-62-3	WILEY138.1	117028	78	CEH100	86
Pentanal	110-62-3	WILEY138.1	117026	78	CEH100	86

E02 284

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	nbs75k.1	63241	93	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	72	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63240	64	C7H14	98

E02 285

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	63247	95	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	95	C7H14	98
3-Heptene	592-78-9	WILEY138.1	901	95	C7H14	98

E02 286

Date: 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	97	C7H14	98
2-Heptene	592-77-8	WILEY138.1	117785	97	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98

E02 287

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98
2-Heptene, (E)-	14686-13-6	WILEY138.1	898	96	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98

E02 288

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Heptadiene	5675-22-9	nbs75k.1	1149	83	C7H12	96
2,3-Hexadiene, 2-methyl-	29212-09-7	nbs75k.1	1147	76	C7H12	96
2,3-Hexadiene, 2-methyl-	29212-09-7	WILEY138.1	622	76	C7H12	96

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.1

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	63138	98	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	1141	97	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	97	C7H12	96

E02 290

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	1556	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117990	91	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63385	90	C6H12O	100

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	64	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	80	C8H16	112
2-Octene, (Z)-	7642-04-8	nbs75k.1	2713	80	C8H16	112

E02 292

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	91	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119371	91	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	90	C8H18	114

E02 293

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal	66-25-1	nbs75k.1	1573	90	C6H12O	100
Hexanal	66-25-1	nbs75k.1	63408	90	C6H12O	100
Hexanal	66-25-1	nbs75k.1	63409	90	C6H12O	100

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

Weight

Heptane, 3-methylene-

1632-16-2

nbs75k.1

2703

94

C8H16

112

Heptane, 3-methylene-

1632-16-2

WILEY138.1

119064

94

C8H16

112

Cyclopropane, 1,1-dimethyl-

1630-94-0

WILEY138.1

116342

87

C5H10

70

E02 295

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: BB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-methyl-	7300-03-0	nbs75k.1	2711	53	C8H16	112
3-Ethyl-3-hexene	16789-51-8	nbs75k.1	2645	64	C8H16	112
1-Hexyn-3-ol	105-31-7	nbs75k.1	63191	59	C6H10O	98

E02 296

Data File: /chem/hpdos1.i/19010602.b/19010604.D

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64151	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64150	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	3092	91	C7H14O	114

Data File: /chem/hpdos1.i/19010602.b/19010604.D

Page 71

Date : 20-NOV-98 01:52

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	WILEY138.1	119309	91	C7H14O	114
3-Heptanone	106-35-4	WILEY138.1	119310	91	C7H14O	114

E02 297-B

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.1

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	WILEY138.1	119301	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119305	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119304	90	C7H14O	114

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		WILEY138.1	24351	78		128
1,1'-Bicyclohexyl-1,1'-diol	2688-11-1	nbs75k.1	22423	72	C12H22O2	198
1,1'-BICYCLOHEXYL-1,1'-BIS(TRIMETHYLSILY	19009-71-3	WILEY138.1	85996	72	C18H38O2Si2	342

E02 299

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		WILEY138.1	33981	72		128
2,2'-Bioxepane	74793-02-5	nbs75k.1	22401	64	C12H22O2	198
Glycocyanidine	503-86-6	nbs75k.1	1373	59	C3H5N3O	99

E02 300

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

Unknown hydrocarbon

5-Azulenemethanol, 1,2,3,3a,4,5,6,7-octa

Decane, 4-methyl-

Decane, 4-methyl-

CAS Number	Library	Entry	Quality	Formula	Weight
55255-90-8	nbs75k.1	28209	32	C15H26O	222
2847-72-5	nbs75k.1	67323	25	C11H24	156
2847-72-5	nbs75k.1	67324	25	C11H24	156

HNF-4073
Rev. 0

E02 301

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	65087	87	CEH160	128
Hexanal, 2-ethyl-	123-05-7	WILEY138.1	120842	87	CEH160	128
Hexanal, 2-ethyl-	123-05-7	WILEY138.1	120841	87	CEH160	128

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown hydrocarbon

Undecane

Decane, 3,6-dimethyl-

Decane

CAS Number

Library

Entry

Quality

Formula

Weight

1120-21-4

nbs75k.1

67318

59

C11H24

156

17312-53-7

nbs75k.1

15348

53

C12H26

170

124-18-5

nbs75k.1

66205

53

C10H22

142

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, 3-ethyl-	74764-46-8	nbs75k.1	4663	59	C ₉ H ₁₈	126
3,5-Dimethyl-3-heptene	59643-68-4	nbs75k.1	4628	47	C ₉ H ₁₈	126
Cyclohexane, 1-ethyl-4-methyl-, trans-	6236-88-0	nbs75k.1	64955	45	C ₉ H ₁₈	126

E02 304

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
Cyclohexane, 1,1,2,3-tetramethyl-	6783-92-2	nbs75k.1	7580	81	C10H20	140
1-Hexene, 3,3,5-trimethyl-	13427-43-5	nbs75k.1	64967	62	C9H18	126
2-Octene, 2,6-dimethyl-	4057-42-5	nbs75k.1	7538	62	C10H20	140

E02 305

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown hydrocarbon						
1,7-Octadiene	3710-30-3	nbs75k.1	2347	33	C ₈ H ₁₄	110
Hexanenitrile	628-73-9	nbs75k.1	63154	33	C ₆ H ₁₁ N	97
1,2-Nonadiene	22433-33-6	nbs75k.1	4223	28	C ₉ H ₁₆	124

E02 306

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	11615	72	C11H24	156
Dodecane, 2,6,10-trimethyl-	3891-98-3	nbs75k.1	70270	72	C15H32	212
Decane, 4-methyl-	2847-72-5	nbs75k.1	67323	72	C11H24	156

E02 307

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66057	80	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66056	64	C10H20	140
Cyclohexane, 1,1'-(1,4-butanediyl)bis-	6165-44-2	nbs75k.1	70645	64	C16H30	222

E02 308

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Undecane, 4,7-dimethyl-	17301-32-5	nbs75k.1	19020	78	C13H28	184
Heptadecane	629-78-7	nbs75k.1	32063	78	C17H36	240
Decane, 2,3,6-trimethyl-	62238-12-4	nbs75k.1	19047	72	C13H28	184

E02 309

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010,C134; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match

1-Ethyl-2,2,6-trimethylcyclohexane

Decane

Hexane, 2,3,4-trimethyl-

Heneicosane, 11-(1-ethylpropyl)-

CAS Number	Library	Entry	Quality	Formula	Weight
124-18-5	nbs75k.1	66204	59	C10H22	142
921-47-1	nbs75k.1	5147	50	C9H20	128
55282-11-6	nbs75k.1	51002	50	C26H54	366

E02 310

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans	493-02-7	nbs75k.1	65941	68	C10H18	138
Bicyclo[2.2.1]heptane, 1,7,7-trimethyl-	464-15-3	nbs75k.1	7033	58	C10H18	138
Cyclopentene, 1-pentyl-	4291-98-9	nbs75k.1	7080	50	C10H18	138

E02 311

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010,C134; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown Alkene/Cycloalkane

Octadecane, 1-(ethenyloxy)-

1-Eicosanol

Nonadecanol

CAS Number	Library	Entry	Quality	Formula	Weight
930-02-9	nbs75k.1	42184	49	C20H40O	296
629-96-9	nbs75k.1	42525	47	C20H42O	298
52783-43-4	nbs75k.1	40237	43	C19H40O	284

E02 312

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010.C134; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	98	C11H20	152
Pulegone	69-82-7	nbs75k.1	66992	64	C10H16O	152
Cyclohexanone, 2-methyl-5-(1-methylethen	5948-04-9	nbs75k.1	66974	62	C10H16O	152

E02 313

Date : 20-NOV-98 01:52

Client ID: 200 ml

Sample Info: AY-102 VP102-010,C134; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	96	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	94	C11H20	152
Camphor	76-22-2	nbs75k.1	66978	70	C10H16O	152

E02 314

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-010.C134; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 19010604.D
 Injection Date : 20-NOV-98 01:52 Operator : Alex
 Matrix : AIR Lab. Sample ID: AY-102 VP102-010.C134
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.657	4.668	30866	0.38	0.0038	0.70	J
Chloromethane	23	50.49	5.034	5.056	9182	0.14	0.0014	0.61	J
1,2-dichloro1,1,2,2-tetrafluoroeth	23	170.92	5.250				0.0065	0.85	U
Methanol	23	32.04	5.336	5.357	1216080	21.94	0.2194	153.36	
Vinyl Chloride	23	62.50	5.540				0.0008	0.29	U
Butane	23	58.12	5.960	5.960	526361	28.98	0.2898	111.71	
Bromomethane	23	94.94	6.434				0.0026	0.61	U
Chloroethane	23	64.51	6.778				0.0027	0.94	U
Ethanol	23	46.01	6.918	6.908	1554726	28.33	0.2833	137.93	
Acetonitrile	23	41.05	7.403	7.446	66983	1.27	0.0127	6.94	J
Acetone	23	58.08	7.898	7.898	4041109	34.61	0.3461	133.49	
Trichlorofluoromethane	23	137.37	8.307	8.318	224355	4.53	0.0453	7.38	
Pentane	23	72.15	8.975	8.986	392239	3.71	0.0371	11.53	
1,1-Dichloroethene	23	96.94	9.524				0.0019	0.44	U
Methylene Chloride	23	84.93	9.707	9.718	11885	0.38	0.0038	0.99	J
1,1,2-trichloro1,2,2-trifluoroethane	23	187.38	10.202	10.213	12326	0.41	0.0041	0.49	J
Propanenitrile	23	55.08	10.934	10.924	31624	0.61	0.0061	2.48	J
Propanol	23	60.10	10.902	10.902	385740	6.48	0.0648	24.14	
1,1-Dichloroethane	23	98.96	11.828				0.0010	0.23	U
2-Butanone	23	72.11	12.463	12.463	451994	12.91	0.1291	40.10	
cis-1,2-Dichloroethene	23	96.94	13.346				0.0017	0.39	U
Hexane	23	86.18	13.723	13.723	383514	5.49	0.0549	14.27	
Chloroform	23	119.38	13.884	13.884	31962	0.49	0.0049	0.92	J
Tetrahydrofuran	23	72.11	14.627	14.649	11892	0.42	0.0042	1.31	J
1,2-Dichloroethane	34	98.96	15.284				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.811				0.0016	0.27	U
Butanenitrile	34	69.11	15.779	15.769	398835	2.82	0.0282	9.14	
1-Butanol	34	74.12	16.264	16.264	1285569	52.36	0.5236	158.23	
Benzene	34	78.11	16.694	16.695	62298	0.35	0.0035	1.01	J
Carbon Tetrachloride	34	153.82	16.974				0.0017	0.25	U
Cyclohexane	34	84.16	17.254	17.287	26468	0.43	0.0043	1.15	J
1,2-Dichloropropane	34	112.99	18.255				0.0015	0.30	U
Trichloroethene	34	131.39	18.697				0.0012	0.20	U

02/05/99 11:10

19010604.D

Page 1

E02 315

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.203	19.203	1085284	20.36	0.2036	45.52	
cis-1,3-Dichloropropene	34	110.97	20.387				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.398	20.387	61476	1.02	0.0102	2.28	J
Pyridine	34	79.10	20.603	20.754	108833	8.32	0.0832	23.57	J
trans-1,3-Dichloropropene	34	110.97	21.453				0.0009	0.18	U
Pentanenitrile	34	83.13	21.485	21.464	72101	1.49	0.0149	4.02	J
1,1,2-Trichloroethane	34	133.40	21.895				0.0014	0.24	U
Toluene	49	92.14	22.541	22.541	144291	1.74	0.0174	4.23	
1,2-Dibromoethane	49	187.86	24.069				0.0026	0.31	U
Octane	49	114.23	24.618	24.619	154274	3.98	0.0398	7.81	
Bromoform	49	175.00	28.268	28.269	3332	0.08	0.0008	0.10	J
Tetrachloroethylene	49	165.83	25.103	25.103	17683	0.59	0.0059	0.80	J
Chlorobenzene	49	112.56	26.707				0.0013	0.26	U
Hexanenitrile	49	97.13	26.976	26.966	39144	0.82	0.0082	1.88	J
Ethylbenzene	49	106.17	27.579	27.590	17196	0.12	0.0012	0.25	J
p/m-Xylene	49	106.17	28.031	27.989	12007	0.22	0.0022	0.47	J
Cyclohexanone	49	98.14	28.441	28.355	33507	1.46	0.0146	3.34	J
Styrene	59	104.15	28.936				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162	29.130	13593	0.31	0.0031	0.41	J
o-Xylene	59	106.17	29.227	29.216	4480	0.09	0.0009	0.19	J
Nonane	59	128.26	29.679	29.679	240064	2.67	0.0267	4.67	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.855				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.114	34.136	8092	0.09	0.0009	0.17	J
Decane	59	142.28	34.362	34.362	361002	6.80	0.0680	10.70	
1,3-Dichlorobenzene	59	147.00	34.621				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.836				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.956	35.988	9919	0.19	0.0019	0.29	J
Undecane	59	156.31	38.679	38.701	151182	14.39	0.1439	20.62	
1,2,4-Trichlorobenzene	59	181.45	42.189				0.0014	0.17	U
Dodecane	59	170.34	42.717	42.771	165974	13.89	0.1389	18.27	
Hexachloro-1,3-butadiene	59	260.76	44.020	44.031	14497	1.01	0.0101	0.87	J
Tridecane	59	184.36	46.528	46.615	130833	23.44	0.2344	28.48	
Tetradecane	59	198.34	50.544				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.658	13.669	3779117	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.243	17.244	12397520	97.00	0.9700	190.60	
D5-Chlorobenzene (IS)	49	117.00	26.599	26.600	9947467	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.422	6229734	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42	115-07-1	4.507	904888	6.63	0.0663	35.37	NJ
Propane	23	44	74-98-6	4.561	1020088	7.48	0.0748	38.06	NJ
1-Propyne	23	40	74-99-7	4.787	59139	0.43	0.0043	2.43	NJ
Methyl nitrite	23	61	624-91-9	4.841	72725	0.53	0.0053	1.96	NJ
Acetaldehyde	23	44	75-07-0	5.347	1899525	13.92	0.1392	70.87	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.767	1245289	9.13	0.0913	36.51	NJ
Propanal	23	58	123-38-6	8.006	1584010	11.61	0.1161	44.83	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Silanol, trimethyl-	23	90	1066-40-6	11.570	267468	1.96	0.0196	4.88	NJ
Pentane, 2-methyl-	23	86	107-83-5	12.119	224736	1.65	0.0165	4.29	NJ
Butanal	23	72	123-72-8	12.270	5008043	36.70	0.3670	114.19	NJ
1-Hexene	23	84	592-41-6	13.142	1895368	13.89	0.1389	37.04	NJ
3-Heptene, (E)-	34	98	14686-14-7	17.685	265439	0.89	0.0089	2.02	NJ
Pentanal	34	86	110-62-3	17.868	6399556	21.22	0.2122	55.26	NJ
1-Heptene	34	98	592-76-7	18.568	1221336	4.07	0.0407	9.31	NJ
3-Heptene	34	98	592-78-9	19.052	3289199	10.97	0.1097	25.08	NJ
2-Heptene	34	98	592-77-8	19.429	3579401	11.94	0.1194	27.29	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.935	2763844	9.22	0.0922	21.08	NJ
1,4-Heptadiene	34	96	5675-22-9	21.723	1971292	6.58	0.0658	15.35	NJ
2-Heptyne	49	96	1119-65-9	22.842	2356540	8.87	0.0887	20.70	NJ
2-Hexanone	49	100	591-78-6	22.950	2139618	8.05	0.0805	18.04	NJ
2-Octene, (E)-	49	112	13389-42-9	23.068	1400856	5.27	0.0527	10.55	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.273	7552119	28.43	0.2843	55.86	NJ
Hexanal	49	100	66-25-1	23.488	581260	2.19	0.0219	4.90	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.940	4460793	16.79	0.1679	33.58	NJ
3-Heptene, 3-methyl-	49	112	7300-03-0	24.436	198883	0.75	0.0075	1.50	NJ
4-Heptanone	49	114	123-19-3	27.440	7885973	29.68	0.2968	58.32	NJ
3-Heptanone	49	114	106-35-4	28.075	27317719	102.82	1.0282	202.04	NJ
2-Heptanone	49	114	110-43-0	28.215	9571214	36.03	0.3603	70.79	NJ
1,3-Diethyl-1,4-epoxybutane	59	128	30.971	1935333	11.00	0.1100	19.26	NJ	
1,2-Diethyl-1,4-epoxybutane	59	128	31.186	3014943	17.14	0.1714	30.00	NJ	
Unknown hydrocarbon	59	0	31.466	711520	4.05	0.0405	J		
Hexanal, 2-ethyl-	59	128	123-05-7	31.638	1590011	9.04	0.0904	15.82	NJ
Unknown hydrocarbon	59	0	32.435	375133	2.13	0.0213	J		
3-Heptene, 3-ethyl-	59	126	74764-46-8	32.575	363084	2.06	0.0206	3.67	NJ
Unknown C10 Alkene/Cycloalkane (mw 140)	59	140		33.200	466603	2.65	0.0265	4.25	J
Unknown hydrocarbon	59	0	33.759	1466243	8.34	0.0834	J		
Decane, 4-methyl-	59	156	2847-72-5	35.493	512317	2.91	0.0291	4.18	NJ
Cyclohexane, butyl-	59	140	1678-93-9	36.311	167798	0.95	0.0095	1.53	NJ
Unknown Alkane	59	0	37.151	414658	2.36	0.0236	J		
1-Ethyl-2,2,6-trimethylcyclohexane	59	156	6975-98-0	37.377	208934	1.19	0.0119	1.71	J
Naphthalene, decahydro-, trans	59	138	493-02-7	37.829	204037	1.16	0.0116	1.88	NJ
Unknown Alkene/Cycloalkane	59	0	39.175	152097	0.86	0.0086	J		

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
Bromochloromethane (IS)	23	16374008
Difluorobenzene (IS)	34	29075250
D5-Chlorobenzene (IS)	49	29489707
1-Bromo-4-Fluorobenzene (IS)	59	31654764

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EGL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

E02 317

HNF-4073
Rev. 0

02/05/99 11:10

19010604.D

Page 3

E02 318

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-010.C134; 200 ml; 2X

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HP MS 19010604.D

HNF-4073
Rev. 0

Sample Info : AY-102 VP102-010.C134; 200 ml; 2X

02/05/99 11:10

19010604.D

Page 5

E02 320

Data File: /chem/hpdos1.i/19010602.b/19010605.D

Page 1

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

E02 321

HNF-4073
REV 0

Data File: /chem/hpdos1.i/19010602.b/19010605.D

Page 2

Date: 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

1 Dichlorodifluoromethane

E02 322-A

HNF-4073
REV 0

Data File: /chem/hpdos1.i/19010602.b/19010605.D

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Page 3

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

2 Chloromethane

E02 322-B

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

4 Methanol

E02 323

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.1

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

7 Butane

E02 324

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdosi.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

10 Ethanol

E02 325

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

11 Acetonitrile

E02 326

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

12 Acetone

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

13 Trichlorofluoromethane

E02 328

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

14 Pentane

E02 329

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdosi.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

16 Methylene Chloride

E02 330

Date: 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

17 112trichloro122trifluoroethane

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

18 Propanenitrile

E02 332

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

19 Propanol

E02 333

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

21 2-Butanone

E02 334

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdosl.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

24 Hexane

E02 335

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

25 Chloroform

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

26 Tetrahydrofuran

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

29 Butanenitrile

E02 338

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

30 1-Butanol

E02 339

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.1

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

31 Benzene

E02 340

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

33 Cyclohexane

E02 341

Data File: /chem/hpdos1.i/19010602.b/19010605.D

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

37 Heptane

E02 342-A

Data File: /chem/hpdos1.i/19010602.b/19010605.D

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Page 24

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

39 4-Methyl-2-Pentanone

E02 342-B

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

40 Pyridine

E02 343

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014,C298; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

42 Pentanenitrile

E02 344

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

44 Toluene

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

46 Octane

E02 346

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

48 Tetrachloroethylene

E02 347

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

51 Hexanenitrile

E02 348

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

52 Ethylbenzene

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

53 p/n-Xylene

E02 350

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014,C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

54 Cyclohexanone

E02 351

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

56 1,1,2,2-Tetrachloroethane

E02 352

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

57 o-Xylene

E02 353

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

58 Nonane

E02 354

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

63 Decane

E02 355

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

67 Undecane

E02 356

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

69 Dodecane

E02 357

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

70 Hexachloro-1,3-butadiene

E02 358

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

71 Tridecane

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propene	115-07-1	nbs75k.1	62258	90	C3H6	42
1-Propene	115-07-1	WILEY138.1	115905	90	C3H6	42
Cyclopropane	75-19-4	nbs75k.1	62259	86	C3H6	42

E02 360

Data File: /chem/hpdos1.i/19010602.b/19010605.D
Date : 20-NOV-98 03:24
Client ID: 200 ml
Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propane	74-98-6	nbs75k.1	62269	64	C3H8	44
Propane	74-98-6	nbs75k.1	62268	9	C3H8	44
Propane	74-98-6	nbs75k.1	38	9	C3H8	44

Data File: /chem/hpdos1.i/19010602.b/19010605.D

Page 44

Date: 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

CAS Number	Library	Entry	Quality	Formula	Weight
75-07-0	WILEY138.1	115921	86	C2H4O	44
75-07-0	WILEY138.1	115923	86	C2H4O	44
75-07-0	nbs75k.1	62265	78	C2H4O	44

Acetaldehyde

75-07-0

WILEY138.1

115921

86

C2H4O

44

Acetaldehyde

75-07-0

WILEY138.1

115923

86

C2H4O

44

Acetaldehyde

75-07-0

nbs75k.1

62265

78

C2H4O

44

E02 361-B

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62306	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	nbs75k.1	62305	90	C4H8	56
1-Propene, 2-methyl-	115-11-7	WILEY138.1	116022	90	C4H8	56

E02 362

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Propanal	123-38-6	nbs75k.1	62333	90	C3H6O	58
Propanal	123-38-6	WILEY138.1	116044	90	C3H6O	58
Propanal	123-38-6	WILEY138.1	116037	90	C3H6O	58

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdcsl.i

HNF-4073

Rev. 0

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Pentene	109-67-1	nbs75k.1	230	91	CEH10	70
1-Pentene	109-67-1	nbs75k.1	62465	68	CEH10	70
1-Pentene	109-67-1	nbs75k.1	62464	64	CEH10	70

E02 364

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Butene, 2-methyl-	563-46-2	nbs75k.1	62458	45	C5H10	70
2-Butene, 2-methyl-	513-35-9	nbs75k.1	62461	72	C5H10	70
1-Butene, 3-methyl-	563-45-1	nbs75k.1	236	80	C5H10	70

E02 365

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentane, 2-methyl-	107-83-5	nbs75k.1	62863	86	C6H14	86
Pentane, 2-methyl-	107-83-5	nbs75k.1	62865	86	C6H14	86
Pentane, 2-methyl-	107-83-5	nbs75k.1	733	86	C6H14	86

E02 366

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Butanal	123-72-8	nbs75k.1	62490	91	C4H8O	72
Butanal	123-72-8	WILEY138.1	116382	91	C4H8O	72
Butanal	123-72-8	WILEY138.1	116384	87	C4H8O	72

E02 367

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Hexene	592-41-6	nbs75k.1	62755	95	C6H12	84
1-Hexene	592-41-6	nbs75k.1	586	94	C6H12	84
1-Hexene	592-41-6	WILEY138.1	116880	94	C6H12	84

E02 368

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.1

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene, (E)-	14686-14-7	nbs75k.1	63260	64	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	72	C7H14	98
1-Heptene, 6-methyl-	5026-76-6	nbs75k.1	2716	72	C8H16	112

E02 369

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Pentanal	110-62-3	nbs75k.1	62820	86	C5H10O	86
Butanal, 3-methyl-	590-86-3	WILEY138.1	117037	78	C5H10O	86
Pentanal	110-62-3	WILEY138.1	117028	78	C5H10O	86

E02 370

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Heptene	592-76-7	WILEY138.1	117780	94	C7H14	98
1-Heptene	592-76-7	WILEY138.1	117783	83	C7H14	98
1-Heptene	592-76-7	nbs75k.1	63241	81	C7H14	98

E02 371

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptene	592-78-9	nbs75k.1	1339	94	C7H14	98
(Z)-3-Heptene	7642-10-6	nbs75k.1	1368	95	C7H14	98
3-Heptene	592-78-9	nbs75k.1	63247	91	C7H14	98

E02 372

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	63254	96	C7H14	98
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	96	C7H14	98

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptene, (E)-	14686-13-6	nbs75k.1	1347	95	C7H14	98
2-Heptene	592-77-8	nbs75k.1	63245	95	C7H14	98
2-Heptene, (E)-	14686-13-6	WILEY138.1	898	95	C7H14	98

E02 374

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclopropane, butyl-	930-57-4	nbs75k.1	1319	64	C7H14	98
Cyclopropane, butyl-	930-57-4	WILEY138.1	931	64	C7H14	98
Cyclopentane, 1,2-dimethyl-, cis-	1192-18-3	nbs75k.1	1367	59	C7H14	98

E02 375

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,4-Heptadiene	5675-22-9	nbs75k.1	1147	76		96
2,3-Hexadiene, 2-methyl-	29212-09-7	WILEY138.1	622	76	C7H12	96
2-Cyclopenten-1-one, 2-methyl-	1120-73-6	nbs75k.1	63117	74	C6H8O	96

E02 376

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptyne	1119-65-9	nbs75k.1	1141	97	C7H12	96
2-Heptyne	1119-65-9	WILEY138.1	602	97	C7H12	96
2-Heptyne	1119-65-9	nbs75k.1	63138	95	C7H12	96

E02 377

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014,C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Hexanone	591-78-6	nbs75k.1	1556	91	C6H12O	100
2-Hexanone	591-78-6	WILEY138.1	117990	91	C6H12O	100
2-Hexanone	591-78-6	nbs75k.1	63386	90	C6H12O	100

E02 378

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Octene, (E)-	13389-42-9	nbs75k.1	2689	58	C8H16	112
4-Octene, (E)-	14850-23-8	WILEY138.1	119059	83	C8H16	112
4-Octene, (E)-	14850-23-8	nbs75k.1	64040	81	C8H16	112

E02 379

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Column phase: DB-1

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methyl-	589-81-1	WILEY138.1	3192	90	C8H18	114
Heptane, 3-methyl-	589-81-1	nbs75k.1	3099	83	C8H18	114
Heptane, 3-methyl-	589-81-1	WILEY138.1	119371	83	C8H18	114

E02 380

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal	66-25-1	nbs75k.1	1573	90	C6H12O	100
Hexanal	66-25-1	nbs75k.1	63410	86	C6H12O	100
Hexanal	66-25-1	nbs75k.1	63408	78	C6H12O	100

E02 381

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Heptane, 3-methylene-	1632-16-2	nbs75k.1	2703	94	C8H16	112
Heptane, 3-methylene-	1632-16-2	WILEY138.1	119064	94	C8H16	112
Cyclopentane, 1,2,4-trimethyl-, (1.alpha	4850-28-6	nbs75k.1	2684	90	C8H16	112

E02 382

Data File: /chem/hpdos1.i/19010602.b/19010605.D

Page 66

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: RY-102 VP102-014.C298; 200 ml; 2X

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

3-Heptene, 3-methyl-
3-Heptene, 3-methyl-
3-Ethyl-3-hexene

CAS Number	Library	Entry	Quality	Formula	Weight
7300-03-0	nbs75k.1	2711	91	C8H16	112
7300-03-0	nbs75k.1	64039	91	C8H16	112
16789-51-8	nbs75k.1	2645	83	C8H16	112

E02 383-A

Data File: /chem/hpdos1.i/19010602.b/19010605.D

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Page 67

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
4-Heptanone	123-19-3	nbs75k.1	64150	91	C7H14O	114
4-Heptanone	123-19-3	nbs75k.1	64151	91	C7H14O	114
4-Heptanone	123-19-3	WILEY138.1	119313	91	C7H14O	114

E02 383-B

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanone	106-35-4	nbs75k.1	3029	91	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64174	90	C7H14O	114
3-Heptanone	106-35-4	nbs75k.1	64173	83	C7H14O	114

E02 384

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Heptanone	110-43-0	nbs75k.1	64164	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119305	90	C7H14O	114
2-Heptanone	110-43-0	WILEY138.1	119299	90	C7H14O	114

E02 385

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
n-Butyl ether	142-96-1	nbs75k.1	65307	64	C6H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121222	64	C6H18O	130
Butane, 1,1'-oxybis-	142-96-1	WILEY138.1	121218	56	C6H18O	130

E02 386

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014,C298; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
3-Heptanol	589-82-2	nbs75k.1	64384	78	C7H16O	116
3-Hexanol, 5-methyl-	623-55-2	nbs75k.1	64371	83	C7H16O	116
3-Hexanol, 5-methyl-	623-55-2	nbs75k.1	3373	74	C7H16O	116

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298: 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,3-Diethyl-1,4-epoxybutane		nbs75k.1	22423	64		128
1,1'-BICYCLOHEXYL-1,1'-BIS(TRIMETHYLSILY	19009-71-3	WILEY138.1	85996	64	C18H38O2Si2	342
2,2'-Bioxepane	74793-02-5	WILEY138.1	33981	64	C12H22O2	198

E02 388

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.1

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1,2-Diethyl-1,4-epoxybutane		nbs75k.1	22401	78		128
1-Hydroxycyclohexanecarboxylic acid	1123-28-0	nbs75k.1	8343	64	C7H12O3	144
1-HYDROXYCYCLOHEXANECARBOXYLIC ACID	1123-28-0	WILEY138.1	10615	64	C7H12O3	144

E02 389

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown hydrocarbon

Octane

1-Octanol, 2,7-dimethyl-

Hydroxylamine, O-decyl-

CAS Number

Library

Entry

Quality

Formula

Weight

111-65-9

nbs75k.l

64207

25

C6H18

114

15250-22-3

nbs75k.l

12054

25

C10H22O

158

29812-79-1

nbs75k.l

15973

23

C10H23NO

173

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Hexanal, 2-ethyl-	123-05-7	nbs75k.1	65087	80	CEH160	128
Hexanal, 2-ethyl-	123-05-7	WILEY138.1	120841	80	CEH160	128
1,3-Cyclobutanediol, 2,2,4,4-tetramethyl	3010-96-6	nbs75k.1	66315	72	CEH1602	144

E02 391

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

Library Search Compound Match

Unknown hydrocarbon
Undecane, 2,6-dimethyl-
Octane, 4-ethyl-
Eicosane

CAS Number	Library	Entry	Quality	Formula	Weight
17301-23-4	nbs75k.1	69033	59	C13H28	184
15869-86-0	nbs75k.1	66222	53	C10H22	142
112-95-8	nbs75k.1	72323	53	C20H42	282

E02 392

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown C10 Alkene/Cycloalkane (mw 140)						
Silane, trimethyl(3-methyl-1-butynyl)-	18388-07-3	nbs75k.1	7449	59	C8H16Si	140
2-Octene, 2,6-dimethyl-	4057-42-5	nbs75k.1	66054	50	C10H20	140
Cyclohexane, 1,1,3,5-tetramethyl-, trans	50876-31-8	nbs75k.1	66068	47	C10H20	140

E02 393

Date : 20-NOV-98 03:24

Client ID: 200 ml

Instrument: hpdos1.i

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown hydrocarbon

1,2-Nonadiene

1,2-Nonadiene

1,2-Nonadiene

CAS Number	Library	Entry	Quality	Formula	Weight
22433-33-6	nbs75k.1	4223	40	C9H16	124
22433-33-6	WILEY138.1	120434	40	C9H16	124
22433-33-6	WILEY138.1	4866	40	C9H16	124

E02 394

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 4-methyl-	2847-72-5	nbs75k.1	67323	64	C11H24	156
Hexadecane, 2,6,11,15-tetramethyl-	504-44-9	nbs75k.1	39867	72	C20H42	282
Heptane, 3,3,5-trimethyl-	7154-80-5	nbs75k.1	66218	59	C10H22	142

E02 395

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014,C298; 200 ml: 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cyclohexane, butyl-	1678-93-9	nbs75k.1	66057	64	C10H20	140
Cyclohexane, (2-methylpropyl)-	1678-98-4	nbs75k.1	7565	76	C10H20	140
Cyclohexane, butyl-	1678-93-9	nbs75k.1	7540	64	C10H20	140

E02 396

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkane						
Octane, 6-ethyl-2-methyl-	62016-19-7	nbs75k.1	11609	78	C11H24	156
Undecane, 4,7-dimethyl-	17301-32-5	nbs75k.1	19020	72	C13H28	184
Nonane, 5-(1-methylpropyl)-	62185-54-0	nbs75k.1	19016	64	C13H28	184

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014,C298; 200 ml; 2X

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
1-Ethyl-2,2,6-trimethylcyclohexane	0-00-0	nbs75k.1	11030	94	C11H22	154
Cyclohexane, 1,1-dimethyl-2-propyl-	81983-71-3	nbs75k.1	11086	94	C11H22	154
Cyclohexanone, 5-methyl-2-(1-methylethyl)	10458-14-7	nbs75k.1	67085	68	C10H18O	154

E02 398

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2K

Instrument: hpdos1.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073

Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.l	65957	95	C10H18	138
Naphthalene, decahydro-, trans-	493-02-7	nbs75k.l	7108	95	C10H18	138
Naphthalene, decahydro-	91-17-8	nbs75k.l	7045	94	C10H18	138

E02 399

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdos1.i

Column phase: DB-1

Operator: Alex

Column diameter: 0.32

HNF-4073
Rev. 0

Library Search Compound Match

Unknown Alkene/Cycloalkane

1-Hexacosanol

1-Tetracosanol

2-n-Butylacrolein

CAS Number

Library

Entry

Quality

Formula

Weight

506-52-5

nbs75k.1

52385

49

C26H54O

382

506-51-4

nbs75k.1

49775

47

C24H50O

354

1070-66-2

nbs75k.1

2577

38

C7H12O

112

E02 400

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C298; 200 ml; 2X

Instrument: hpdosl.i

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Alkyl Decahydronaphthalene						
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	97	C11H20	152
Pulegone	69-82-7	nbs75k.1	66992	74	C10H16O	152
Cyclohexanone, 2-methyl-5-(1-methylethen	7764-50-3	nbs75k.1	10308	68	C10H16O	152

E02 401

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014.C29B; 200 ml; 2K

Instrument: hpdos1.1

Operator: Alex

Column diameter: 0.32

Column phase: DB-1

HNF-4073
Rev. 0

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67008	98	C11H20	152
Naphthalene, decahydro-2-methyl-	2958-76-1	nbs75k.1	67009	90	C11H20	152
Cyclohexanone, 2-methyl-5-(1-methylethen	7764-50-3	nbs75k.1	66948	74	C10H16O	152

E02 402

Date : 20-NOV-98 03:24

Client ID: 200 ml

Sample Info: AY-102 VP102-014,C298; 200 ml; 2X

Instrument: hpdos1.i

HNF-4073
Rev. 0

Operator: Alex

Column phase: DB-1

Column diameter: 0.32

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Undecane, 2,6-dimethyl-	17301-23-4	nbs75k.1	69033	64	C13H28	184
Dodecane, 6-methyl-	6044-71-9	nbs75k.1	19006	64	C13H28	184
Decane, 2,6,7-trimethyl-	62108-25-2	nbs75k.1	19027	64	C13H28	184

E02 403

Sample Info : AY-102 VP102-014.C298; 200 ml; 2X

HNF-4073
Rev. 0

Instrument ID : hpdos1.i
 Method : InCal2_53097.m
 File : 19010605.D
 Injection Date : 20-NOV-98 03:24 Operator : Alex
 Matrix : AIR Lab. Sample ID: AY-102 VP102-014.C298
 Quantitation : ISTD Integrator : HP RTE
 Dilution Factor : 2 Sample Type: SAMPLE

VolumeFactor: 200 mL

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Dichlorodifluoromethane	23	120.91	4.657	4.669	29729	0.36	0.0036	0.67	J
Chloromethane	23	50.49	5.034	5.046	8214	0.12	0.0012	0.54	J
1,2-dichloro1,1,2,2-tetrafluoroethane	23	170.92	5.250				0.0065	0.85	U
Methanol	23	32.04	5.336	5.358	993993	17.83	0.1783	124.65	
Vinyl Chloride	23	62.50	5.540				0.0008	0.29	U
Butane	23	58.12	5.960	5.961	691722	37.88	0.3788	145.97	
Bromomethane	23	94.94	6.434				0.0026	0.61	U
Chloroethane	23	64.51	6.778				0.0027	0.94	U
Ethanol	23	46.01	6.918	6.908	1379675	25.00	0.2500	121.72	
Acetonitrile	23	41.05	7.403	7.425	47878	0.90	0.0090	4.93	J
Acetone	23	58.08	7.898	7.899	3222993	27.45	0.2745	105.87	
Trichlorofluoromethane	23	137.37	8.307	8.319	177750	3.57	0.0357	5.81	
Pentane	23	72.15	8.975	8.986	545970	5.14	0.0514	15.96	
1,1-Dichloroethene	23	96.94	9.524				0.0019	0.44	U
Methylene Chloride	23	84.93	9.707	9.708	11967	0.38	0.0038	0.99	J
1,1,2-trichloro1,1,2,2-tetrafluoroethane	23	187.38	10.202	10.203	10153	0.33	0.0033	0.40	J
Propanenitrile	23	55.08	10.934	10.913	29073	0.56	0.0056	2.27	J
Propanol	23	60.10	10.902	10.903	309992	5.18	0.0518	19.29	
1,1-Dichloroethane	23	98.96	11.828				0.0010	0.23	U
2-Butanone	23	72.11	12.463	12.453	382307	10.86	0.1086	33.73	
cis-1,2-Dichloroethene	23	96.94	13.346				0.0017	0.39	U
Hexane	23	86.18	13.723	13.724	548520	7.81	0.0781	20.29	
Chloroform	23	119.38	13.884	13.874	26959	0.41	0.0041	0.77	J
Tetrahydrofuran	23	72.11	14.627	14.628	10795	0.38	0.0038	1.18	J
1,2-Dichloroethane	34	98.96	15.284				0.0011	0.25	U
1,1,1-Trichloroethane	34	133.40	15.811				0.0016	0.27	U
Butanenitrile	34	69.11	15.779	15.769	339376	2.43	0.0243	7.88	
1-Butanol	34	74.12	16.264	16.254	1119774	46.19	0.4619	139.60	
Benzene	34	78.11	16.694	16.695	70428	0.40	0.0040	1.16	J
Carbon Tetrachloride	34	153.82	16.974				0.0017	0.25	U
Cyclohexane	34	84.16	17.254	17.287	47915	0.79	0.0079	2.11	J
1,2-Dichloropropane	34	112.99	18.255				0.0015	0.30	U
Trichloroethene	34	131.39	18.697				0.0012	0.20	U

02/05/99 11:10

19010605.D

Page 1

E02 404

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Compound name	ISTD Group	Mole. Wt.	Expected RT	Actual RT	Area	ng on-column	mg/m ³	ppbv	Flags
Heptane	34	100.20	19.203	19.204	1790821	34.03	0.3403	76.08	
cis-1,3-Dichloropropene	34	110.97	20.387				0.0012	0.24	U
4-Methyl-2-Pentanone	34	100.16	20.398	20.377	90800	1.52	0.0152	3.40	J
Pyridine	34	79.10	20.603	20.743	92861	7.19	0.0719	20.37	J
trans-1,3-Dichloropropene	34	110.97	21.453				0.0009	0.18	U
Pentanenitrile	34	83.13	21.485	21.465	81523	1.71	0.0171	4.60	J
1,1,2-Trichloroethane	34	133.40	21.895				0.0014	0.24	U
Toluene	49	92.14	22.541	22.541	205660	2.45	0.0245	5.96	
1,2-Dibromoethane	49	187.86	24.069				0.0026	0.31	U
Octane	49	114.23	24.618	24.608	256510	6.54	0.0654	12.83	
Bromoform	49	175.00	28.268				0.0059	0.75	U
Tetrachloroethylene	49	165.83	25.103	25.104	15671	0.52	0.0052	0.70	J
Chlorobenzene	49	112.56	26.707				0.0013	0.26	U
Hexanenitrile	49	97.13	26.976	26.966	46555	0.96	0.0096	2.21	J
Ethylbenzene	49	106.17	27.579	27.580	19784	0.13	0.0013	0.28	J
p/m-Xylene	49	106.17	28.031	27.989	13664	0.25	0.0025	0.53	J
Cyclohexanone	49	98.14	28.441	28.409	63077	2.72	0.0272	6.22	J
Styrene	59	104.15	28.936				0.0011	0.24	U
1,1,2,2-Tetrachloroethane	59	167.85	29.162	29.120	17925	0.40	0.0040	0.53	J
o-Xylene	59	106.17	29.227	29.216	4102	0.08	0.0008	0.17	J
Nonane	59	128.26	29.679	29.669	413052	4.58	0.0458	7.99	
1-Ethyl-2-Methyl-Benzene	59	120.19	32.629				0.0009	0.17	U
1,3,5-Trimethylbenzene	59	120.19	32.855				0.0009	0.17	U
1,2,4-Trimethylbenzene	59	120.19	34.114				0.0013	0.24	U
Decane	59	142.28	34.362	34.352	632508	11.85	0.1185	18.65	
1,3-Dichlorobenzene	59	147.00	34.621				0.0009	0.14	U
1,4-Dichlorobenzene	59	147.00	34.836				0.0009	0.14	U
1,2-Dichlorobenzene	59	147.00	35.956				0.0009	0.14	U
Undecane	59	156.31	38.679	38.691	277042	26.22	0.2622	37.57	
1,2,4-Trichlorobenzene	59	181.45	42.189				0.0014	0.17	U
Dodecane	59	170.34	42.717	42.718	394931	32.87	0.3287	43.22	
Hexachloro-1,3-butadiene	59	260.76	44.020	44.020	7391	0.51	0.0051	0.44	J
Tridecane	59	184.36	46.528	46.508	576958	102.78	1.0278	124.88	
Tetradecane	59	198.34	50.544				0.0021	0.24	U
Bromochloromethane (IS)	23	129.38	13.658	13.659	3800466	120.00	1.2000	207.76	
Difluorobenzene (IS)	34	114.00	17.243	17.244	12239932	97.00	0.9700	190.60	
DS-Chlorobenzene (IS)	49	117.00	26.599	26.600	10063065	111.00	1.1100	212.51	
1-Bromo-4-Fluorobenzene (IS)	59	174.00	30.422	30.412	6254962	180.00	1.8000	231.72	

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Propene	23	42	115-07-1	4.497	1277954	8.92	0.0892	47.59	NJ
Propane	23	44	74-98-6	4.550	1111059	7.76	0.0776	39.50	NJ
Acetaldehyde	23	44	75-07-0	5.326	2658141	18.56	0.1856	94.49	NJ
1-Propene, 2-methyl-	23	56	115-11-7	5.767	1539370	10.75	0.1075	42.99	NJ
Propanal	23	58	123-38-6	8.017	1978421	13.81	0.1381	53.35	NJ
1-Pentene	23	70	109-67-1	8.534	532559	3.72	0.0372	11.90	NJ
1-Butene, 2-methyl-	23	70	563-46-2	8.792	255930	1.79	0.0179	5.72	NJ

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

HNF-4073

Rev. 0

Compound name	ISTD#	Mole. Wt.	CAS #	RT	Area	ng on-column	mg/m ³	ppbv	Flags
Pentane, 2-methyl-	23	86	107-83-5	12.141	338219	2.29	0.0229	5.97	NJ
Butanal	23	72	123-72-8	12.270	6395940	44.66	0.4466	138.94	NJ
1-Hexene	23	84	592-41-6	13.131	3377557	23.58	0.2358	62.89	NJ
3-Heptene, (E)-	34	98	14686-14-7	17.675	429748	1.45	0.0145	3.31	NJ
Pentanal	34	86	110-62-3	17.858	9547578	32.14	0.3214	83.70	NJ
1-Heptene	34	98	592-76-7	18.568	2239312	7.54	0.0754	17.23	NJ
3-Heptene	34	98	592-78-9	19.053	7245969	24.39	0.2439	55.75	NJ
2-Heptene	34	98	592-77-8	19.430	8009811	26.96	0.2696	61.62	NJ
2-Heptene, (E)-	34	98	14686-13-6	19.925	5983265	20.14	0.2014	46.03	NJ
Cyclopropane, butyl-	34	98	930-57-4	20.377	2102999	7.08	0.0708	16.18	NJ
1,4-Heptadiene	34	96	5675-22-9	21.712	3461989	11.65	0.1165	27.19	NJ
2-Heptyne	49	96	1119-65-9	22.843	3986314	15.02	0.1502	35.04	NJ
2-Hexanone	49	100	591-78-6	22.940	2547397	9.60	0.0960	21.50	NJ
2-Octene, (E)-	49	112	13389-42-9	23.069	2449680	9.23	0.0923	18.46	NJ
Heptane, 3-methyl-	49	114	589-81-1	23.273	12767218	48.10	0.4810	94.52	NJ
Hexanal	49	100	66-25-1	23.489	883330	3.33	0.0333	7.45	NJ
Heptane, 3-methylene-	49	112	1632-16-2	23.941	8707769	32.81	0.3281	65.61	NJ
3-Heptene, 3-methyl-	49	112	7300-03-0	24.436	716583	2.70	0.0270	5.40	NJ
4-Heptanone	49	114	123-19-3	27.429	8408446	31.68	0.3168	62.25	NJ
3-Heptanone	49	114	106-35-4	28.064	29021012	109.34	1.0934	214.84	NJ
2-Heptanone	49	114	110-43-0	28.204	9299316	35.04	0.3504	68.84	NJ
n-Butyl ether	49	130	142-96-1	28.420	1530864	5.77	0.0577	9.94	NJ
3-Heptanol	59	116	589-82-2	28.732	2747591	15.31	0.1531	29.56	NJ
1,3-Diethyl-1,4-epoxybutane	59	128		30.971	2465918	13.74	0.1374	24.04	NJ
1,2-Diethyl-1,4-epoxybutane	59	128		31.176	4274285	23.81	0.2381	41.68	NJ
Unknown hydrocarbon	59	0		31.456	1141292	6.36	0.0636		J
Hexanal, 2-ethyl-	59	128	123-05-7	31.639	1730212	9.64	0.0964	16.87	NJ
Unknown hydrocarbon	59	0		32.425	769059	4.28	0.0428		J
Unknown C10 Alkene/Cycloalkane (mw 140)	59	140		33.200	499952	2.79	0.0279	4.46	J
Unknown hydrocarbon	59	0		33.760	2287858	12.75	0.1275		J
Decane, 4-methyl-	59	156	2847-72-5	35.483	954662	5.32	0.0532	7.64	NJ
Cyclohexane, butyl-	59	140	1678-93-9	36.312	484564	2.70	0.0270	4.32	NJ
Unknown Alkane	59	0		37.141	265816	1.48	0.0148		J
1-Ethyl-2,2,6-trimethylcyclohexane	59	154	0-00-0	37.345	275943	1.54	0.0154	2.24	NJ
Naphthalene, decahydro-, trans-	59	138	493-02-7	37.819	333521	1.86	0.0186	3.02	NJ
Unknown Alkene/Cycloalkane	59	0		39.176	180235	1.00	0.0100		J

Internal Standard Information for TICs

Internal Standard	ISTD #	Area
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Bromochloromethane (IS)	23	17185714
Difluorobenzene (IS)	34	28818586
D5-Chlorobenzene (IS)	49	29461815
1-Bromo-4-Fluorobenzene (IS)	59	32306748

CLP Qualifier Flags--

U--Compound not detected

J--Estimated quantity used for detection below EQL or for TICs

E--Exceeds upper quantitation limit

N--Tentatively Identified Compound

E02 406

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Page 3

E02 407

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-014.C298; 200 ml; 2X

Rev. 0

Hanford Tank Vapor Characterization SUMMA GC/MS Analysis Report

Sample Info : AY-102 VP102-014.C298; 200 ml; 2X

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HNF-4073, Rev. 0, "Data Package of Gas and Vapor Analyses of Samples from the December 16, 1998 Tank 241-C-106 Waste Retrieval Sluicing System Process Test"		ECN No.	N/A

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