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Section 1 of 5

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Abstract: This data package presents field data and analytical results from the March 7, 1999, headspace vapor sampling of Hanford Site single-shell tank 241-C-106 waste retrieval sluicing system process test phase II.

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EXECUTIVE SUMMARY

This data package presents sampling data and analytical results from the March 7, 1999, vapor sampling of Hanford Site single-shell tank 241-C-106 during active sluicing. Samples were obtained from the 296-C-006 ventilation system stack, 241-AZ-702 ventilation system stack, and ambient air at several locations. Characterization Project Operations (CPO) were responsible for the collection of all SUMMATM canister samples and for the collection of particulate filter samples at the 241-AZ-702 stack. The Special Analytical Support (SAS) vapor team was responsible for the collection of all triple sorbent trap (TST), sorbent tube train (STT), polyurethane foam (PUF), and particulate filter samples collected at the 296-C-006 stack. The SAS vapor team used the non-electrical vapor sampling (NEVS) system to collect samples of the air, gases, and vapors from the 296-C-006 stack.

The SAS vapor team collected and analyzed these samples for Lockheed Martin Hanford Corporation (LMHC) and Tank Waste Remediation System (TWRS) in accordance with the sampling and analytical requirements specified in the *Waste Retrieval Sluicing System Vapor Sampling and Analysis Plan (SAP) for Evaluation of Organic Emissions, Process Test Phase II*, HNF-4030, Rev. 0, (LMHC, 1999).

All samples were stored in a secured Radioactive Materials Area (RMA) until the samples were radiologically released and received by SAS for analysis. The Waste Sampling and

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Characterization Facility (WSCF) performed the radiological analyses. The samples were received on March 12, 1999.

Four sample types were analyzed by SAS (SUMMA canister, TST, STT, and PUF). Analytes were not detected at concentrations exceeding their notification limits as specified in the SAP.

Section 1.0 presents the sampling information and Section 2.0 presents the results of the analyses.

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ABBREVIATIONS AND ACRONYMS

CAS™	Chemical Abstracts Service™
CCB	continuing calibration blank
CCVS	continuing calibration verification standard
COC	chain of custody
corp.	corporation
CPO	Characterization Project Operations
DBP	dibutyl phosphate
DP	data package
EPA	Environmental Protection Agency
ft	feet
GC	gas chromatograph
GC/MS	gas chromatograph - mass spectrometer
GC/TCD	gas chromatograph - thermal conductivity detector
HP	Hewlett - Packard
IC	ion chromatograph
ICAL	initial calibration
ICVS	initial calibration verification standard
in.Hg	inches of mercury
kPa	kiloPascals
L	liter
LCS	laboratory control sample
LMHC	Lockheed Martin Hanford Corporation
L/min	liters per minute
m	meter
MB	method blank
MDL	minimum detection limit
mg/L	milligrams per liter
mg/m ³	milligrams per cubic meter
ml/min	milliliters per minute
mm	millimeter
mmHg	millimeters of mercury
MPB	method performance blank
MS	mass spectrometry
n/a or N/A	not applicable
NEVS (system)	non-electrical vapor sampling (system)
ng	nanogram
NHC	Numatec Hanford Corporation
NIST	National Institute of Standards and Technology
pCi	picoCurie
pCi/g	picoCurie per gram
perm.	permanent
PNNL	Pacific Northwest National Laboratory
ppbv	parts per billion by volume
ppmv	parts per million by volume
PUF	polyurethane foam
QA	quality assurance
QC	quality control

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ABBREVIATIONS AND ACRONYMS (Cont.)

Rev.	revision
RMA	radioactive material area
RPD	relative percent difference
RSD	relative standard deviation
SAP	sampling and analysis plan
SAS	Special Analytical Support
sccm	standard cubic centimeters per minute
SHMS	standard hydrogen monitoring system
SST	single-shell tank
STT	sorbent tube train
TBP	tributyl phosphate
TD	thermal desorption
TIC	tentatively identified compound
TNMOC	total non-methane organic carbon
TOC	total organic carbon
TO-12	EPA toxic organic method
TO-14	EPA toxic organic method
TST	triple sorbent trap
TWRS	Tank Waste Remediation System
VOC	volatile organic compound
VPRQL	Vapor Program Required Quantitation Limit
WSCF	Waste Sampling and Characterization Facility
°C	degrees Celsius
°F	degrees Fahrenheit
µg/L	micrograms per liter
%R	percent recovery

DOCUMENT INVENTORY FORM

Upon assembly of the complete data package, the document assembler shall verify that each required item is contained in the data package and check the box on this form associated with the required item. The document assembler shall then print his/her name, sign, and date in the assembler's signature block when all items have been checked.

Prefatory Elements:

- ☒ distribution list (form A-6000-135)
- ☒ Engineering Data Transmittal form (form BD-7400-172)
- ☒ Supporting Document cover page (form A-6400-073)
- ☒ title page
- ☒ executive summary
- ☒ table of contents
- ☒ list of abbreviations and acronyms
- ☒ document inventory form
- ☒ quality assurance data package review results
- ☐ nonconformance reports OR
- ☒ nonconformance reports not applicable

Sampling Elements:

- ☒ sampling case narrative
- ☒ sample summary and event chronology
- ☒ sampling procedures table
- ☒ sampling logbook table
- ☒ field-generated vapor TOC results
- ☒ sample radiation screening results
- ☒ chain of custody forms

Analyses Elements:

- ☒ analytical case narrative
- ☒ analytical procedures identification table
- ☒ data qualifier flag translation table
- ☒ target analyte and duplicates concentration table
- ☒ tentatively identified compound concentration table
- ☒ laboratory blank summary
- ☒ field blank summary
- ☒ mass spectrometer instrument tune report
- ☒ target analyte initial calibration table
- ☒ target analyte continuing calibration table
- ☒ internal standards area counts table
- ☒ laboratory control sample results table
- ☒ surrogate compounds results table
- ☒ quantitation reports
- ☒ chromatograms
- ☒ mass spectra of reported tentatively identified compounds

Greg A. Fies
Document Assembler (print name)

05/24/99
Document Assembler (sign) date

DATA PACKAGE QUALITY ASSURANCE REVIEW

Date reviewed: 05/17/99

Reviewed by: M. L. Myers

ORGANIC DATA ASSESSMENT SUMMARY

	DBP/TBP	VOC in SUMMA	TNMOC	PERM. GAS	VOC in TST
Holding Time	X	X	0	0	X
Surrogate Recovery	0	n/a	n/a	n/a	0
Blanks	0	X	0	0	0
GC Tunes	0	0	0	0	0
Calibration	0	X	0	0	X
Internal Standards/LCS	0	X	0	X	0

INORGANIC DATA ASSESSMENT SUMMARY

	Ammonia	Nitrogen Dioxide	Nitric Oxide
Calibration	0	0	0
Blanks	0	0	0
CCVS	0	0	0
Matrix Spike/Matrix Spike Duplicate	0	0	0
Holding Time	0	0	0

OVERALL ASSESSMENT: Data acceptable with qualifiers

0 = data had no problems

X = data qualified with minor problems

N = data qualified with major problems, some data may be unusable

n/a = not applicable

Data assessment summaries are available upon request.

NONCONFORMANCE REPORTS

Nonconformance reports were not generated during the sampling and analysis events described in this data package.

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1.0 Sampling Section

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1.1 SCOPE

The sampling section of this data package presents information and sampling data resulting from the March 7, 1999, vapor sampling of Hanford Site single-shell tank (SST) 241-C-106 during active sluicing. Samples were obtained from the 296-C-006 ventilation system stack, 241-AZ-702 ventilation system stack, and ambient air at several locations. Characterization Project Operations (CPO) was responsible for the collection of all SUMMA canister samples and for the collection of particulate filter samples at the 241-AZ-702 stack. The Special Analytical Support (SAS) vapor team was responsible for the collection of all triple sorbent trap (TST), sorbent tube train (STT), polyurethane foam (PUF), and particulate filter samples collected at the 296-C-006 stack. The SAS project file for this sampling event is numbered V9009. The analytical results from these samples are presented in the analyses section of this data package.

The SAS vapor team collected samples for Lockheed Martin Hanford Corporation (LMHC) and Tank Waste Remediation System (TWRS) in accordance with the sampling requirements specified in the *Waste Retrieval Sluicing System Vapor Sampling and Analysis Plan for Evaluation of Organic Emissions, Process Test Phase II*, HNF-4030, Rev. 0, (LMHC, 1999), SAS procedure *Vapor Sampling Using the Non-Electrical Vapor Sampling (NEVS) System*, LO-080-400, Rev. A-1, and work package 2E-99-00143/W, *241-C Monitor 296-C-006 TOC/VOC W/FID & OVM*, (both SAS and Industrial Hygiene). CPO collected samples in accordance with HNF-4030, (LMHC, 1999), work package ES-99-00054/0, *702-AZ Ventilation System Vapor Sample*, and work package ES-99-00055/0, *241-C-106 Vapor Sample from Stack*. Copies of the work packages are provided in appendix 1B.

All samples were stored in a secured Radioactive Materials Area (RMA) until the samples were radiologically released and received by the SAS analytical laboratory on March 12, 1999.

All sample container/media preparation, sample handling and storage, and field sampling were performed according to the procedures and work packages listed in Table 1-1. Project logbooks and logbook pages that contain data and information relevant to this sampling event are listed in Table 1-2.

Table 1-1. Summary of Tank Vapor Sample Preparation, Storage, and Collection Procedures or Work Packages.

Procedure or Work Package Title	Procedure or Work Package #/Revision #
Cleaning Procedure for SUMMA Canisters	LO-080-406/A-0
Triple Sorbent Trap Preparation for Waste Tank Vapor Samples	LA-549-403/A-0
Preparation of Triple Sorbent Tubes for Field Sampling, Analysis, and Calibration Standards	LA-549-404/A-0
Sorbent Trap Preparation for Waste Tank Inorganic Vapor Samples	LA-549-402/A-0
Balance Quality Assurance Checks	HNF-IP1128,2.15/0
Monitoring and Recording Temperatures of Sample and Standard Storage Units	LQ-549-400/A-0
Laboratory and Sample Security	WMH-310, 1.4/0
Preventing Sample Contamination	WMH-310, 2.13/0
Project and Sample Identification for SAS	WMH-310, 2.7/0
Logkeeping Practices	WMH-200, 2.11/0
Sample Chain of Custody, Acceptance, and Disposal	LO-090-450/B-1
Vapor Sampling Using the Non-Electrical Vapor Sampling (NEVS) System	LO-080-400/A-1
241-C-106 Vapor Sample from Stack	ES-99-00055/0
702-AZ Ventilation System Vapor Sample	ES-99-00054/0
241-C Monitor 296-C-006 TOC/VOC W/FID & OVM	2E-99-00143/W

Table 1-2. Sampling Project Logbooks.

Logbook Title	Logbook Number	Page Numbers
Trailer #5618, Development of Sample Media Preparation	WHC-N-947-1	70 - 74
Building 622R, Rm 122, SUMMA Preparation	WHC-N-1408-1	19 - 104
Preparation of Samples and Standards for TST Analysis	WHC-N-1411-1	136
Trailer #5618, Sample Media Tracking	WHC-N-855-1	28 - 30
Chain of Custody Numbering	WHC-N-1410-1	58
Building 622F, Rm 01, Sample Custody	WHC-N-1405-1	12 - 17
Building 622R, Rm 120, Sample Refrigerator Temperature Monitoring	WHC-N-1404-1	6+
Vapor Sampling	WHC-N-448-1	138

1.2 DESCRIPTION OF VAPOR SAMPLING SYSTEM

This section provides an overview of the non-electrical vapor sampling (NEVS) system, the types of samples acquired, and documents the cleanliness and traceability of the sample containers and media.

1.2.1 Non-Electrical Vapor Sampling (NEVS) System Overview

This section is a summary of what the NEVS system is and how it functions. A schematic drawing of sampling is provided in appendix 1B.

The NEVS system collects representative vapor samples in potentially flammable environments. The system is portable and designed to allow much of the preparation for sampling to be performed outside of a surface contamination area. The NEVS system collects vapor samples by measuring the system pressure change of a known evacuated volume; by drawing vapor samples through the sorbent media, the volume collected is determined by measuring system pressure change. This method eliminates the need for electrically powered equipment. It may also be utilized in nonflammable environments.

Vapor samples are collected in sorbent traps. Sorbent traps are pencil-size stainless steel or glass tubes that contain vapor-adsorbing media. The sorbent traps may be used individually

(TST or PUF) or may be prepared with several individual traps joined in series (STT). A known volume of sample vapor is passed through the tube, which traps (by adsorption) virtually all the target analytes. The concentration of analytes in the vapor sampled is calculated from the quantity of analyte found in the sorbent media and the volume of vapor passed through the sorbent trap.

1.2.2 SUMMA Canister Sampling

SUMMA canisters are stainless-steel vessels that allow collection and transfer of whole-air samples from the sample site to the analytical laboratory for analysis. These canisters have been treated by the SUMMA process that passivates adsorption sites on the interior canister walls to minimize adsorption of gases and vapors. SUMMA canisters must be cleaned and evacuated before each use. The evacuated canister is filled with sample vapor through a valve that is then closed to seal the sample inside.

SUMMA canister samples were collected without the use of the NEVS system.

1.2.3 Sample Container and Sample Media Preparation

This section documents the preparation and storage history of the sample containers and sample media used in the March 7, 1999, sampling event. Table 1-3 documents the treatment of each sample container and sample medium by sample number. Due to the flexibility allowed in the SAP, more sample containers and media were prepared and taken into the field than were actually used for vapor samples. This table summarizes sample media and containers actually utilized in vapor sampling. After preparation, each sample container and sample medium was stored in locked storage at 600/622F/01 until required for field use. The TSTs, STTs, and PUFs were stored at 4 ± 2 °C and SUMMAs were stored at ambient conditions.

Per procedure LO-090-450, Rev. B-1, *Sample Chain of Custody, Acceptance, and Disposal* (NHC, 1997), chains of custody were maintained on each sample container and sample medium upon retrieval from locked storage, through the sampling event, and upon delivery to the analytical laboratory; appendix 1A contains copies of the chains of custody. Sample containers and sample media were transported at ambient temperature to and from the field.

Sample container and medium cleanliness was confirmed as described by *Cleaning Procedure for SUMMA Canisters* (LO-080-406/A-0) and *Preparation of Triple Sorbent Tubes for Field Sampling, Analysis and Calibration Standards* (LA-549-404/A-1). Contamination above 2.5 ppbv was not detected in the canisters. Contamination above detection limits was not detected in the TSTs.

Table 1-3. Sample Containers and Media Preparation History. (4 sheets)

Sample Information					Preparation Information		
Sample Number	COC Number	Sample Type	Serial Number	Sample Container or Medium Manufacturer	Preparation Date	Preparation Procedure/ Revision #	Preparation Logbook #/Pages
VS006-202-S011	V9009-a	SUMMA	011	Molectrics	03/03/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS006-207-S027	V9009-a	SUMMA	027	Molectrics	03/03/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS006-212-S028	V9009-a	SUMMA	028	Molectrics	03/03/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS006-217-S030	V9009-a	SUMMA	030	Molectrics	03/03/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS006-222-S039	V9009-a	SUMMA	039	Molectrics	03/03/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS006-227-S054	V9009-a	SUMMA	054	Molectrics	03/03/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS006-232-S056	V9009-a	SUMMA	056	Molectrics	03/03/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS006-237-S071	V9009-a	SUMMA	071	Molectrics	03/03/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS006-292-S113	V9009-a	SUMMA	113	Molectrics	03/04/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS702-202-S058	V9009-c	SUMMA	058	Molectrics	03/04/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104

Table 1-3. Sample Containers and Media Preparation History. (4 sheets)

Sample Information				Preparation Information			
Sample Number	COC Number	Sample Type	Serial Number	Sample Container or Medium Manufacturer	Preparation Date	Preparation Procedure/ Revision #	Preparation Logbook #/Pages
VS702-204-S079	V9009-c	SUMMA	079	Molectrics	03/04/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VSAMB-201-S017	V9009-b	SUMMA	017	Molectrics	03/04/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VSAMB-205-S044	V9009-b	SUMMA	044	Molectrics	03/04/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VSAMB-206-S046	V9009-b	SUMMA	046	Molectrics	03/04/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VSAMB-207-S065	V9009-b	SUMMA	065	Molectrics	03/04/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VSAMB-211-S067	V9009-b	SUMMA	067	Molectrics	03/04/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VSAMB-212-S098	V9009-b	SUMMA	098	Molectrics	03/04/99	LO-080-406/A-0	WHC-N-1408-1/19 - 104
VS006-204-TR01	V9009-f	STT	n/a	SKC Inc.	03/02/99	LA-549-402/A-0	WHC-N-947-1/70
VS006-209-TR02	V9009-f	STT	n/a	SKC Inc.	03/02/99	LA-549-402/A-0	WHC-N-947-1/70
VS006-214-TR03	V9009-f	STT	n/a	SKC Inc.	03/02/99	LA-549-402/A-0	WHC-N-947-1/70
VS006-219-TR04	V9009-f	STT	n/a	SKC Inc.	03/02/99	LA-549-402/A-0	WHC-N-947-1/70
VS006-224-TR05	V9009-f	STT	n/a	SKC Inc.	03/02/99	LA-549-402/A-0	WHC-N-947-1/70
VS006-229-TR06	V9009-f	STT	n/a	SKC Inc.	03/02/99	LA-549-402/A-0	WHC-N-947-1/70

Table 1-3. Sample Containers and Media Preparation History. (4 sheets)

Sample Information					Preparation Information		
Sample Number	COC Number	Sample Type	Serial Number	Sample Container or Medium Manufacturer	Preparation Date	Preparation Procedure/ Revision #	Preparation Logbook #/Pages
VS006-234-TR07	V9009-f	STT	n/a	SKC Inc.	03/02/99	LA-549-402/A-0	WHC-N-947-1/70
VS006-239-TR08	V9009-f	STT	n/a	SKC Inc.	03/02/99	LA-549-402/A-0	WHC-N-947-1/70
VS006-244-TR09	V9009-f	STT	n/a	SKC Inc.	03/02/99	LA-549-402/A-0	WHC-N-947-1/70
VS006-298-TR20	V9009-f	STT	n/a	SKC Inc.	03/03/99	LA-549-402/A-0	WHC-N-947-1/71
VS006-301-TR21	V9009-f	STT	n/a	SKC Inc.	03/03/99	LA-549-402/A-0	WHC-N-947-1/71
VSAMB-203-TR22	V9009-f	STT	n/a	SKC Inc.	03/03/99	LA-549-402/A-0	WHC-N-947-1/71
VSAMB-209-TR23	V9009-f	STT	n/a	SKC Inc.	03/03/99	LA-549-402/A-0	WHC-N-947-1/71
VS006-MPB-TR24	n/a	STT	n/a	SKC Inc.	03/03/99	LA-549-402/A-0	WHC-N-947-1/71
VS006-203-TS04	V9009-e	TST	0004	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/72
VS006-208-TS08	V9009-e	TST	0008	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/72
VS006-213-TS09	V9009-e	TST	0009	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/72
VS006-218-TS21	V9009-e	TST	0021	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/72
VS006-223-TS23	V9009-e	TST	0023	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/72
VS006-228-TS29	V9009-e	TST	0029	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/72
VS006-233-TS31	V9009-e	TST	0031	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/72
VS006-238-TS32	V9009-e	TST	0032	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/72
VS006-243-TS34	V9009-e	TST	0034	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/72
VS006-297-TS60	V9009-e	TST	0060	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/73
VS006-300-TS61	V9009-e	TST	0061	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/74

Table 1-3. Sample Containers and Media Preparation History. (4 sheets)

Sample Information					Preparation Information		
Sample Number	COC Number	Sample Type	Serial Number	Sample Container or Medium Manufacturer	Preparation Date	Preparation Procedure/ Revision #	Preparation Logbook #/Pages
VSAMB-202-TS64	V9009-e	TST	0064	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/74
VSAMB-208-TS65	V9009-e	TST	0065	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/74
VS006-MPB-TS66	n/a	TST	0066	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/74
VS006-MPB-TS69	n/a	TST	0069	Supelco Inc.	03/04/99	LA-549-403/A-0	WHC-N-947-1/74
VS006-205-P001	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-210-P002	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-215-P003	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-220-P004	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-225-P005	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-230-P006	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-235-P007	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-240-P008	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-245-P009	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-299-P020	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-302-P021	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VSAMB-204-P022	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VSAMB-210-P023	V9009-g	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a
VS006-MPB-P024	n/a	PUF	n/a	Supelco Inc.	03/04/99	Factory Direct	n/a

1.3 SAMPLING EVENT DESCRIPTION

This section describes the vapor sampling event on March 7, 1999. All sampling was performed in accordance with the SAP and sampling procedures/work packages listed in Table 1-1. Procedure LO-080-400, Rev. A-1, and the work packages governed the actual field collection of the vapor samples.

1.3.1 Sampling Personnel

The SAS sampling team scientists were L. D. Lockard and L. A. Pingel. The persons in charge (PICs) for the CPO sampling crews were M. L. Sumsion and J. F. Sickels.

1.3.2 Vapor Sample Collection and Event Chronology

SUMMA canisters and sorbent traps for organic vapors, ammonia (NH_3), and oxides of nitrogen were prepared for this sampling event. The sampling media was stored in a custody secure area until required for field use. The NEVS system was set up at the 296-C-006 stack on March 7, 1999. The sampling media was transported to the field on March 7, 1999.

Prior to sample collection on March 7, 1999, a leak check of the NEVS system was performed. Pressure gauge readings were recorded at the beginning of the leak check. The system was evacuated and leakage of ambient air into the system was observed by monitoring system pressure for 1 hour. Leakage resulted in an increase of 0.67 kPa (5.0 mmHg) absolute in system pressure during the 1 hour test.

Sampling began at approximately 11:00 a.m. on March 7, 1999, and was completed by approximately 9:00 p.m. on the same day. Tank vapor was drawn through each sorbent trap until a specified pressure change was noted by the NEVS system. Appendix 1B contains a sample summary and event chronology table listing the pressure changes of the NEVS system, collection times, calculated volumes of tank gas drawn through each sample, and other relevant information. The field data is also included in this appendix for both the NEVS system and CPO canister sampling.

1.4 SAMPLING QUALITY ASSURANCE AND CONTROL

This section highlights some of the sampling quality controls applied during this sampling event.

1.4.1 Sample Chain of Custody: Receipt, Storage, and Shipment

SAS maintained chains of custody on all samples in accordance with LO-090-450, Rev. B-1, *Sample Chain of Custody, Acceptance, and Disposal* (NHC, 1997). Copies of the completed chains of custody are included in appendix 1A.

Prior to the sampling event, all sorbent traps and SUMMA canisters used in this sampling effort were kept in a locked storage area maintained by SAS. Sorbents were maintained at 4 ± 2 °C in a refrigeration unit. SUMMA canisters were stored in the same locked storage area, but were not refrigerated. Personnel from SAS transported these sampling devices to the field in a government vehicle. After sampling, the sample canisters and media were transported by government vehicle to a secure RMA for storage.

1.4.2 Instrument Calibration

The pressure gauge used in the NEVS system is calibrated on an annual basis, or after maintenance or suspected damage, at the Standards Laboratory. It was within its calibration period during this sampling event. The calibration records for the absolute pressure gauge used in collecting samples with the NEVS system are kept in the QA records file of the SAS group.

1.4.3 Blank Samples

Blank samples allow the analyst to determine if any contamination of the tank vapor samples may have occurred during the preparation of the sample containers and media or during the shipping and acquisition of the tank vapor samples.

Trip blanks are samples that accompany the sample media from the point of sample preparation through the sample analysis. They are transported to the field with the sample collection media but remain unopened during the sampling event. Analysis of these trip blanks is used to assess possible sample contamination from the transportation of the sample containers or media to and from the field.

Field blanks are handled in the same manner as trip blanks except they are opened momentarily and closed during the sampling event.

Method performance blanks are samples that are prepared and stored in the custody secured sample storage area. They are not transported to the field and, therefore, do not require a chain of custody. Analysis of these method performance blanks is used to assess possible contamination from the sample container or medium itself, preparation, or sample storage area.

Table 1-4 lists the sample blanks used during this sampling event.

Table 1-4. Sample Blanks.

Sample Number	Blank Type	COC Number
VS006-297-TS60	TST Trip Blank	V9009-e
VS006-298-TR20	STT Trip Blank	V9009-f
VS006-299-P020	PUF Trip Blank	V9009-g
VS006-300-TS61	TST Field Blank	V9009-e
VS006-301-TR21	STT Field Blank	V9009-f
VS006-302-P021	PUF Field Blank	V9009-g
VS006-MPB-TS66	TST Method Performance Blank	n/a
VS006-MPB-TS69	TST Method Performance Blank	n/a
VS006-MPB-TR24	STT Method Performance Blank	n/a
VS006-MPB-P024	PUF Method Performance Blank	n/a

Notes:

n/a = not applicable; chain of custody not required

1.5 PROCEDURE DEVIATIONS, SAMPLING ANOMALIES, AND SOURCES OF ERROR

This section identifies any deviations from procedures, any known anomalous occurrences during handling of the sample containers and media or during the sampling event itself, or any other known sources of error that might affect interpretation of the tank vapor sampling results.

All samples were collected in accordance with the SAP, work packages, and procedures. No anomalies, procedure deviations, or other sources of error were reported during sample collection.

1.6 FIELD-GENERATED TANK VAPOR TOC RESULTS

Field measurements for total organic carbon (TOC) were collected by Industrial Hygiene personnel. CPO recorded the TOC reading when each SUMMA canister sample was collected. These measurements were recorded on the data sheets included in appendix 1B.

1.7 SAMPLE RADIOLOGICAL SCREENING RESULTS

Particulate filter samples for the NEVS system were prepared by SAS for radiation screening purposes. Evacuated SUMMA canisters were also prepared by SAS for CPO collection of particulate filter samples at the 241-AZ-702 stack. After completion of the sampling event, these filters were used to clear the samples of radiological contamination for receipt at the laboratory.

Waste Sampling and Characterization Facility (WSCF) screening results and release information are presented in appendix 1C.

Appendix 1A

Chains of Custody

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NHC/SAS		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST				COC No. V9009-a	
Originator		Date	Sample Collector(s)	Charge Code	Page 1 of 2		
Gregory A. Fies		03/04/99	Mike Summerson	N/A			
Project Number V9009			Sample Origin 296-C-006 Stuck	Riser No. 70810 C-106 Stuck			
Project Title C-106 Sampling Event #2			Sampling Logbook No. N/A	COC Procedure LO-090-450/B-1			
Shipped To (lab) Special Analytical Support			Method of Shipment Government Vehicle	Sampling Method N/A (GRAB)			
Sample Number	Number	Type	Sampling Date	Sample Identification	Analysis Requested	Holding Time	
VS006-202-S011	1	SUMMA	03/07/99	Baseline Stuck Before Pump Start	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
VS006-207-S027	1	SUMMA	03/07/99	1 hr After Pump Start	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
VS006-212-S028	1	SUMMA	03/07/99	1 hr After Summa #1	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
VS006-217-S030	1	SUMMA	03/07/99	1 hr After Summa #2	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
VS006-222-S039	1	SUMMA	03/07/99	1 hr After Summa #3	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
VS006-227-S054	1	SUMMA	03/07/99	1 hr After TOV over #3 Reading	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
VS006-232-S055	1	SUMMA	03/07/99	1 hr After Summa #5	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
VS006-237-S071	1	SUMMA	03/07/99	1 hr After Summa #6	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
VS006-242-S072	1	SUMMA	03/07/99	NOT SAMPLED	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
VS006-247-S073	1	SUMMA	03/07/99	NOT SAMPLED	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*	
*Holding times are internal quality goals only. Holding times do not begin until samples are rad. released and received by Special Analytical Support.							
Relinquished By Gregory A. Fies	Print	Sign	Date/Time	Received By	Print	Sign	
			03-04-99 1735	L. A. Pinyan		03-04-99 1735	
Relinquished By L. A. Pinyan	Print	Sign	Date/Time	Received By	Print	Sign	
			03-05-99 1325	JAMES SICKELS		03-05-99 1325	
Relinquished By JAMES SICKELS	Print	Sign	Date/Time	Received By	Print	Sign	
			3-7-99 0840	Michael L. Summerson		03/07/99 940	
Relinquished By Michael L. Summerson	Print	Sign	Date/Time	Received By	Print	Sign	
			3-12-99	L. A. Pinyan		3/12/99 855	
Relinquished By L. A. Pinyan	Print	Sign	Date/Time	Received By	Print	Sign	
			03-12-99 1040	Karlo, Lemak		03-12-99 1040	
Relinquished By Karlo, Lemak	Print	Sign	Date/Time	Received By	Print	Sign	
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	

NHC/ISAS		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST				COC No. V9009-a	
Originator Gregory A. Fies V9009		Date 03/04/99	Sample Collector(s) Mike Summerson 296-C-006 Stack		Charge Code N/A	Page 2 of 2	
Project Number C-106 Sampling Event #2		Sample Origin 296-C-006 Stack		Riser No. C-106 Stack			
Project Title Special Analytical Support		Sampling Logbook No. N/A		COC Procedure LO-090-450/B-1			
Shipped To (lab)		Method of Shipment Government Vehicle		Sampling Method N/A (GRAB)			
Sample Number	Number	Type	Sampling Date	Sampling Time	Sample Identification	Analysis Requested	Holding Time
VS006-252-S085	1	SUMMA				TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VS006-257-S086	1	SUMMA				TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VS006-262-S097	1	SUMMA				TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VS006-267-S105	1	SUMMA				TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VS006-272-S108	1	SUMMA				TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VS006-277-S109	1	SUMMA				TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VS006-282-S111	1	SUMMA				TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VS006-287-S112	1	SUMMA				TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VS006-292-S113	1	SUMMA	3/07/99	21:20	Post Shut-Down Sample	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
*Holding times are internal quality goals only. Holding times do not begin until samples are rad. released and received by Special Analytical Support.							
Comments/Anomalies:							

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Gregory A. Fies			03-04-99/1735	L.A. Pingsel			03-04-99/1735
L.A. Pingsel			03-05-99/1325	James Sickels			03-05-99/1325
James Sickels			3/7/99 0840	Michael (Summerson) L. S.			03-04-99 0840
James Sickels			3-12-99	L.A. Pingsel			3/12/99 855
L.A. Pingsel			03-12-99/1040	Karl O. Pennock			03-12-99/1040
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time

NHC/SAS		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST				COC No. V9009-b	
						Page 1 of 1	
Originator	Gregory A. Fies	Date	03/04/99	Sample Collector(s)	Mike Summerson	Charge Code	N/A
Project Number	V9009			Sample Origin	C Tank Farm	Riser No.	N/A
Project Title	C-106 Sampling Event #2			Sampling Logbook No.	N/A	COC Procedure	LO-090-450/B-1
Shipped To (lab)	Special Analytical Support			Method of Shipment	N/A	Sampling Method	N/A (GRAB)
Sample Number	Number	Type	Sampling Date	Sampling Time	Sample Identification	Analysis Requested	Holding Time
VSAMB-201-S017	1	SUMMA	03/07/99	12:12	ambient at stack	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VSAMB-205-S044	1	SUMMA	03/07/99	12:25	" fresh air truck	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VSAMB-206-S046	1	SUMMA	03/07/99	12:28	" down wind	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VSAMB-207-S065	1	SUMMA	03/07/99	20:48	ambient at stack (Peak)	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VSAMB-211-S067	1	SUMMA	3/07/99	20:55	" FA Truck	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
VSAMB-212-S098	1	SUMMA	3/07/99	20:59	" FA Borehole downwind	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*
Comments/Anomalies: *Holding times are internal quality goals only. Holding times do not begin until samples are rad. released and received by Special Analytical Support.							
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Gregory A. Fies			3/4/99 03-04-99/1740	LAPINGAL DOCARRE			03-04-99/1740
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
LAPINGAL DOCARRE			03-05-99/1325	JAMES SICKELS James Sickels			03-05-99/1325
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
James Sickels			3/7/99 0840	Michael L. Summerson			03-07-99 0840
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
James Sickels			3-12-99	LAPINGAL DOCARRE			3-12-99 855
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
LAPINGAL DOCARRE			03-12-99/1040	KARL O. PENNOCK Karl O. Pennock			03-12-99/1040
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Final Sample Disposition							

HC/SAS		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST									
Originator	Gregory A. Fies	Date	03/04/99	Sample Collector(s)	James Sickels	Charge Code	N/A	COC No.	V9009-c	Page	1 of 1
Project Number	V9009	Sample Origin	241-AZ-702 Stack	Riser No.	702 AZ STACK						
Project Title	C-106 Sampling Event #2	Sampling Logbook No.	N/A	COC Procedure	LO-090-450/B-1						
Shipped To (lab)	Special Analytical Support	Method of Shipment	Government Vehicle	Sampling Method	N/A (GRAB)						
Sample Number	Number	Type	Sample Date	Sample Time	Sample Identification	Analysis Requested	Holding Time				
VS702-202-S058	1	SUMMA	3-7-99	1203		TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*				
VS702-204-S079	1	SUMMA	3-7-99	2018		TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*				
VS702-206-S110	1	SUMMA	3-7-99	N/A	NOT USED 3-7-99	TO-12, TO-14 and/or Permanent Gas	21 Calendar Days*				
*Holding times are internal quality goals only. Holding times do not begin until samples are rad. released and received by Special Analytical Support.											
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time				
Relinquished By	Gregory A. Fies	3-7-99	03-04-99/1740	LAPINZAL			03-04-99/1740				
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time				
Relinquished By	James Sickels	3-7-99	03-05-99/1325	JAMES SICKELS			03-05-99/1325				
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time				
Relinquished By	LAPINZAL	3-12-99	03-12-99/855	LAPINZAL			03-12-99/855				
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time				
Relinquished By	KARL O. PENNOCK	03-12-99	03-12-99/1040	KARL O. PENNOCK			03-12-99/1040				
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time				
Relinquished By											
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time				
Relinquished By											
Final Sample Disposition											

NHC/SAS		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST				COC No. V9009-d	
Originator	Gregory A. Fies	Date	03/04/99	Sample Collector(s)	James Sickels James Sickels	Charge Code	N/A
Project Number	V9009			Sample Origin	241-AZ-702 Stack	Riser No.	702 AZ Stack
Project Title	C-106 Sampling Event #2			Sampling Logbook No.	N/A	COC Procedure	LO-090-450/B-1
Shipped To (lab)				Method of Shipment	Government Vehicle	Sampling Method	N/A (GRAB)
Sample Number	Number	Type	Sampling Date	Sampling Time	Sample Identification	Analysis Requested	Holding Time
VS702-201-S115	1	SUMMA	3-7-99	1157	Evacuated 6 L SUMMA for particulate filter	n/a*	n/a*
VS702-203-S116	1	SUMMA	3-7-99	2011	Evacuated 6 L SUMMA for particulate filter	n/a*	n/a*
VS702-205-S117	1	SUMMA	3-7-99	2031	Evacuated 6 L SUMMA for particulate filter	n/a*	n/a*
VS702-207-S118	1	SUMMA	3-7-99	2031	Evacuated 6 L SUMMA for particulate filter	n/a*	n/a*
Comments/Anomalies: *These SUMMA canisters were prepared to serve as a vacuum source for particulate filter sampling only. n/a = not applicable							
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Gregory A. Fies			03-04-99/1740	LAPINGAL			030499/1740
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
LAPINGAL			030599/1325	JAMES SICKELS			03/05/99 1325
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
JAMES SICKELS			03-12-99	LAPINGAL			3/12/99 855
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
LAPINGAL			03-12-99/1040	KARLO PERRACK			03-12-99/1040
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Final Sample Disposition							

NHC/SAS		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST				COC No. V9009-c	
		Page 1 of 2					
Originator	Gregory A. Fies	Date	03/04/99	Sample Collector(s)	Wheeler, L.A. Pineda	Charge Code	N/A
Project Number	V9009	Sample Origin	296-C-006 Stack	Riser No.	C-106 Stack	COC Procedure	LO-090-450B-1
Project Title	C-106 Sampling Event #2	Sampling Logbook No.	WHE-N-448	Sampling Method	NEVS		
Shipped To (lab)	Special Analytical Support	Method of Shipment	Government Vehicle				
Sample Number	Number	Type	Sampling Date	Sampling Time	Sample Identification	Analysis Requested	Holding Time
VS006-203-TS04	1	TST	3/7/99	1153		Thermal Desorption	21 Calendar Days*
VS006-208-TS08	1	TST		1435		Thermal Desorption	21 Calendar Days*
VS006-213-TS09	1	TST		1527		Thermal Desorption	21 Calendar Days*
VS006-218-TS21	1	TST		1631		Thermal Desorption	21 Calendar Days*
VS006-223-TS23	1	TST		1720		Thermal Desorption	21 Calendar Days*
VS006-228-TS29	1	TST		1758		Thermal Desorption	21 Calendar Days*
VS006-233-TS31	1	TST		1906		Thermal Desorption	21 Calendar Days*
VS006-238-TS32	1	TST		2002		Thermal Desorption	21 Calendar Days*
VS006-243-TS34	1	TST		2109		Thermal Desorption	21 Calendar Days*
VS006-248-TS37	1	TST				Thermal Desorption	21 Calendar Days*
VS006-253-TS44	1	TST				Thermal Desorption	21 Calendar Days*
VS006-258-TS45	1	TST				Thermal Desorption	21 Calendar Days*
*Holding times are internal quality goals only. Holding times do not begin until samples are released and received by Special Analytical Support.							
Comments/Anomalies:							
Relinquished By	Gregory A. Fies	Print	Sign	Date/Time	Received By	Print	Sign
				03-04-99/1740	L.A. Pineda		03-04-99/1740
Relinquished By	L.A. Pineda	Print	Sign	Date/Time	Received By	Print	Sign
				03-12-99/1030	KARL O. PENNOCK		03-12-99/1030
Relinquished By		Print	Sign	Date/Time	Received By	Print	Sign
Relinquished By		Print	Sign	Date/Time	Received By	Print	Sign
Relinquished By		Print	Sign	Date/Time	Received By	Print	Sign
Relinquished By		Print	Sign	Date/Time	Received By	Print	Sign
Relinquished By		Print	Sign	Date/Time	Received By	Print	Sign
Final Sample Disposition							

NHC/SAS				CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST				COC No. V9009-f	
								Page 1 of 2	
Originator	Gregory A. Fies	Date	03/04/99	Sample Collector(s)	L A Pingel			Charge Code	N/A
Project Number	V9009			Sample Origin	206-C-006 Stack			Riser No.	C-106 Stack
Project Title	C-106 Sampling Event #2			Sampling Logbook No.	W HC-N-448			COC Procedure	LO-090-450B-1
Shipped To (Lab)	Special Analytical Support			Method of Shipment	Government Vehicle			Sampling Method	NEYS
Sample Number	Number	Type	Sampling Date	Sampling Time	Sample Identification	Analysis Requested	Holding Time		
VS006-204-TR01	1	STT (Train)	3/7/99	11:57		NH3/NOx	21 Calendar Days*		
VS006-209-TR02	1	STT (Train)		14:38		NH3/NOx	21 Calendar Days*		
VS006-214-TR03	1	STT (Train)		15:30		NH3/NOx	21 Calendar Days*		
VS006-219-TR04	1	STT (Train)		16:35		NH3/NOx	21 Calendar Days*		
VS006-224-TR05	1	STT (Train)		17:22		NH3/NOx	21 Calendar Days*		
VS006-229-TR06	1	STT (Train)		18:00		NH3/NOx	21 Calendar Days*		
VS006-234-TR07	1	STT (Train)		19:10		NH3/NOx	21 Calendar Days*		
VS006-239-TR08	1	STT (Train)		20:05		NH3/NOx	21 Calendar Days*		
VS006-244-TR09	1	STT (Train)		21:18		NH3/NOx	21 Calendar Days*		
VS006-249-TR10	1	STT (Train)				NH3/NOx	21 Calendar Days*		
VS006-254-TR11	1	STT (Train)				NH3/NOx	21 Calendar Days*		
VS006-259-TR12	1	STT (Train)				NH3/NOx	21 Calendar Days*		
*Holding times are internal quality goals only. Holding times do not begin until samples are rad. released and received by Special Analytical Support.									
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time		
Gregory A. Fies			03-04-99/1741	L A Pingel			03-04-99/1741		
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time		
L A Pingel			03-12-99/1030	KARL O. PENNOCK			03-12-99/1030		
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time		
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time		
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time		
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time		
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time		
Final Sample									
Disposition									

CHAIN-OF-CUSTODY RECORD FOR CPO

(1) Sample Number SEE Block #8		(2) Supervisor/Sampler James Sickels		(9) Seal Intact Upon Release? ☒ Yes ☐ No	
(3) Tank 702-AZ Stack		(4) Riser Sample Ret		(10) Seal Intact Upon Receipt? ☒ Yes ☐ No	
(5) Cask/Pig Serial No. N/A		(6) Shipment Description: 702-AZ Stack		(11) Seal Number AND Cask/Pig SERIAL Number consistent with this record? (Block 5 & 6b) ☒ Yes ☐ No	
(7) Sampling Data Y N - Lithium Bromide ☐ ☐ Amount ☐ Concentration A ☒ 3-8-99 - X-Ray ☐ - Partial Sample ☐ - Retrieved Partial Sample Stroke Length ☐		(12) Laboratory Comments: N/A			
(8) Field Comments: Sample # Time of Sample Note: Request VS702-201-115 1157 1 Week Turnaround VS702-203-S116 2011 VS702-207-S118 2031 Sample To be Analysed per SAP HNF-4030 Rev 0 Sec 2.3					
(13) Relinquished By (Sign and PRINT) James Sickels		(14) Received By (Sign and PRINT) James Sickels		(15) Date/Time 3-8-99	
(17) Relinquished By (Sign and PRINT) James Sickels		(18) Received By (Sign and PRINT) James Sickels		(19) Date/Time 3-8-99	
(21) Relinquished By (Sign and PRINT)		(22) Received By (Sign and PRINT)		(23) Date/Time 3-8-99	
(25) Relinquished By (Sign and PRINT)		(26) Received By (Sign and PRINT)		(27) Date/Time	
				(28) Receiver Comments	

Appendix 1B

Schematic Drawing of Sampling, Sample Summary & Event Chronology, and Field Data

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Set up NEVS Sampling System

Date 3/7/99
Sampling Personnel Pingel
Lockard

Desired Volume (liters)	Vol/torr conversion (ml/torr)	Desired Pressure (torr)	initial system pressure (torr)	final system pressure (torr)	Time at Sampling (min)	Temp at Sampling (°C)	Actual delta pressure (torr)	Volume Collected (liters)
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Ambient Air

VSAMB 202 TS64	TST	0.5	10.87	46	134	180	1117	8.25	46	0.50
VSAMB 203 TR22	STT	6.0	56.9	110	142	246.5	1119	8.25	104.5	5.95
VSAMB 204 P022	PUF	25	54.7	450	139	488	1139	8.25	349	19.09

Baseline Stack

VS006 201	Filter	1.0	10.87	92	488	580	1153	9.5	92	1.00
VS006 203 TS04	TST	0.5	10.87	46	198	243	1155	9.5	45	0.49
VS006 204 TR01	STT	6.0	54.7	110	206	314	1157	9.5	108	5.91
VS006 205 P001	PUF	25	54.7	450	150	564	1206	9.5	414	22.65

B-4

During Operation of Slurry Pump
1 hour after start of pumping process

VS006 206	Filter	1.0	10.87	92	207	298	1435	10.5	91	0.99
VS006 208 TS08	TST	0.5	10.87	46	298	343	1436	10.5	45	0.49
VS006 209 TR02	STT	6.0	56.9	110	219	323	1438	10.5	104	5.92
VS006 210 P002	PUF	25	54.7	450	154	583	1440	10.5	429	23.47

During Operation of Slurry Pump
1 hour after collection of last sample

VS006 211	Filter	1.0	10.87	92	203	293	1525	11.25	90	0.98
VS006 213 TS09	TST	0.5	10.87	46	293	338	1527	11.25	45	0.49
VS006 214 TR03	STT	6.0	56.9	110	224	317	1530	11.25	93	5.29
VS006 215 P003	PUF	25	54.7	450	153	591	1537	11.25	438	23.96

During Operation of Slurry Pump 1 hour after collection of last sample										
Desired Volume (liters)	Vol/torr conversion (ml/torr)	Desired delta Pressure (torr)	initial system pressure (torr)	final system pressure (torr)	Time at Sampling	Temp at Sampling (°C)	Actual delta pressure (torr)	Volume Collected (liters)		
VS006 216 Filter	1.0	10.87	92	202	1627	10.5	86	0.93		
VS006 218 TS21	0.5	10.87	46	217	1631	10.5	47	0.51		
VS006 219 TR04	6.0	56.9	110	225	1635	10.5	103	5.86		
VS006 220 P004	25	54.7	450	156	1643	10.5	447	24.45		
During Operation of Slurry Pump 1 hour after collection of last sample										
VS006 221 Filter	1.0	10.87	92	203	1717	9.75	89	0.97		
VS006 223 TS23	0.5	10.87	46	292	1720	9.75	44	0.48		
VS006 224 TR05	6.0	56.9	110	225	1722	9.75	103	5.86		
VS006 225 P005	25	54.7	450	154	1728	9.75	429	23.47		
During Operation of Slurry Pump 50 ppm rise in TOC venting from stack										
VS006 226 Filter	1.0	10.87	92	199	1756	8.9	89	0.97		
VS006 228 TS29	0.5	10.87	46	288	1758	8.9	50	0.54		
VS006 229 TR06	6.0	56.9	110	223	1800	8.9	104	5.92		
VS006 230 P006	25	54.7	450	152	1806	8.9	438	23.96		
During Operation of Slurry Pump 1 hour after collection of last sample										
VS006 231 Filter	1.0	10.87	92	205	1904	4.5	90	0.98		
VS006 233 TS31	0.5	10.87	46	295	1906	4.5	45	0.49		
VS006 234 TR07	6.0	56.9	110	224	1910	4.5	98	5.58		
VS006 235 P007	25	54.7	450	153	1915	4.5	435	23.79		

Desired Volume (liters)	Vol/torr conversion (ml/torr)	Desired delta Pressure (torr)	initial system pressure (torr)	final system pressure (torr)	Time at Sampling	Temp at Sampling (°C)	Actual delta pressure (torr)	Volume Collected (liters)
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During Operation of Slurry Pump
1 hour after collection of last sample

VS006 236	Filter	1.0	10.87	92	198	288	2000	4	90	0.98
VS006 238 TS32	TST	0.5	10.87	46	215	258	2002	4	43	0.47
VS006 239 TR08	STT	6.0	56.9	110	224	327	2005	4	103	5.86
VS006 240 P008	PUF	25	54.7	450	153	591	2012	4	438	23.96

Shut Down Samples
1 hour after collection of last sample

VS006 241	Filter	1.0	10.87	92	200	291	2106	4	91	0.99
VS006 243 TS34	TST	0.5	10.87	46	291	335	2109	4	44	0.48
VS006 244 TR09	STT	6.0	56.9	110	225	328	2118	4	103	5.86
VS006 245 P009	PUF	25	54.7	450	152	590	2121	4	438	23.96

Ambient Air Samples

Steady state										
VSAMB 208 TS65	TST	0.5	10.87	46	200	244	2033	3.75	44	0.48
VSAMB 209 TR23	STT	6.0	56.9	110	207	310	2036	3.75	103	5.86
VSAMB 210 P023	PUF	25	54.7	450	148	599	2044	3.75	451	24.67

Field Blanks

VS006 300 TS61	TST	Open and close								
VS006 301 TR21	STT	Open and close								
VS006 302 P021	PUF	Open and close								

Trip Blanks

VS006 297 TS60	TST									
VS006 298 TR20	STT									
VS006 299 P020	PUF									

Appendix III. Sorbent Tube Sampling

Sample Number V5006-201

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number Filter
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 488 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 580 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 9.5 °C
Time (PST) (PDT) 1153
Sample Number 201
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 1.0 l 3/7/95Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number

V5006-203-T504

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet.
- Tube Number T504
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II.
- System Pressure 198 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure.
- System Pressure 243 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 9.5 °C
Time (PST) (PDT) 1155
Sample Number 203
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes:

0.489 l3/7/95Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number 15006-204-TR01

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TR01
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 206 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 314 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 1157 °C
Time (PST) (PDT) 9.5
Sample Number 204
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 5.91 l 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number US006-205-P001

- ✓
✓
✓
✓
✓
✓
✓
✓
✓
1. CLOSE all valves.
 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet.
Tube Number Pool
 3. OPEN valve 2
 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II.
System Pressure 150 mmHg
 5. OPEN Sample port valve_A (if applicable)
 6. OPEN valve 1.
 7. Monitor pressure of the system.
 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
 9. CLOSE Sample port valve_A (if applicable)
 10. Record the vacuum pressure.
System Pressure 564 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 9.5 °C
Time (PST) (PDT) 1206
Sample Number 205
12. Remove and plug the numbered sample line from port 1.
13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
14. CLOSE valve 2 upon completion of sorbent sampling.
15. CLOSE all valves.

Field Notes:

22.6 l

317195

Initial

LAF

Appendix III. Sorbent Tube Sampling

Sample Number V500-206

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. LAP
Tube Number 206 Filter
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 207 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 298 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes. Ambient Temperature 10.5 °C
Time (PST) (PDT) 1435
Sample Number 206
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.99 L 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-208-T508

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number T508
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 298 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 343 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 10.5 °C
Time (PST) (PDT) 1436
Sample Number 208
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes:

0.49 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-209-TR02

- ✓
1. CLOSE all valves.
- ✓
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet.
Tube Number TR02
- ✓
3. OPEN valve 2
- ✓
4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II.
System Pressure 219 mmHg
- ✓
5. OPEN Sample port valve_A (if applicable)
- ✓
6. OPEN valve 1.
- ✓
7. Monitor pressure of the system.
- ✓
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓
9. CLOSE Sample port valve_A (if applicable)
- ✓
10. Record the vacuum pressure.
System Pressure 323 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.

Ambient Temperature 10.5 °C
Time (PST) (PDT) 1438
Sample Number 209

- ✓
12. Remove and plug the numbered sample line from port 1.
- ✓
13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓
14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓
15. CLOSE all valves.

Field Notes: 5.92 liters 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number VS006-210-P002

- ✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
1. CLOSE all valves.
 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P002
 3. OPEN valve 2
 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 154 mmHg
 5. OPEN Sample port valve_A (if applicable)
 6. OPEN valve 1.
 7. Monitor pressure of the system.
 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
 9. CLOSE Sample port valve_A (if applicable)
 10. Record the vacuum pressure. System Pressure 583 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.

Ambient Temperature 10.5 °C
Time (PST) (PDT) 1440
Sample Number 210
 12. Remove and plug the numbered sample line from port 1.
 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
 14. CLOSE valve 2 upon completion of sorbent sampling.
 15. CLOSE all valves.

Field Notes: 23.5 liters3/7/99
Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number VS006-211

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number Filter
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 203 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 293 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 11.25 °C
Time (PST) (PDT) 1525
Sample Number 211
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.98 liters

3/7/99
Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number US006-213 TS09

- ✓
1. CLOSE all valves.
- ✓
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TS09
- ✓
3. OPEN valve 2
- ✓
4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 293 mmHg
- ✓
5. OPEN Sample port valve_A (if applicable)
- ✓
6. OPEN valve 1.
- ✓
7. Monitor pressure of the system.
- ✓
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓
9. CLOSE Sample port valve_A (if applicable)
- ✓
10. Record the vacuum pressure. System Pressure 338 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 11.25 °C
Time (PST) (PDT) 1527
Sample Number 213
- ✓
12. Remove and plug the numbered sample line from port 1.
- ✓
13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓
14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓
15. CLOSE all valves.

Field Notes: 0.49 liters 3/7/99
Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number ✓ 5006-214-TR03

- ✓
 1. CLOSE all valves.
 ✓
 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TR03
 ✓
 3. OPEN valve 2
 ✓
 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 224 mmHg
 ✓
 5. OPEN Sample port valve_A (if applicable)
 ✓
 6. OPEN valve 1.
 ✓
 7. Monitor pressure of the system.
 ✓
 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
 ✓
 9. CLOSE Sample port valve_A (if applicable)
 ✓
 10. Record the vacuum pressure. System Pressure 317 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
 Ambient Temperature 11.25 °C
 Time (PST) (PDT) 1530
 Sample Number 214
 ✓
 12. Remove and plug the numbered sample line from port 1.
 ✓
 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
 ✓
 14. CLOSE valve 2 upon completion of sorbent sampling.
 ✓
 15. CLOSE all valves.

Field Notes: 5.29 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-215-P003

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P003
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 153 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 591 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 11.25 °C
Time (PST) (PDT) 1537
Sample Number 215
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 24.0 liters 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number 1/3006-216

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number Filter
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 202 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 288 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 10.5 °C
Time (PST) (PDT) 1627
Sample Number 216
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.93 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number VS006-218-TS21

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TS21
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 217 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 264 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 10.5 °C
Time (PST) (PDT) 1631
Sample Number 218
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes:

0.511 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-219-T204

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number T204
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 225 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 328 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.

Ambient Temperature 10.5 °C
 Time (PST) (PDT) 1635
 Sample Number 219

- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 5.86 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-220-P004

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P004
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 156 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 603 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.

Ambient Temperature 10.5 °C
 Time (PST) (PDT) 1643
 Sample Number 220

- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 24.5 liters 3/7/99
 Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-221

- ✓
1. CLOSE all valves.
- ✓
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number Filter
- ✓
3. OPEN valve 2
- ✓
4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 203 mmHg
- ✓
5. OPEN Sample port valve_A (if applicable)
- ✓
6. OPEN valve 1.
- ✓
7. Monitor pressure of the system.
- ✓
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓
9. CLOSE Sample port valve_A (if applicable)
- ✓
10. Record the vacuum pressure. System Pressure 292 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 9-75 °C
Time (PST) (PDT) 1717
Sample Number 221
- ✓
12. Remove and plug the numbered sample line from port 1.
- ✓
13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓
14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓
15. CLOSE all valves.

Field Notes: 0.97 liters 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006223 TS23

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TS23
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 292 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 336 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 9.75 °C
Time (PST) (PDT) 1720
Sample Number 223
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes:

0.478 liters3/2/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number VS006-224-TR05

- ✓
1. CLOSE all valves.
- ✓
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TR05
- ✓
3. OPEN valve 2
- ✓
4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 225 mmHg
- ✓
5. OPEN Sample port valve_A (if applicable)
- ✓
6. OPEN valve 1.
- ✓
7. Monitor pressure of the system.
- ✓
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓
9. CLOSE Sample port valve_A (if applicable)
- ✓
10. Record the vacuum pressure. System Pressure 328 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 9.75 °C
Time (PST) (PDT) 1722
Sample Number 224
- ✓
12. Remove and plug the numbered sample line from port 1.
- ✓
13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓
14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓
15. CLOSE all valves.

Field Notes: 5.86 liters

3/7/99
Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number ✓ 5006-225-P005

1. CLOSE all valves.
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P005
3. OPEN valve 2
4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 154 mmHg
5. OPEN Sample port valve_A (if applicable)
6. OPEN valve 1.
7. Monitor pressure of the system.
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
9. CLOSE Sample port valve_A (if applicable)
10. Record the vacuum pressure. System Pressure 583 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 9.75 °C
Time (PST) (PDT) 1728
Sample Number 225
12. Remove and plug the numbered sample line from port 1.
13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
14. CLOSE valve 2 upon completion of sorbent sampling.
15. CLOSE all valves.

Field Notes: 23.5 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-226

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number Filter
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 199 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 288 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 8.9 °C
Time (PST) (PDT) 1756
Sample Number 226
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.97 liters 3/7/99Initial LAI

Appendix III. Sorbent Tube Sampling

Sample Number US006-228-TS29

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TS29
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 288 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 338 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 98.9 °C
Time (PST) (PDT) 1758
Sample Number 228
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.54 liters

3/2/99
Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-229-TR06

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TR06
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 223 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 327 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.

Ambient Temperature 8.9 °C
 Time (PST) (PDT) 1800
 Sample Number 229

- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 5.92 liters 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-230-P006

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P006
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 152 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 590 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 81.9 °C
Time (PST) (PDT) 1806
Sample Number 230
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 24.0 liters 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number 15006-231

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number Filter
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 205 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 295 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 4.5 °C
Time (PST) (PDT) 1904
Sample Number 231
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.98 liters 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number US006-233-TS31

- ✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
1. CLOSE all valves.
 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TS31
 3. OPEN valve 2
 4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 295 mmHg
 5. OPEN Sample port valve_A (if applicable)
 6. OPEN valve 1.
 7. Monitor pressure of the system.
 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
 9. CLOSE Sample port valve_A (if applicable)
 10. Record the vacuum pressure. System Pressure 340 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.

Ambient Temperature 4.5 °C
Time (PST) (PDT) 1906
Sample Number 233
 12. Remove and plug the numbered sample line from port 1.
 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
 14. CLOSE valve 2 upon completion of sorbent sampling.
 15. CLOSE all valves.

Field Notes: 0.489 liters 3/7/99

Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-234-TR04

- ✓
1. CLOSE all valves.
- ✓
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TR04
- ✓
3. OPEN valve 2
- ✓
4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 224 mmHg
- ✓
5. OPEN Sample port valve_A (if applicable)
- ✓
6. OPEN valve 1.
- ✓
7. Monitor pressure of the system.
- ✓
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓
9. CLOSE Sample port valve_A (if applicable)
- ✓
10. Record the vacuum pressure. System Pressure 322 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 4.5 °C
Time ~~(PST)~~ (PDT) 1910
Sample Number 234
- ✓
12. Remove and plug the numbered sample line from port 1.
- ✓
13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
- ✓
14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓
15. CLOSE all valves.

Field Notes:

5.58 liters3/7/98Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V52006-235-P007

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P007
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 153 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 588 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 4.5 °C
Time (PST) (PDT) 1915
Sample Number 235
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes:

23.8 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number 15006-236

- ✓
1. CLOSE all valves.
- ✓
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number Filter
- ✓
3. OPEN valve 2
- ✓
4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 198 mmHg
- ✓
5. OPEN Sample port valve_A (if applicable)
- ✓
6. OPEN valve 1.
- ✓
7. Monitor pressure of the system.
- ✓
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓
9. CLOSE Sample port valve_A (if applicable)
- ✓
10. Record the vacuum pressure. System Pressure 288 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 4 °C
Time (PST) (PDT) 2000
Sample Number 236
- ✓
12. Remove and plug the numbered sample line from port 1.
- ✓
13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓
14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓
15. CLOSE all valves.

Field Notes:

0.98 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V9006-238-TS 32

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TS32
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 215 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 258 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 4 °C
Time (PST) (PDT) 2002
Sample Number 238
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.47 liters 317/99
Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V3006-239-TR08

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TR08
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 224 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 327 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 4 °C
Time (PST) (PDT) 2005
Sample Number 239
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 5.86 liters 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number VS006-240-P008

- ✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
1. CLOSE all valves.
 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P008
 3. OPEN valve 2
 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 153 mmHg
 5. OPEN Sample port valve_A (if applicable)
 6. OPEN valve 1.
 7. Monitor pressure of the system.
 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
 9. CLOSE Sample port valve_A (if applicable)
 10. Record the vacuum pressure. System Pressure 591 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.

3/17/97
 Ambient Temperature 20.4 °C
 Time (PST) (PDT) 4:20:12
 Sample Number 240
 12. Remove and plug the numbered sample line from port 1.
 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
 14. CLOSE valve 2 upon completion of sorbent sampling.
 15. CLOSE all valves.

Field Notes:

24.0 liters3/17/97Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-241

- ✓
✓
✓
✓
✓
✓
✓
✓
✓
✓
1. CLOSE all valves.
 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number Filter
 3. OPEN valve 2
 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 200 mmHg
 5. OPEN Sample port valve_A (if applicable)
 6. OPEN valve 1.
 7. Monitor pressure of the system.
 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
 9. CLOSE Sample port valve_A (if applicable)
 10. Record the vacuum pressure. System Pressure 291 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.

Ambient Temperature 4 °C
 Time (PST) (PDT) 2106
 Sample Number 241
 12. Remove and plug the numbered sample line from port 1.
 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
 14. CLOSE valve 2 upon completion of sorbent sampling.
 15. CLOSE all valves.

Field Notes: 0.99 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number US006-243-TS34

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TS34
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 291 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 335 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 4 °C
Time (PST) (PDT) 2109
Sample Number 243
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.48 liters

3/7/97
Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number US006-244-T209

1. CLOSE all valves.
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number T209
3. OPEN valve 2
4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 225 mmHg
5. OPEN Sample port valve_A (if applicable)
6. OPEN valve 1.
7. Monitor pressure of the system.
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
9. CLOSE Sample port valve_A (if applicable)
10. Record the vacuum pressure. System Pressure 328 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 4 °C
Time (PST) (PDT) 2118
Sample Number 244
12. Remove and plug the numbered sample line from port 1.
13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
14. CLOSE valve 2 upon completion of sorbent sampling.
15. CLOSE all valves.

Field Notes:

5.86 liters3/7/95Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number V5006-245-P009

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P009
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 152 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 590 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 4 °C
Time (PST) (PDT) 2121
Sample Number 245
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 24.0 liters 3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number USAMTB 202 TS64

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TS64
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 134 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 180 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 8.25 °C
Time (PST) (PDT) 1117
Sample Number 202
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.50 liters3/7/99
Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number VSAMTB 203 TR22

- ✓
1. CLOSE all valves.
✓
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet.

Tube Number TR22

- ✓
3. OPEN valve 2
✓
4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II.
System Pressure 172 mmHg

- ✓
5. OPEN Sample port valve_A (if applicable)
✓
6. OPEN valve 1.
✓
7. Monitor pressure of the system.
✓
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.

- ✓
9. CLOSE Sample port valve_A (if applicable)
✓
10. Record the vacuum pressure.
System Pressure 246.5 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓
11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.

Ambient Temperature 8.25 °C
Time (PST) (PDT) 1119
Sample Number _____

- ✓
12. Remove and plug the numbered sample line from port 1.
✓
13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
✓
14. CLOSE valve 2 upon completion of sorbent sampling.
✓
15. CLOSE all valves.

Field Notes:

5.95 liters3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number VSAMB 204 ^{204 CAP 5/10/99} P022

1. CLOSE all valves.
2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P022
3. OPEN valve 2
4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 139 mmHg
5. OPEN Sample port valve_A (if applicable)
6. OPEN valve 1.
7. Monitor pressure of the system.
8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
9. CLOSE Sample port valve_A (if applicable)
10. Record the vacuum pressure. System Pressure 488 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 8.25 °C
Time (PST) (PDT) 1139
Sample Number 204
12. Remove and plug the numbered sample line from port 1.
13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
14. CLOSE valve 2 upon completion of sorbent sampling.
15. CLOSE all valves.

Field Notes: 19.1 litersInitial LAP ^{3/7/99}

Appendix III. Sorbent Tube Sampling

Sample Number VSAMB-208-TS65

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TS65
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is greater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 20° mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 244 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 3.75 °C
Time (PST) (PDT) 2033
Sample Number 208
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes: 0.48 liters 3/7/99

Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number USAMB-209-TR23

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number TR23
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 207 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 310 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 3.75 °C
Time (PST) (PDT) 7036
Sample Number 209
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2, until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes:

5.86 liter3/7/99Initial LAP

Appendix III. Sorbent Tube Sampling

Sample Number US AMB-210-P023

- ✓ 1. CLOSE all valves.
- ✓ 2. Connect one of the numbered sample lines to port 1 and enter that information on the data sheet. Tube Number P023
- ✓ 3. OPEN valve 2
- ✓ 4. Record the system pressure. If system pressure equals or is reater than 400 mmHg (abs) charge NEVS, Appendix II. System Pressure 148 mmHg
- ✓ 5. OPEN Sample port valve_A (if applicable)
- ✓ 6. OPEN valve 1.
- ✓ 7. Monitor pressure of the system.
- ✓ 8. CLOSE valve 1 when the pressure reaches a value specified by the SAP.
- ✓ 9. CLOSE Sample port valve_A (if applicable)
- ✓ 10. Record the vacuum pressure. System Pressure 599 mmHg

NOTE: If system pressure equals or is greater than 500 mmHg (abs) charge NEVS, Appendix II.

- ✓ 11. Record ambient air temperature, sample time, and sample number on the sample check sheet. Record any anomalies in field notes.
- Ambient Temperature 3.75 °C
 Time (PST) (PDT) 2044
 Sample Number 210
- ✓ 12. Remove and plug the numbered sample line from port 1.
- ✓ 13. Repeat procedure from Appendix III, step 2 , until sorbent sampling is completed.
- ✓ 14. CLOSE valve 2 upon completion of sorbent sampling.
- ✓ 15. CLOSE all valves.

Field Notes:

24.7 liters3/7/99Initial LAP

=====WORK DOCUMENT (W110)=====

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1. Document Number ES-99-00054/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 702-AZ VENTILATION SYSTEM VAPOR SAMPLE

3. Components

Component Number	Name
------------------	------

Temporary Number 702-AZ	Name
----------------------------	------

4. System 03 SAMPLING

5. Location

Facility ES EAST SAMPLING/SALTWELLS	
Bldg/Rm E/W VENT	Other 702-AZ Other

6. Symptom, Problem, or Condition

PERFORM SUMMA VAPOR SAMPLES FROM VENTILATION SYSTEM IN 702-AZ.
SUMMA SAMPLES AND PARTICULATE FILTER SAMPLES WILL BE TAKEN.

7. Originator Name GREEN,DJ
Telephone No. 373-5529

MSIN S7-04

Date
02/11/99

8. Charge Code 101997

9. Priority

3

10. Phase Designator

6-4

VAPOR TYPE 4

11. Cognizant Engineer

WANNER,DD

Phone
373-3297

12. Planning Required Y

13. Screener/Ops Review

Signature
X LEE,JS

Date
02/17/99

14. Resolution By

Signature
X GREEN,DJ

Date
03/02/99

15. Approvals

Code	Description	Signature	Date
CE	COGNIZANT ENGINEER	X WANNER,DD	03/02/99
CM	COGNIZANT MANAGER	X BROWN,RG	03/02/99
Q	QUALITY ASSURANCE	X VANQUICKENBORNE,PE	03/03/99
RADCON	RADCON	X HOWARD,PM	03/03/99
S	SAFETY	X JACKSON,CD	03/03/99
PIC	PERSON IN CHARGE	X SICKELS,JF	03/03/99
PLN/SCH	PLANNER/SCHEDULER	X GREEN,DJ	03/03/99

16. Resources Required

Res Code	Description	No.	Act Hrs
04	CERTIFIED OPERATOR	4	

=====WORK DOCUMENT (W110)=====

WORK DOCUMENT (W110)

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1. Document Number ES-99-00054/O OPERATIONS SPECIAL PROCEDURE

2. Work Item Title 702-AZ VENTILATION SYSTEM VAPOR SAMPLE

54	HEALTH PHYSICS TECHNICIAN	1	_____
96	INDUSTRIAL HYGIENE TECHNICIAN	2	_____
24	PIPEFITTER	1	_____
PIC	PERSON IN CHARGE	1	_____

WORK DOCUMENT (W110)

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1. Document Number ES-99-00054/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 702-AZ VENTILATION SYSTEM VAPOR SAMPLE

17. Pre-Work Review Signature [Signature] Date 3/4/99
 18. Tagout Number

19. Work Release F Type F Signature [Signature] Date 3-6-99

20. Work Suspension (See Work Suspension Sheet)
 PIC _____

21. PIC SICKELS,JF PIC Org. 75150

Resolution/Retest
 1.0 SCOPE

1.1 OBTAIN VAPOR GRAB SAMPLES FROM 702-AZ EXHAUST.

2.0 DESCRIPTION:

2.1 OBTAIN VAPOR GRAB SAMPLES FROM 702-AZ EXHAUST.
 THESE SAMPLES WILL BE USED TO ADDRESS VAPOR ISSUES
 RELATED TO THE SLUICING OF TANK 241-C-106.

2.2 CHARACTERIZATION PROJECT OPERATIONS (CPO) WILL BE
 RESPONSIBLE FOR THE COLLECTION OF ALL SUMMA
 CANISTER SAMPLES AND PARTICULATE FILTER SAMPLES AT
 702-AZ STACK.

2.3 SAMPLING WILL BE PERFORMED AT PIC AND IH&S
 DIRECTION.

3.0 REFERENCES:

- 3.1 HNF-SD-WM-BIO-001 TWRS BASIS FOR INTERIM OPERATIONS
- 3.2 HNF-SD-WM-TSR-006 TWRS TECHNICAL SAFETY
 REQUIREMENTS
- 3.3 HNF-SD-WM-HSP-002 TANK FARM HEALTH AND SAFETY PLAN
- 3.4 HNF-IP-1266 TANK FARMS OPERATIONS
 ADMINISTRATIVE CONTROLS
- 3.5 TO-100-052 PERFORM WASTE GENERATION,
 SEGREGATION, AND ACCUMULATION

4.0 PERMITS, SPECIAL PROCEDURES, AND OTHER SUPPORTING
 DOCUMENTS:

- 4.1 RWP E-1116 REV 004
- 4.2 PRE-JOB SAFETY MEETING CHECKLIST

1. Document Number ES-99-00054/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 702-AZ VENTILATION SYSTEM VAPOR SAMPLE

- 4.3 USQ TF-99-0188
- 4.4 WASTE PLANNING CHECKLIST
- 4.5 JOB HAZARD ANALYSIS
- 4.6 CHAIN OF CUSTODY FORMS
- 4.7 HNF-4030 WASTE RETRIEVAL SLUICING SYSTEM VAPOR
SAMPLING AND ANALYSIS PLAN

5.0 MATERIALS AND EQUIPMENT:

- 5.1 CRAFT PAPER
- 5.2 PLASTIC DRAPES (TARPS)
- 5.3 TAPE (WHITE AND DUCT)
- 5.4 CAUTION TAPE
- 5.5 DECON WATER
- 5.6 WASTE BAGS AND INVENTORY SHEETS
- 5.7 DRY RAGS
- 5.8 RUBBER MATTING

6.0 PREREQUISITES:

- 6.1 A PRE-JOB MEETING SHALL BE CONDUCTED, UTILIZING THE JHA AND/OR PRE-JOB SAFETY MEETING CHECKLIST.
- 6.2 SECTIONS OR STEPS WITHIN SECTIONS OF THIS WORK INSTRUCTION MAY BE PERFORMED OUT OF SEQUENCE, AS LONG AS THE INTEGRITY OF THE WORK SCOPE REMAINS THE SAME AND ALL IGNITION CONTROLS ARE APPLIED.
- 6.3 A WASTE PLANNING CHECKLIST HAS BEEN PROVIDED IN ACCORDANCE WITH HNF-IP-0842. PIC SUBMIT CONTAINER REQUEST FORM TO GENERATOR SERVICES PER POP TO-100-052, AS NECESSARY.
- 6.4 PIC ENSURE THAT ALL OPERATING PROCEDURES WORKED IN THIS PACKAGE ARE THE LATEST REVISION.
- 6.5 RESPIRATORY PROTECTION AND MONITORING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SAFE WORK PRACTICES CONTAINED IN THE HASP (WHC-SD-WM-HSP-002). SPECIFIC INSTRUCTIONS SHALL BE PART OF THE PRE-JOB SAFETY MEETING.
- 6.6 NON-SPARKING TOOLS SHALL BE USED WHEN REQUIRED PER HNF-SD-WM-BIO-001 AND HNF-SD-WM-TSR-006.

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1. Document Number ES-99-00054/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 702-AZ VENTILATION SYSTEM VAPOR SAMPLE

- 6.7 ENSURE ACTIVE VENTILATION SYSTEM IS OPERATIONAL. IF NOT OPERATIONAL, CONTACT TANK FARMS OPERATIONS MANAGER.
- 6.8 TANK INTRUSIVE ACTIVITIES SHALL BE STOPPED AND THE TANK PLACED IN A STABILIZED MODE IF LIGHTNING IS DETERMINED TO BE WITHIN 50 MILES OF THE JOB-SITE.
- 6.9 PIC CHECK THE STANDING ORDER LOG TO ASCERTAIN WHETHER THERE ARE ORDERS THAT MAY IMPACT THIS WORK. IF THERE ARE ANY, CONTACT THE COG. ENGINEER (DD WANNER 373-3297).
- 6.10 PLANNER VERIFY THAT THE SAP HAS BEEN RELEASED FOR THIS WORK PACKAGE:

SAP: HNF-4030

Don J. Green
PLANNER SIGNATURE

3/4/99
DATE

- 6.11 ONCE EVACUATED SUMMAS ARE OBTAINED FOR SUMMA/PARTICULATE FILTER SAMPLE, PIC WRITE/TAG SAMPLE ID NUMBER ON PARTICULATE FILTER HOUSING (PER ATTACHMENT 1 DATA SHEET) USING THE EVACUATED SUMMA CANISTER NUMBER (LAST FOUR DIGITS OF THE LAB ASSIGNED SUMMA SAMPLE ID NUMBER).

7.0 SPECIFIC WORK INSTRUCTIONS:

- 7.1 PIC VERIFY JOB BEING PERFORMED AT CORRECT LOCATION, WITH INDEPENDENT VERIFICATION.

TANK: 702-AZ EXHAUST DUCT (HV-AZK1-5)

PIC SIGN: James Michael DATE: 3-7-99

VERIFICATION BY: James R. Furberry

SIGN: James R. Furberry DATE: 3-7-99

NOTE IH&S WILL BE PERFORMING ENTRY MONITORING AT THE 702-AZ VENT HEADER AS REQUIRED FULFILLING BIO/TSR REQUIREMENTS PER EAST AREA WORK PACKAGE. (2E-99-00143 2E-99-00144)

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1. Document Number ES-99-00054/0 OPERATIONS SPECIAL PROCEDURE
 2. Work Item Title 702-AZ VENTILATION SYSTEM VAPOR SAMPLE
- =====

7.2 OBTAIN SUMMA SAMPLES AND/OR PARTICULATE FILTER SAMPLES.

7.2.1 CONNECT A SINGLE ENDED PORT CONNECTOR TO PORT HV-AZK1-5. (IF NECESSARY).

NOTE ATTACHMENT 1 (TAKEN FROM SAP) WILL INDICATE WHETHER A SUMMA WITHOUT FILTER OR A SUMMA/PARTICULATE FILTER SAMPLE WILL BE PERFORMED AND THE SEQUENTIAL ORDER OF THE SAMPLES.

7.2.2 REMOVE THE PROTECTIVE CAP FROM THE SUMMA CANISTER.

7.2.3 CONNECT THE SUMMA CANISTER OR SUMMA/PARTICULATE FILTER SAMPLING ASSEMBLY TO PORT HV-AZK1-5.

7.2.4 OPEN THE ISOLATION VALVE.

7.2.5 OPEN SUMMA CANISTER ISOLATION VALVE.

7.2.6 RECORD DATE TOC READING, SUMMA/PARTICULATE FILTER SAMPLE IDENTIFICATION NUMBER, AND SAMPLE START TIME ON ATTACHMENT 1 DATA SHEET.

7.2.7 ALLOW SUMMA CANISTER TO FILL FOR TWO (2) MINUTES.

7.2.7.1 THE SAP STATES A SAMPLE DURATION OF 2 MINUTES FOR ALL SUMMA SAMPLES. HOWEVER, THE TIME ALLOWED TO FILL A SUMMA CANISTER MAY BE EXTENDED PER THE SAP, TO INCREASE THE CHANCE THAT THE SUMMA HAS ACHIEVED AS CLOSE AS POSSIBLE, FULL VOLUME INTEGRITY.

7.2.8 CLOSE SUMMA CANISTER ISOLATION VALVE.

7.2.9 RECORD SAMPLE STOP TIME ON ATTACHMENT 1 DATA SHEET.

7.2.10 CLOSE ISOLATION VALVE.

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1. Document Number ES-99-00054/0 OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 702-AZ VENTILATION SYSTEM VAPOR SAMPLE
- =====

- 7.2.11 REMOVE SUMMA CANISTER OR
SUMMA/PARTICULATE FILTER SAMPLING
ASSEMBLY FROM PORT HV-AZK1-5.
- 7.2.12 REPLACE PROTECTIVE CAP ON SUMMA
CANISTER.
- 7.2.13 RECORD ANY ANOMALIES ON THE WORK RECORD
(J-5).

NOTE SAMPLES SHALL BE SHIPPED PER SECTION 2.2 OF SAP

- 7.2.14 COMPLETE CHAIN-OF-CUSTODY (C-O-C) FOR
SUMMA/PARTICULATE FILTER SAMPLES
- 7.2.15 REPEAT STEPS 7.3.2 THROUGH 7.3.14 AS
MANY TIMES AS REQUIRED, PER DIRECTION OF
PIC AND TEST DIRECTOR TO OBTAIN THE
PRESCRIBED SET OF SAMPLES (PER
ATTACHMENT 1).
- 7.2.16 PIC N/A ALL SPACES ON ATTACHMENT
1 PERTAINING TO SAMPLING NOT
PERFORMED.

7.3 TRANSPORTATION/PACKAGING OF SAMPLES:

- 7.3.1 PACKAGE PARTICULATE FILTER HOUSINGS
AND TRANSPORT PER SECTION 2.1
THROUGH 2.3 OF SAP.
- 7.3.2 HPT SURVEY AND RELEASE FILTERS
HOUSINGS FOR TRANSPORT PER SECTION
2.3. OF SAP.

JOB COMPLETION:

- 7.4 PIC RECORD ON J-5 THAT THE JOB SITE HAS BEEN
CLEANED, DECONTAMINATED TO PRE-JOB STATUS OR
BETTER, AND ALL WASTE HAS BEEN PROPERLY DISPOSED
OF.

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1. Document Number ES-99-00054/0 OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 702-AZ VENTILATION SYSTEM VAPOR SAMPLE

7.5 COPIES OF C-O-C AND SHIPMENT RECORDS FOR EACH SAMPLE PLACED IN WORK PACKAGE PRIOR TO ARCHIVE.

PLANNER SIGN

DATE

7.6 PIC VERIFY IF ANY OF THE FOLLOWING TRIGGER LEVELS FOR POST-JOB ALARA REVIEW ARE APPLICABLE TO WORK PERFORMED IN THIS PACKAGE:

YES NO

STOP RADIOLOGICAL WORK AUTHORITY WAS EXERCISED BY ANY RADIOLOGICAL WORKER DURING THE PERFORMANCE OF THE WORK.

James Smith
PIC SIGNATURE

3-7-99
DATE

7.7 RADIOLOGICAL CONTROL ORGANIZATION VERIFY IF ANY OF THE FOLLOWING TRIGGER LEVELS FOR POST-JOB ALARA REVIEW ARE APPLICABLE TO WORK PERFORMED IN THIS PACKAGE:

YES NO

THE JOB PRODUCES AN ACTUAL COLLECTIVE DOSE OF 5 PERSON-REM OR GREATER.

THE ACTUAL DOSE FOR TASK OUTSIDE THE RANGE OF PLUS/MINUS 25% OF PRE-JOB ESTIMATE OF GREATER THAN 1,000 PERSON-MREM TEDE.

A REPORTABLE RADIOLOGICAL OCCURRENCE IN ACCORDANCE WITH OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION (HNF-IP-0842 VOL. II, SEC. 4.6.2), OCCURRED DURING THE PERFORMANCE OF THE WORK.

SIGNIFICANT LESSONS LEARNED ARE IDENTIFIED DURING THE INFORMAL RADIOLOGICAL PERFORMANCE REVIEW.

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14:21:34 04 MAR 1999

1. Document Number ES-99-00054/0 OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 702-AZ VENTILATION SYSTEM VAPOR SAMPLE

_____ AN ALARA COMMITTEE PRE-JOB ALARA REVIEW WAS
REQUIRED.

_____ IS A POST-JOB ALARA REVIEW REQUIRED?

RADCON SIGNATURE

DATE

7.8 IF A FORMAL POST-JOB ALARA REVIEW IS NOT REQUIRED,
THIS WORK PACKAGE HAS BEEN REVIEWED BY THE TWRS
ALARA COORDINATOR FOR TRENDS AND LESSONS LEARNED.

TWRS ALARA COORDINATOR SIGNATURE

DATE

8 RESTORATION ACTIONS

8.1 RETURN ALL UNUSED MATERIAL TO CPO MATERIAL
COORDINATOR, AT 2101HV. THE RETURNED MATERIAL
SHALL BE ACCOMPANIED BY A COPY OF THE BOM AND THE
QC ACCEPT TAG (GREEN TAG) OR TRANSFER TAG, IF
AVAILABLE.

9 POST MAINTENANCE TESTING

9.1 N/A

10 OPERATIONAL FUNCTIONAL TEST

10.1 N/A

22. Reference Documents
SEE RESOLUTION

Type

23. Field Work Complete

Signature

James Smith

Date

3-8-99

24. Ops_Acceptance

25. Post Review

[illegible]

ATTACHMENT 1 DATA SHEET TANK AZ-702 STACK SUMMA/PARTICULATE FILTER VAPOR SAMPLING DATA SHEET WORK PACKAGE NO. ES-99-00054						
Sample Description	Sample ID No.	Start Time	Stop Time	TOC Reading (ppm)	Recorded By/Date	
SUMMA and SUMMA/Particulate Filter Assembly - Baseline						
SUMMA/Particulate Filter Assembly	^{VS-702} * 3-7-99 VS102-201-115	1157	1157	Ø	J. Sickels 3-7-99	
SUMMA	* 3-7-99 VS102-202-053	1203	1205	Ø	J. Sickels 3-7-99	
SAMPLE SET #1 - SUMMA and SUMMA/Particulate Filter Assembly - 0-25ppm TOC reading or at peak/steady state per direction of test director if 25 ppm is not reached						
SUMMA/Particulate Filter Assembly	^{VS-702} * 3-7-99 VS102-203-516	2011	2013	Ø	J. Sickels	
SUMMA	* 3-7-99 VS102-204-877	2018	2020	Ø	J. Sickels	
SAMPLE SET #2 - SUMMA and SUMMA/Particulate Filter Assembly - 0-50ppm TOC reading or at peak/steady state per direction of test director if 50 ppm is not reached						
SUMMA/Particulate Filter Assembly	VC102-205-			N		
SUMMA	VS102-206-			A		
SAMPLE SET #3 - SUMMA/Particulate Filter Assembly - After completion of sampling						
SUMMA/Particulate Filter Assembly	^{VS-702} * VS102-207-516	2031	2033	Ø	J. Sickels	

* Typo Corrected per Cog Eng Direction 3-7-99

=====WORK DOCUMENT (W110)=====

Page: 1

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1. Document Number ES-99-00055/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.

3. Components

Component Number
241-C-106

Name
HIGH HEAT FACILITY GROUP 3

Temporary Number

Name

4. System 03 SAMPLING

5. Location

Facility ES EAST SAMPLING/SALTWELLS
Bldg/Rm 241-C

Other C-106

Other STACK

6. Symptom, Problem, or Condition

PERFORM SUMMA VAPOR SAMPLES ON C-106 EXHAUST STACK. PITOT TUBES
WILL BE USED.

7. Originator Name GREEN,DJ
Telephone No. 373-5529

MSIN S7-04

Date
02/11/99

8. Charge Code 101997

9. Priority 3
10. Phase Designator P1 FIRST QUARTER(JAN 1 - MAR 31)
Phone
11. Cognizant Engineer WANNER,DD 373-3297
12. Planning Required Y

13. Screener/Ops Review X Signature LEE,JS Date 02/17/99

14. Resolution By X Signature GREEN,DJ Date 03/02/99

15. Approvals

Code	Description	Signature	Date
CE	COGNIZANT ENGINEER	X WANNER,DD	03/02/99
CM	COGNIZANT MANAGER	X BROWN,RG	03/02/99
RADCON	RADCON	X HOWARD,PM	03/03/99
S	SAFETY	X JACKSON,CD	03/03/99
Q	QUALITY ASSURANCE	X VANQUICKENBORNE,PE	03/03/99
PIC	PERSON IN CHARGE	X SUMSION,ML	03/03/99
PLN/SCH	PLANNER/SCHEDULER	X GREEN,DJ	03/03/99

16. Resources Required

Res Code	Description	No.	Act Hrs
04	CERTIFIED OPERATOR	4	

=====WORK DOCUMENT (W110)=====

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1. Document Number ES-99-00055/O OPERATIONS SPECIAL PROCEDURE

2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.

54	HEALTH PHYSICS TECHNICIAN	1	_____
96	INDUSTRIAL HYGIENE TECHNICIAN	1	_____
24	PIPEFITTER	1	_____
PIC	PERSON IN CHARGE	1	_____

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1. Document Number ES-99-00055/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.

17. Pre-Work Review Signature [Signature] Date 3/4/99
 18. Tagout Number

19. Work Release F Type Signature [Signature] Date 3/4/99
 20. Work Suspension (See Work Suspension Sheet) PIC [Signature] Date 3-6-99

21. PIC SICKELS,JF PIC Org. 75150

Resolution/Retest
 1.0 SCOPE

- 1.1 OBTAIN VAPOR GRAB SAMPLES FROM HIGH HEAT WASTE TANK 241-C-106.
- 1.2 241-C-106 IS LISTED AS A FACILITY GROUP 3 TANK PER TWRS TECHNICAL SAFETY REQUIREMENTS, TABLE 5.9-1 OF HNF-SD-WM-TSR-006.

2.0 DESCRIPTION:

- 2.1 OBTAIN VAPOR GRAB SAMPLES FROM TANK 241-C-106 EXHAUST STACK. THESE SAMPLES WILL BE USED TO ADDRESS VAPOR ISSUES RELATED TO THE SLUICING OF TANK 241-C-106.
- 2.2 SAMPLING WILL BE PERFORMED AT PIC AND IH&S DIRECTION.
- 2.3 SAMPLING WILL BE PERFORMED NUMEROUS TIMES DURING SLUICING OPERATIONS.

3.0 REFERENCES:

- 3.1 HNF-SD-WM-BIO-001 TWRS BASIS FOR INTERIM OPERATIONS
- 3.2 HNF-SD-WM-TSR-006 TWRS TECHNICAL SAFETY REQUIREMENTS
- 3.3 HNF-SD-WM-HSP-002 TANK FARM HEALTH AND SAFETY PLAN
- 3.4 HNF-IP-1266 TANK FARMS OPERATIONS ADMINISTRATIVE CONTROLS
- 3.5 TO-100-052 PERFORM WASTE GENERATION, SEGREGATION, AND ACCUMULATION

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1. Document Number ES-99-00055/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.
- =====

4.0 PERMITS, SPECIAL PROCEDURES, AND OTHER SUPPORTING DOCUMENTS:

- 4.1 RWP E-1116 REV 004
- 4.2 PRE-JOB SAFETY MEETING CHECKLIST
- 4.3 DOME LOADING ASSESSMENT
- 4.4 WASTE PLANNING CHECKLIST
- 4.5 JOB HAZARD ANALYSIS
- 4.6 CHAIN OF CUSTODY FORMS
- 4.7 HNF-4030 WASTE RETRIEVAL SLUICING SYSTEM VAPOR
SAMPLING AND ANALYSIS PLAN
- 4.8 USQ TF-99-0188

5.0 MATERIALS AND EQUIPMENT:

- 5.1 CRAFT PAPER
- 5.2 PLASTIC DRAPES (TARPS)
- 5.3 TAPE (WHITE AND DUCT)
- 5.4 CAUTION TAPE
- 5.5 DECON WATER
- 5.6 WASTE BAGS AND INVENTORY SHEETS
- 5.7 DRY RAGS
- 5.8 RUBBER MATTING

6.0 PREREQUISITES:

- 6.1 A PRE-JOB MEETING SHALL BE CONDUCTED, UTILIZING THE JHA AND/OR PRE-JOB SAFETY MEETING CHECKLIST.
- 6.2 SECTIONS OR STEPS WITHIN SECTIONS OF THIS WORK INSTRUCTION MAY BE PERFORMED OUT OF SEQUENCE, AS LONG AS THE INTEGRITY OF THE WORK SCOPE REMAINS THE SAME AND ALL IGNITION CONTROLS ARE APPLIED.
- 6.3 A WASTE PLANNING CHECKLIST HAS BEEN PROVIDED IN ACCORDANCE WITH HNF-IP-0842. PIC SUBMIT CONTAINER REQUEST FORM TO GENERATOR SERVICES PER POP TO-100-052, AS NECESSARY.
- 6.4 RESPIRATORY PROTECTION AND MONITORING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SAFE WORK PRACTICES CONTAINED IN THE HASP (WHC-SD-WM-HSP-002). SPECIFIC INSTRUCTIONS SHALL BE PART OF THE PRE-JOB SAFETY MEETING.

1. Document Number ES-99-00055/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.

- 6.5 NON-SPARKING TOOLS SHALL BE USED WHEN REQUIRED PER HNF-SD-WM-BIO-001 AND HNF-SD-WM-TSR-006.
- 6.6 TANK INTRUSIVE ACTIVITIES SHALL BE STOPPED AND THE TANK PLACED IN A STABILIZED MODE IF LIGHTNING IS DETERMINED TO BE WITHIN 50 MILES OF THE JOB-SITE.
- 6.7 VEHICLE ACCESS WITHIN THE TANK FARM BOUNDARY SHALL:
 - 6.7.1 BE LIMITED TO VEHICLES WHOSE FUEL SYSTEMS ARE PROTECTED FROM DAMAGE.
 - 6.7.2 DRIVERS SHALL TAKE GREAT CAUTION TO REMAIN CLEAR OF ABOVE GROUND OBJECTS AND SHALL OBSERVE MAXIMUM SPEED LIMITS.
 - 6.7.3 SPOTTERS IN COMMUNICATIONS WITH THE DRIVER ARE REQUIRED WHEN DRIVING OVER A TANK DOME.
- 6.8 A DOME LOAD EVALUATION HAS BEEN COMPLETED AND INCORPORATED INTO THIS WORK PACKAGE. THE DOME LOAD EVALUATION INCLUDES ALL EQUIPMENT/VEHICLES THAT ARE ENTERING THE TANK FARM TO PERFORM THIS WORK PACKAGE.
- 6.9 PIC ENSURE THAT THE PROCEDURES USED TO PERFORM THIS TASK ARE THE MOST CURRENT REVISION.
- 6.10 PIC CHECK THE STANDING ORDER LOG TO ASCERTAIN WHETHER THERE ARE ORDERS THAT MAY IMPACT THIS WORK. IF THERE ARE ANY, CONTACT THE COG. ENGINEER. (DD WANNER 373-3297).
- 6.11 PLANNER VERIFY THAT THE SAP HAS BEEN RELEASED FOR THIS WORK PACKAGE:

SAP: HNF-4030

Dan J. Green
PLANNER SIGNATURE

3/4/99
DATE

1. Document Number ES-99-00055/0 OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.

7.0 SPECIFIC WORK INSTRUCTIONS:

- 7.1 PIC VERIFY JOB BEING PERFORMED AT CORRECT TANK, WITH INDEPENDENT VERIFICATION.

TANK: 241-C-106 EXHAUST STACK

PIC SIGN: [Signature] DATE: 03/07/99

VERIFICATION BY: Daniel Garza

SIGN: [Signature] DATE: 3/7/99

- 7.1.1 PIC VERIFY VENT SYSTEM IS OPERATING

[Signature] 03/07/99
PIC SIGN DATE

NOTE IH&S WILL BE PERFORMING ENTRY MONITORING AT THE C-106 EXHAUST STACK AS REQUIRED FULFILLING BIO/TSR REQUIREMENTS PER EAST AREA WORK PACKAGE. (2E-99-00143 2E-99-00144)

- 7.2 HPT PERFORM DOSE RATE SURVEY OF AREA OVER AND AROUND EXHAUST STACK. RECORD RESULTS ON RADIATION SURVEY REPORT.

- 7.3 OBTAIN SUMMA SAMPLE

- 7.3.1 CONNECT A SINGLE ENDED PORT CONNECTOR TO THE STACK PORT.

NOTE ATTACHMENT 1 (TAKEN FROM THE SAP) WILL INDICATE WHEN A SUMMA SAMPLE WILL BE PERFORMED AND THE SEQUENTIAL ORDER OF THE SUMMA SAMPLES ONLY.

NOTE EACH SAMPLE (I.E. FILTER, SUMMA, TST, STT, PUF TRAP) OF A GIVEN SAMPLE SET (I.E. BASELINE, SAMPLE SET #3, #4, ETC) WILL BE COMPLETED IN THE SEQUENTIAL ORDER STATED IN TABLE 2-2 (STACK SAMPLES) AND 2-3 (C FARM AMBIENT AIR SAMPLE) OF THE SAP.

1. Document Number ES-99-00055/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.
- =====

- 7.3.2 REMOVE THE PROTECTIVE CAP FROM THE SUMMA CANISTER.
- 7.3.3 CONNECT SUMMA CANISTER TO EXHAUST STACK PORT WITH TUBING ASSEMBLY.
- 7.3.4 OPEN THE ISOLATION VALVE.
- 7.3.5 OPEN SUMMA CANISTER ISOLATION VALVE.
- 7.3.6 RECORD DATE TOC READING, SUMMA SAMPLE IDENTIFICATION NUMBER, AND SAMPLE START TIME ON ATTACHMENT 1 DATA SHEET.
- 7.3.7 ALLOW SUMMA CANISTER TO FILL FOR TWO (2) MINUTES.
 - 7.3.7.1 THE SAP STATES A SAMPLE DURATION OF 2 MINUTES FOR ALL SUMMA SAMPLES. HOWEVER, THE TIME ALLOWED TO FILL A SUMMA CANISTER MAY BE EXTENDED PER THE SAP, TO INCREASE THE CHANCE THAT THE SUMMA HAS ACHIEVED AS CLOSE AS POSSIBLE, FULL VOLUME INTEGRITY.
- 7.3.8 CLOSE SUMMA CANISTER ISOLATION VALVE.
- 7.3.9 RECORD SAMPLE STOP TIME ON ATTACHMENT 1 DATA SHEET.
- 7.3.10 CLOSE ISOLATION VALVE.
- 7.3.11 REMOVE SUMMA CANISTER FROM EXHAUST STACK PORT.
- 7.3.12 REPLACE PROTECTIVE CAP ON SUMMA CANISTER.
- 7.3.13 RECORD ANY ANOMALIES ON THE WORK RECORD (J-5).
- 7.3.14 COMPLETE CHAIN-OF-CUSTODY (C-O-C) FOR SUMMA SAMPLE.

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1. Document Number ES-99-00055/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.

7.3.15 REPEAT STEPS 7.4.2 THROUGH 7.4.14 AS MANY TIMES AS REQUIRED TO OBTAIN THE PRESCRIBED SET OF SAMPLES (PER ATTACHMENT 1).

7.3.15.1 PIC N/A ALL SPACES ON ATTACHMENT 1 PERTAINING TO SAMPLING NOT PERFORMED.

NOTE SAMPLES SHALL BE SHIPPED PER SECTION 2.2 OF SAP.

JOB COMPLETION:

7.4 PIC RECORD ON J-5 THAT THE JOB SITE HAS BEEN CLEANED, DECONTAMINATED TO PRE-JOB STATUS OR BETTER, AND ALL WASTE HAS BEEN PROPERLY DISPOSED OF.

7.5 COPIES OF C-O-C AND SHIPMENT RECORDS FOR EACH SAMPLE PLACED IN WORK PACKAGE PRIOR TO ARCHIVE.

PLANNER SIGN

DATE

7.6 PIC VERIFY IF ANY OF THE FOLLOWING TRIGGER LEVELS FOR POST-JOB ALARA REVIEW ARE APPLICABLE TO WORK PERFORMED IN THIS PACKAGE:

YES NO

STOP RADIOLOGICAL WORK AUTHORITY WAS EXERCISED BY ANY RADIOLOGICAL WORKER DURING THE PERFORMANCE OF THE WORK.

PIC SIGNATURE

DATE

1. Document Number ES-99-00055/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.

7.7 RADIOLOGICAL CONTROL ORGANIZATION VERIFY IF ANY OF THE FOLLOWING TRIGGER LEVELS FOR POST-JOB ALARA REVIEW ARE APPLICABLE TO WORK PERFORMED IN THIS PACKAGE:

YES NO

___ THE JOB PRODUCES AN ACTUAL COLLECTIVE DOSE OF 5 PERSON-REM OR GREATER.

___ A REPORTABLE RADIOLOGICAL OCCURRENCE IN ACCORDANCE WITH OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION (HNF-IP-0842 VOL. II, SEC. 4.6.2), OCCURRED DURING THE PERFORMANCE OF THE WORK.

___ SIGNIFICANT LESSONS LEARNED ARE IDENTIFIED DURING THE INFORMAL RADIOLOGICAL PERFORMANCE REVIEW.

___ THE ACTUAL DOSE FOR TASK OUTSIDE THE RANGE OF PLUS/MINUS 25% OF PRE-JOB ESTIMATE OF GREATER THAN 1,000 PERSON-MREM TEDE.

___ AN ALARA COMMITTEE PRE-JOB ALARA REVIEW WAS REQUIRED.

___ IS A POST-JOB ALARA REVIEW REQUIRED?

RADCON SIGNATURE

DATE

7.8 IF A FORMAL POST-JOB ALARA REVIEW IS NOT REQUIRED, THIS WORK PACKAGE HAS BEEN REVIEWED BY THE TWRS ALARA COORDINATOR FOR TRENDS AND LESSONS LEARNED.

TWRS ALARA COORDINATOR SIGNATURE

DATE

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1. Document Number ES-99-00055/O OPERATIONS SPECIAL PROCEDURE
2. Work Item Title 241-C-106 VAPOR SAMPLE FROM STACK.

8 RESTORATION ACTIONS

- 8.1 RETURN ALL UNUSED MATERIAL TO CPO MATERIAL COORDINATOR, AT 2101HV. THE RETURNED MATERIAL SHALL BE ACCOMPANIED BY A COPY OF THE BOM AND THE QC ACCEPT TAG (GREEN TAG) OR TRANSFER TAG, IF AVAILABLE.

9 POST MAINTENANCE TESTING

- 9.1 N/A

10 OPERATIONAL FUNCTIONAL TEST

- 10.1 N/A

22. Reference Documents
SEE RESOLUTION

Type

23. Field Work Complete

Signature

Date

24. Ops_Acceptance

25. Post Review

[illegible]

2025

ATTACHMENT 1 DATA SHEET 296-C-006 STACK AND C TANK FARM (AMBIENT) SUMMA VAPOR SAMPLING DATA SHEET WORK PACKAGE NO. ES-99-00055					
Sample Description	Sample ID No.	Start Time	Stop Time	TOC Reading (ppm)	Recorded By/Date
Ambient Air Baseline SUMMA Vapor Samples					
Baseline SUMMA, near 296-C-006 Stack	VSAMB-201-5017	12:12	12:14	0 ppm	4/10/99 03/07/99
Baseline SUMMA, near fresh air truck	VSAMB-205-5044	12:25	12:27	0 ppm	4/10/99 03/07/99
Baseline SUMMA, downwind at fresh air boundary	VSAMB-206-5046	12:28	12:30	0 ppm	4/10/99 03/07/99
296-C-006 Stack SUMMA Vapor Samples					
Baseline SUMMA (before pump is started)	VS006-202-5011	1303	1305	6.5 ppm	03/07/99 Daniel Dwyer
SUMMA #1, 1 hr after pump starts or when TOC rises to 50 ppm	VS006-207-5027	1437	1439	13.1 ppm	03/07/99 Daniel Dwyer
SUMMA #2, 1 hr after SUMMA #1 or when TOC is 50 ppm above SUMMA #1 TOC, whichever comes first	VS006-212-5028	1537	1539	59 ppm	03/07/99 Daniel Dwyer
SUMMA #3, 1 hr after SUMMA #2 or when TOC is 50 ppm above SUMMA #2 TOC, whichever comes first	VS006-217-5030	1637	1639	66.4 ppm	03/07/99 Daniel Dwyer
SUMMA #4, 1 hr after SUMMA #3 or when TOC is 50 ppm above SUMMA #3 TOC, whichever comes first	VS006-222-5039	1737	1739	124 ppm	03/07/99 Daniel Dwyer
SUMMA #5, 1 hr after SUMMA #4 or when TOC is 50 ppm above SUMMA #4 TOC, whichever comes first	VS006-227-5054	1818	1820	184	03/07/99 Daniel Dwyer
SUMMA #6, 1 hr after SUMMA #5 or when TOC is 50 ppm above SUMMA #5 TOC, whichever comes first	VS006-232-5056	1918	1920	203 ppm	03/07/99 Daniel Dwyer
SUMMA #7, 1 hr after SUMMA #6 or when TOC is 50 ppm above SUMMA #6 TOC, whichever comes first	VS006-237-5071	2018	2020	225 ppm	03/07/99 Daniel Dwyer
SUMMA #8, 1 hr after SUMMA #7 or when TOC is 50 ppm above SUMMA #7 TOC, whichever comes first	VS006-242-5012				03/07/99 Daniel Dwyer

ATTACHMENT 1 DATA SHEET
296-C-006 STACK AND C TANK FARM (AMBIENT) SUMMA
VAPOR SAMPLING DATA SHEET
WORK PACKAGE NO. ES-99-00055

Sample Description	Sample ID No.	Start Time	Stop Time	TOC Reading (ppm)	Recorded By/Date
SUMMA #9, 1 hr after SUMMA #8 or when TOC is 50 ppm above SUMMA #8 TOC, whichever comes first	VS006-247-5073				
SUMMA #10, 1 hr after SUMMA #9 or when TOC is 50 ppm above SUMMA #9 TOC, whichever comes first	VS006-252-5085				
SUMMA #11, 1 hr after SUMMA #10 or when TOC is 50 ppm above SUMMA #10 TOC, whichever comes first	VS006-257-5086				
SUMMA #12, 1 hr after SUMMA #11 or when TOC is 50 ppm above SUMMA #11 TOC, whichever comes first	VS006-262-5097				
SUMMA #13, 1 hr after SUMMA #12 or when TOC is 50 ppm above SUMMA #12 TOC, whichever comes first	VS006-267-5105				3/2/99
SUMMA #14, 1 hr after SUMMA #13 or when TOC is 50 ppm above SUMMA #13 TOC, whichever comes first	VS006-272-5109				
SUMMA #15, 1 hr after SUMMA #14 or when TOC is 50 ppm above SUMMA #14 TOC, whichever comes first	VS006-277-5109				
SUMMA #16, 1 hr after SUMMA #15 or when TOC is 50 ppm above SUMMA #15 TOC, whichever comes first	VS006-282-5111				
SUMMA #17, 1 hr after SUMMA #16 or when TOC is 50 ppm above SUMMA #16 TOC, whichever comes first	VS006-287-5112				
Ambient Air SUMMA Vapor Samples @ Peak/Steady State TOC Concentrations (when stack level reaches 350 ppm or at direction of Test Director)					
SUMMA, near 296-C-006 Stack	VSAMB-207-5065	2049	2056		03/07/99 David Dwyer
SUMMA, near fresh air truck	VSAMB-211-5067	2055	2057		03/07/99 David Dwyer
SUMMA, downwind at fresh air boundary	VSAMB-212-5098	2057	2101		03/07/99 David Dwyer
296-C-006 Stack SUMMA Vapor Samples					
Post Shut-Down SUMMA	VS006-292-5115	2120	2122		03/07/99 David Dwyer

*** ARCHIVE INFORMATION ***

=====WORK DOCUMENT (W110)=====

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1. Document Number 2E-99-00143/W *GENERIC WORK ITEM*
 2. Work Item Title 241-C MONITOR 296-C-006 TOC/VOC W/FID & OVM

3. Components

Component Number	Name
N/A	

Temporary Number	Name
N/A	

4. System 03
- SAMPLING*

5. Location

Facility 2E <i>EAST TANK FARMS</i>	
Bldg/Rm 241-C	Other 296-C-006 Other N/A

6. Symptom, Problem, or Condition

PERFORM ORGANIC SAMPLING AT 296-C-006 EXHAUST STACK TO SUPPORT
241-C-106 SLUCING ACTIVITIES.

7. Originator Name WHEAT,MW

Date
01/27/99

Telephone No. 373-2600 MSIN SO-09

8. Charge Code 101980

9. Priority

10. Phase Designator P1-2 *FEBRUARY*
 Mode N/A
 Correct Maint. Assessment N
 Personnel Safety Related N

	Signature	Phone
11. Cognizant Engineer	POWERS,RL	373-5933
Cognizant Manager	BAIDE,DG	376-3274

12. Planning Required Y

	Signature	Date
13. Screener/Ops Review	X RODRIQUEZ,RS	01/27/99

	Signature	Date
14. Resolution By	X WHEAT,MW	02/01/99

15. Approvals

Code	Description	Signature	Date
CE	COGNIZANT ENGINEER	X JONES,JM	03/02/99
CM	COGNIZANT MANAGER	X HARTY,WM	03/03/99
HP	HEALTH PHYSICS	X BROWN,RL	03/03/99
PIC	PERSON IN CHARGE	X WRIGHT,RL	03/04/99
OPS REP	PROJECTS OPS REPRESENTATIVE	X GUTIERREZ,RV	03/03/99
S	SAFETY	X BOWEN,KM	03/04/99

=====WORK DOCUMENT (W110)=====

*** ARCHIVE INFORMATION ***

*** ARCHIVE INFORMATION ***

=====WORK DOCUMENT (W110)=====

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1. Document Number 2E-99-00143/W *GENERIC WORK ITEM*

2. Work Item Title 241-C MONITOR 296-C-006 TOC/VOC W/FID & OVM

E	ENVIRONMENTAL	X DILLHOFF,TA	03/04/99
WPP	WORK PACKAGE PREPARER	X HENNING,ME	03/04/99

16. Resources Required

Res Code	Description	No.	Est Hrs	Act Hrs
96	IH&S TECH.	4	150	64
04	Operations Personnel	1	16	16
54A	HEALTH PHYSICS TECHNICIAN	2	32	32
24	Plumber Steamfitter	2	32	32
1AA	OPERATIONS/PIC	1	16	16

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*** ARCHIVE INFORMATION ***

*** ARCHIVE INFORMATION ***

=====WORK DOCUMENT (W110)=====

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11:29:01 13 MAY 1999

1. Document Number 2E-99-00143/W *GENERIC WORK ITEM*
 2. Work Item Title 241-C MONITOR 296-C-006 TOC/VOC W/FID & OVM

17. Pre-Work Review Signature Date
 X GUTIERREZ,RV 03/04/99
 18. Tagout Number N/A

19. Work Release Type Signature Date
 F ANDERSON,KJ 03/06/99

20. Work Suspension (See Work Suspension Sheet)
 PIC _____

21. PIC WRIGHT,RL PIC Org.
 Essential System
 Tech Spec/OSR Requirements Reference TSR-006
 HNF-IP-1266
 Plant Forces Work Review Required N Number

Resolution/Retest

1.0 SCOPE:

- 1.1 This work package provides limits, controls, and work instructions to perform organic vapor sampling/monitoring with flame ionization detector (FID), organic vapor monitor (OVM) and non-electrical sampling system (NEVS) cart at the 296-C-006 exhaust stack to support process test activities described in the latest revision of PTP-320-001.
- 1.2 This work scope is classified as a "MANNED NON-WASTE DISTURBING, DOME-INTRUSIVE" activity associated with an actively ventilated Facility Group 3 tank, 241-C-106.

2.0 DESCRIPTION (Summary):

2.1 SAMPLING/MONITORING WITH FID

- 2.1.1 Install organic monitoring equipment (FID) at 296-C-006 sample port.
- 2.1.2 Monitor and datalog organic compound concentrations per C-106 Process Test IH Sampling/Monitoring Strategy, 6-VT-162 and 6-VT-162-C.
- 2.1.3 Disconnect monitoring equipment and restore work area.

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1. Document Number 2E-99-00143/W *GENERIC WORK ITEM*
 2. Work Item Title 241-C MONITOR 296-C-006 TOC/VOC W/FID & OVM

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2.2 SAMPLING/MONITORING WITH OVM

2.2.1 Install organic monitoring equipment (OVM) at 296-C-006 sample port.

2.2.2 Monitor and datalog organic compound concentrations per C-106 Process Test IH Sampling/Monitoring Strategy.

2.2.3 Disconnect monitoring equipment and restore work area.

2.3 SAMPLING/MONITORING WITH NEVS CART

2.3.1 Install vapor sampling equipment (NEVS cart) at 296-C-006 sample port as required.

2.3.2 Collect vapor sample per HNF-4030, Rev. 0, "Waste Retrieval Sluicing System Vapor Sampling and Analysis Plan for Evaluation of Organic Emissions, Process Test Phase II" and LO-080-400.

2.3.3 Disconnect sampling equipment and restore work area.

2.4 C FARM AREA, ROVING, PERSONAL SAMPLING/MONITORING

2.4.1 Perform area, roving, and personal sampling/monitoring per C-106 Process Test IH Sampling/Monitoring Strategy.

2.4.2 Restore work area.

3.0 REFERENCE DOCUMENTS, PERMITS AND SPECIAL PROCEDURES:

3.1 7B100-NKB-99-002; C-106 Process Test IH Sampling/Monitoring Strategy.

3.2 6-VT-162; Organic Vapor Sampling for Tank Farm Exhaust Stacks.

3.3 6-VT-162-C; Appendix C Exhaust Stack 296-C-006 Organic Vapor Sampling data sheets.

3.4 EDT-611450; HNF-4030, Rev. 0, "Waste Retrieval

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1. Document Number 2E-99-00143/W *GENERIC WORK ITEM*
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Sluicing System Vapor Sampling and Analysis Plan
for Evaluation of Organic Emissions, Process Test
Phase II".

- 3.5 LO-080-400, Rev. A-1; Vapor Sampling Using the
Non-Electrical Vapor Sampling System (NEVS).
(Hanford Analytical Laboratory Operations)
- 3.6 HNF-PRO-095; Scaffolding
- 3.7 Pre-Job Safety Meeting Checklist.
- 3.8 RWP E-1116, latest revision.
- 3.9 Hanford Job Safety Analysis (JSA).
- 3.10 Flammable Gas Review
- 3.11 USQ # TF-98-0462
- 3.12 Waste Planning Checklist.

4.0 PRECAUTIONS, LIMITATIONS & NOTES:

- 4.1 Except for steps requiring HP hold point signatures
or pre-intrusive monitoring, any steps in this
instruction that are NOT required for completion
shall be indicated as such by entering "N/A" in the
appropriate sign off space and explained on the JCS
Work Record Document.
- 4.2 Work activities involve connecting sample tubes and
FGEAB-certified test equipment to 296-C-006 exhaust
stack sample ports. The sample ports include
shutoff valves to isolate them from tank 241-C-106;
therefore, whenever the sample ports are closed or
whenever the sample tubes and test equipment are
installed, containment is maintained. Applicable
ignition source controls and monitoring
requirements in HNF-IP-1266, Chapters 5.9, 5.10 &
5.11 have been reviewed and incorporated into the
work package resolution.
- 4.3 If performance of this activity should require
entry into areas that require respiratory
protection, protection and monitoring requirements
shall be identified by IH&S personnel. Specific

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instructions shall be addressed in the Pre-Job Safety Meeting.

4.3.1 IH&S is responsible for monitoring and establishing breathing air zones.

5.0 MATERIALS AND EQUIPMENT REQUIRED:

- 5.1 Per LO-080-400.
- 5.2 Per 6-VT-162, Section 4.1.
- 5.3 Calibration gas (nonprotocol), 512 ppm, 1 bag.
- 5.4 3-way valve for Flame Ionization Detector connection.
- 5.5 Waste bags and inventory sheets.
- 5.6 Misc. hand tools, as required.

6.0 PREREQUISITES:

- 6.1 Conduct a PRE-JOB SAFETY MEETING using the Pre-job Safety Meeting Checklist. Review appropriate JSA, Radiation Work Permit (RWP) and other applicable permits.
- 6.2 Verify 241-C-106 exhaustor (296-C-006) is operating at 241-C facility during work activities.
 - 6.2.1 If active ventilation system fails or is shut down at 241-C facility during this activity, work area shall be placed in a safe shut down mode. All personnel non-essential to placing work area in safe shut down mode SHALL evacuate the farm.
 - 6.2.2 East Tank Farm Shift Manager shall be notified.
- 6.3 If radioactive/hazardous waste as defined by TO-100-052 is generated by the performance of this activity, the Tank Farm Container Request Form shall be completed and delivered to Environmental Waste Operations (EWO) and a copy included in this

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1. Document Number 2E-99-00143/W *GENERIC WORK ITEM*
2. Work Item Title 241-C MONITOR 296-C-006 TOC/VOC W/FID & OVM

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work package.

- 6.4 Per HNF-PRO-095, ensure scaffold (and their components) is inspected by a competent person before start of each work shift, and following any occurrence which could affect the unit's structural integrity.
- 6.5 Ensure Special Analytical Support (SAS) documentation requirements are met per HNF-4030 (i.e., for each sample collected, record sample number, start and stop times for the collection of each sample, the TOC reading at the start of the collection of each sample, sample volumes, and anomalous sampling conditions.
- 6.6 A respiratory protection zone is established around the C-006 stack for this evolution (150 feet around stack). Supplied air is required in the zone from the time pumps are started. Zone may be reduced after pumps are shut down and C-006 stack organic levels drop to <10 ppm. Industrial hygiene will establish additional respiratory protection zones as needed. (e.g. MO-211 becomes downwind)
- 6.7 Ensure pitot tubes are installed per JCS Work Package ES-99-00053/W at sample port locations prior to sampling/monitoring.

7.0 SPECIFIC WORK INSTRUCTIONS:

NOTE: This work package contains multiple independent work sections. These sections may be worked concurrently/independently by partial release provided the independent work sections are clearly identified. Hold points within each section apply to that section only, and shall be worked in accordance with specific work instructions.

7.1 SAMPLING/MONITORING WITH FID

NOTE: Documented surveys are required for opening potentially contaminated systems or items, accessing previously unexposed surfaces, excavating or when required by procedure.

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NOTE: Various organic monitoring equipment may be connected and disconnected as needed to support required chemical screening, monitoring and sampling activities.

NOTE: A 3-way valve is required for connection of Flame Ionization Detector (FID) to sample port to prevent flame from extinguishing.

7.1.1 Ensure 296-C-006 sample port shutoff valves are CLOSED whenever connecting or disconnecting test equipment.

7.1.2 HPT to perform external contamination survey of 296-C-006 sample ports whenever test equipment is connected and disconnected to verify levels are within RWP limits.

7.1.3 Install and setup FID test equipment at 296-C-006 sample ports per C-106 Process Test IH Sampling/Monitoring Strategy and 6-VT-162.

7.1.3.1 After initial calibration error test, connect 512 ppm calibration gas (nonprotocol), allow equipment to stabilize, record reading below, and then continue with equipment response test:

_____ ppm

7.1.4 When directed by Test Director, sample/monitor and datalog at 296-C-006 exhaust stack using Flame Ionization Detector (FID) per 6-VT-162, 6-VT-162-C, C-106 Process Test IH Sampling/Monitoring Strategy and steps below.

7.1.4.1 After each hour of readings, perform procedure 6-VT-162, Section 5.2, Perform Calibration Error Test, and then continue with readings as required.

7.1.4.2 Notify Test Director if organic concentration reaches 300 ppm as measured by FID and proceed as directed.

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1. Document Number 2E-99-00143/W *GENERIC WORK ITEM*
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Once organic concentration has reached 300 ppm, notify Test Director again if organic concentration returns to less than 300 ppm as measured by FID.

7.1.4.3 Notify Test Director if organic concentration reaches 400 ppm as measured by FID and proceed as directed..

Once organic concentration has reached 400 ppm, notify Test Director again if organic concentration returns to less than 400 ppm as measured by FID.

7.1.4.4 Notify Test Director if organic concentration reaches 500 ppm as measured by FID and proceed as directed.

7.1.5 When directed, stop sampling/monitoring and ensure shutoff valves are closed.

7.1.5.1 Remove test equipment from 296-C-006 exhaust stack sample ports as required.

7.1.6 Restore work area as required.

7.2 SAMPLING/MONITORING WITH OVM

NOTE: Documented surveys are required for opening potentially contaminated systems or items, accessing previously unexposed surfaces, excavating or when required by procedure.

NOTE: Various organic monitoring equipment may be connected and disconnected as needed to support required chemical screening, monitoring and sampling activities.

7.2.1 Ensure 296-C-006 sample port shutoff valves are CLOSED whenever connecting or disconnecting test equipment.

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1. Document Number 2E-99-00143/W *GENERIC WORK ITEM*2. Work Item Title 241-C MONITOR 296-C-006 TOC/VOC W/FID & OVM
=====

7.2.2 HPT to perform external contamination survey of 296-C-006 sample ports whenever test equipment is connected and disconnected to verify levels are within RWP limits.

7.2.3 Install and setup OVM test equipment at 296-C-006 sample ports per C-106 Process Test IH Sampling/Monitoring Strategy.

7.2.4 When directed by Test Director, sample/monitor and datalog at 296-C-006 exhaust stack using OVM and PID per C-106 Process Test IH Sampling/Monitoring Strategy.

7.2.5 When directed, stop sampling/monitoring and ensure shutoff valves are closed.

7.2.5.1 Remove test equipment from 296-C-006 exhaust stack sample ports as required.

7.2.6 Restore work area as required.

7.3 SAMPLING/MONITORING WITH NEVS CART

NOTE: Documented surveys are required for opening potentially contaminated systems or items, accessing previously unexposed surfaces, excavating or when required by procedure.

NOTE: NEVS sampling equipment may be connected and disconnected as needed to support collection of required particulate filter samples, triple sorbent trap (TST), sorbent tube train (STT) and polyurethane foam (PUF) samples.

7.3.1 Ensure 296-C-006 sample port shutoff valve is CLOSED whenever connecting or disconnecting test equipment.

7.3.2 HPT to perform external contamination survey of 296-C-006 sample port whenever test equipment is connected and disconnected to verify levels are within RWP limits.

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1. Document Number 2E-99-00143/W *GENERIC WORK ITEM*
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7.3.3 Install NEVS test equipment at 296-C-006
sample port as required per LO-080-400.

7.3.4 When directed by Test Director, collect
Particulate Filter samples, TST, STT, PUF
samples, from 296-C-006 exhaust stack per
HNF-4030, Rev. 0, "Waste Retrieval Sluicing
System Vapor Sampling and Analysis Plan for
Evaluation of Organic Emissions, Process Test
Phase II" and LO-080-400, Rev. A-1.

7.3.5 When directed, stop sampling/monitoring and
ensure shutoff valve is closed.

7.3.5.1 Remove test equipment from
296-C-006 exhaust stack sample
ports as required.

7.3.6 Restore work area, as required.

7.4 C FARM AREA, ROVING, PERSONAL SAMPLING/MONITORING

7.4.1 Perform area, roving, and personal
sampling/monitoring per C-106 Process Test IH
Sampling/Monitoring Strategy.

7.4.2 Restore work area.

8.0 RESTORATION ACTIONS:

8.1 SUPERVISOR record on the JCS WORK RECORD (J-5) that
job site has been cleaned and all waste has been
placed in the proper containers per TO-100-052 and
HNF-IP-0842, Vol. VI, Sect. 4.1 (Waste Generating
Plan.)

8.2 Ensure all test documentation and copies of
completed data sheets and log sheets are included
in the work package.

9.0 POST-MAINTENANCE TESTING:

9.1 N/A

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10.0 OPERATIONAL FUNCTIONAL TESTS:

10.1 N/A

22. Reference Documents	Type
7B100-NKB-99-002	MISC
6-VT-162	MISC
6-VT-162-C	MISC
EDT-611450	MISC
LO-080-400, REV. A-1	MISC
HNF-PRO-095	MISC
HNF-SD-WM-HSP-002	MISC
E-1116, LATEST REV.	RWP
HFORJ JOB SAFTY ANAL	JSA
WASTE CHECLIST	WPC
TO-100-052	POP
USQ #TF-98-0462	USQ
PRE-JOB FORM	PJOB

23. Field Work Complete	Signature WRIGHT, RL	Date 03/07/99
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24. Ops_Acceptance	GARELLO, PR	04/10/99
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Reactor Containment Integrity N/A

25. Post Review	MACFARLAN, DL	04/13/99
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Appendix 1C

WSCF Screening Results

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WSCF
ANALYTICAL LABORATORY REPORT

for

PROJECT HANFORD MANAGEMENT CONTRACTORS
RICHLAND WA 99352

Attention: JAMES SICKLES

Report#: 99000376
Report Date: 11-mar-1999
Report W004/ver. 3
PROJECT HANFORD MANAGEMENT CONTRACTORS

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WSCF ANALYTICAL LABORATORY REPORT

Attention:		JAMES SICKLES		Group #:		99000376					
Project Number		MISC.		:PROJ. HANFORD MNGMT. CONT.							
Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W990000273	VS702-201-115DOWN	Gross Alpha	FILTER			U	3.3E-08	8.20E-007	03/10/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Gross Alpha Abs. Cntg Error	FILTER				3.2E-07	0.00	03/10/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Gross Beta	FILTER			U	1.3000E-07	1.10E-006	03/10/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Gross Beta Absolute Cntg Error	FILTER				5.5E-07	0.00	03/10/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Ce-144 Rel. % Count Error (GEA)	FILTER				250.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Ce-144 by GEA	FILTER			LA-508-462	250.	11.10	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	CePr-144 Rel. % Count Error	FILTER			LA-508-462	250.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	CePr-144 by GEA	FILTER			LA-508-462	4.73E+00	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Co-60 Rel. % Count Error (GEA)	FILTER			LA-508-462	161.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Co-60 by GEA	FILTER			LA-508-462	8.17E-01	2.92	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Cs-134 Rel. % Count Error (GEA)	FILTER			LA-508-462	1000	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Cs-134 by GEA	FILTER			LA-508-462	1.21E-01	2.71	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Cs-137 Rel. % Count Error (GEA)	FILTER			LA-508-462	484.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Cs-137 by GEA	FILTER			LA-508-462	2.40E-01	2.14	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Eu-152 Rel. % Count Error (GEA)	FILTER			LA-508-462	297.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Eu-152 by GEA	FILTER			LA-508-462	9.27E-01	4.87	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Eu-154 Rel. % Count Error (GEA)	FILTER			LA-508-462	943.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Eu-154 by GEA	FILTER			LA-508-462	4.21E-01	7.80	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Eu-155 Rel. % Count Error (GEA)	FILTER			LA-508-462	206.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Eu-155 by GEA	FILTER			LA-508-462	1.46E+00	5.87	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Nb-94 Rel. % Count Error (GEA)	FILTER			LA-508-462	229.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Nb-94 by GEA	FILTER			LA-508-462	6.72E-01	2.19	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Ru-103 Rel. % Count Error (GEA)	FILTER			LA-508-462	217.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Ru-103 by GEA	FILTER			LA-508-462	4.31E-01	1.86	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Ru-106 Rel. % Count Error (GEA)	FILTER			LA-508-462	195.	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Ru-106 by GEA	FILTER			LA-508-462	6.58E+00	21.80	03/09/99	03/07/99	03/08/99

MDL=Minimum Detection Limit
RQ=Result Qualifier

D - Compound concentration resulted from a dilution.
J - Estimated value.
U - The analyte was analyzed for but not detected.

B - The analyte was detected in the associated method blank.
E - Compound concentration exceeded calibration range.
N - Identification is based on a mass spectral library search.

* - Indicates results that have NOT been validated.

Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Group #: 99000376

Attention: JAMES SICKLES
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT.

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W990000273	VS702-201-115DOWN	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		276.	%	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Sb-125 by GEA	FILTER	LA-508-462	U	1.12e+00	pCi	5.82	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Sn-113 by GEA	FILTER	LA-508-462	U	-4.04e-02	pCi	2.42	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		655.	%	0.00	03/09/99	03/07/99	03/08/99
W990000273	VS702-201-115DOWN	Zn-65 by GEA	FILTER	LA-508-462	U	-4.69e-01	pCi	5.61	03/09/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Gross Alpha	FILTER	LA-508-462	U	3.3E-08	uCi	8.30e-007	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462		3.2E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Gross Beta	FILTER	LA-508-462	U	1.3E-07	uCi	1.10e-006	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Gross Beta Absolute Cntg Error	FILTER	LA-508-462		5.4E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		525.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Ce-144 by GEA	FILTER	LA-508-462	U	1.22e+00	pCi	11.50	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	CePr-144 Rel. % Count Error	FILTER	LA-508-462		525.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	CePr-144 by GEA	FILTER	LA-508-462	U	2.44e+00	pCi	23.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		895.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Co-60 by GEA	FILTER	LA-508-462	U	-1.31e-01	pCi	2.33	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Co-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		219.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Co-134 by GEA	FILTER	LA-508-462	U	5.30e-01	pCi	2.39	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		195.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Cs-137 by GEA	FILTER	LA-508-462	U	5.52e-01	pCi	2.17	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		290	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Eu-152 by GEA	FILTER	LA-508-462	U	9.16e-01	pCi	5.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		185.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Eu-154 by GEA	FILTER	LA-508-462	U	-2.15e+00	pCi	6.97	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Eu-155 by GEA	FILTER	LA-508-462	U	-2.33e-01	pCi	6.02	03/10/99	03/07/99	03/08/99

MDL = Minimum Detection Limit

RQ = Result Qualifier

D - Compound concentration resulted from a dilution.
J - Estimated value.
U - The analyte was analyzed for but not detected.

B - The analyte was detected in the associated method blank.
E - Compound concentration exceeded calibration range.
N - Identification is based on a mass spectral library search.

* - Indicates results that have NOT been validated.

Report W004/ver. 3
PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention:
Project Number

JAMES SICKLES
MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000376

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W990000274	VS702-203-S116DOWN	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		180.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Nb-94 by GEA	FILTER	LA-508-462	U	7.07e-01	pCi	2.24	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		423.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Ru-103 by GEA	FILTER	LA-508-462	U	2.26e-01	pCi	1.84	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Ru-106 by GEA	FILTER	LA-508-462	U	5.69e-02	pCi	19.50	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		124.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Sb-125 by GEA	FILTER	LA-508-462	U	2.35e+00	pCi	5.88	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		878.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Sn-113 by GEA	FILTER	LA-508-462	U	1.40e-01	pCi	2.19	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		438.	%	0.00	03/10/99	03/07/99	03/08/99
W990000274	VS702-203-S116DOWN	Zn-65 by GEA	FILTER	LA-508-462	U	6.49e-01	pCi	5.17	03/10/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Gross Alpha	FILTER		U	-9.0E-08	uCi	8.30e-007	03/10/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Gross Alpha Abs. Cntg Error	FILTER		U	2.1E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Gross Beta	FILTER		U	-1.5E-07	uCi	1.10e-006	03/10/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Gross Beta Absolute Cntg Error	FILTER			4.3E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		100.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Ce-144 by GEA	FILTER	LA-508-462	U	8.60e+00	pCi	8.46	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	CePr-144 Rel. % Count Error	FILTER	LA-508-462		100.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	CePr-144 by GEA	FILTER	LA-508-462	U	-1.72e+01	pCi	16.90	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		116.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Co-60 by GEA	FILTER	LA-508-462	U	1.56e+00	pCi	3.92	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		352.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Cs-134 by GEA	FILTER	LA-508-462	U	-3.67e-01	pCi	2.34	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Cs-137 by GEA	FILTER	LA-508-462	U	1.88e-02	pCi	2.36	03/09/99	03/07/99	03/08/99

MDL=Minimum Detection Limit

RQ=Result Qualifier

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E - Compound concentration exceeded calibration range.
N - Identification is based on a mass spectral library search.
D - Compound concentration resulted from a dilution.
J - Estimated value.
U - The analyte was analyzed for but not detected.

* - Indicates results that have NOT been validated.
Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention: JAMES SICKLES
Project Number MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000376

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W990000275	VS702-207-S118DOWN	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		440.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Eu-152 by GEA	FILTER	LA-508-462	U	6.63e-01	pCi	5.45	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		223.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Eu-154 by GEA	FILTER	LA-508-462	U	-1.85e+00	pCi	7.43	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		394.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Eu-155 by GEA	FILTER	LA-508-462	U	-1.04e+00	pCi	6.83	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Nb-94 by GEA	FILTER	LA-508-462	U	6.36e-02	pCi	2.12	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		97.4	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Ru-103 by GEA	FILTER	LA-508-462	U	1.17e+00	pCi	2.34	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		137.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Ru-106 by GEA	FILTER	LA-508-462	U	-9.94e+00	pCi	22.10	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		213.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Sb-125 by GEA	FILTER	LA-508-462	U	-1.29e+00	pCi	4.80	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		469.	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Sn-113 by GEA	FILTER	LA-508-462	U	-2.93e-01	pCi	2.41	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W990000275	VS702-207-S118DOWN	Zn-65 by GEA	FILTER	LA-508-462	U	7.54e-03	pCi	6.77	03/09/99	03/07/99	03/08/99
W990000641	VS702-201-115UP	Gross Alpha	FILTER		U	-9.0E-08	uCi	8.30e-007	03/10/99	03/07/99	03/08/99
W990000641	VS702-201-115UP	Gross Alpha Abs. Cntg Error	FILTER		U	2.1E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W990000641	VS702-201-115UP	Gross Beta	FILTER		U	-2.4E-07	uCi	1.10e-006	03/10/99	03/07/99	03/08/99
W990000641	VS702-201-115UP	Gross Beta Absolute Cntg Error	FILTER		U	3.9E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W990000641	VS702-201-115UP	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		275.	%	0.00	03/09/99	03/07/99	03/08/99
W990000641	VS702-201-115UP	Ce-144 by GEA	FILTER	LA-508-462	U	2.17e+00	pCi	11.20	03/09/99	03/07/99	03/08/99
W990000641	VS702-201-115UP	CePr-144 Rel. % Count Error	FILTER	LA-508-462		275.	%	0.00	03/09/99	03/07/99	03/08/99
W990000641	VS702-201-115UP	CePr-144 by GEA	FILTER	LA-508-462	U	4.34e+00	pCi	22.30	03/09/99	03/07/99	03/08/99

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D - Compound concentration resulted from a dilution.
J - Estimated value.
Z - See Comments.
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Report W004/ver. 3
PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention: JAMES SICKLES
Project Number MISC.

Test Performed: PROJ. HANFORD MNGMT. CONT.

Sample # Client ID

Group #: 99000376

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000641	VS702-201-115UP	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		213.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Co-60 by GEA	FILTER	LA-508-462	U	7.96e-01	pCi	3.47	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		249.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Cs-134 by GEA	FILTER	LA-508-462	U	5.06e-01	pCi	2.53	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		121.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Cs-137 by GEA	FILTER	LA-508-462	U	1.10e+00	pCi	2.71	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		102.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Eu-152 by GEA	FILTER	LA-508-462	U	2.97e+00	pCi	4.89	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Eu-154 by GEA	FILTER	LA-508-462	U	4.15e-01	pCi	3.12	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		288.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Eu-155 by GEA	FILTER	LA-508-462	U	1.17e+00	pCi	5.86	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		545.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Nb-94 by GEA	FILTER	LA-508-462	U	-2.40e-01	pCi	2.35	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		462.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Ru-103 by GEA	FILTER	LA-508-462	U	-2.30e-01	pCi	1.36	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		718.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Ru-106 by GEA	FILTER	LA-508-462	U	-1.75e+00	pCi	22.30	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		105.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Sb-125 by GEA	FILTER	LA-508-462	U	1.91e+00	pCi	6.05	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		368.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Sn-113 by GEA	FILTER	LA-508-462	U	3.47e-01	pCi	2.41	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		105.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000641	VS702-201-115UP	Zn-65 by GEA	FILTER	LA-508-462	U	-3.10e+00	pCi	5.02	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Gross Alpha	FILTER	LA-508-462	U	-9.00e-08	uCi	8.30e-007	03/10/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462		2.1E-07	uCi	0.00	03/10/99	03/07/99	03/08/99

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Report W004/ver. 3
PROJECT HANFORD MANAGEMENT CONTRACTORS

D - Compound concentration resulted from a dilution.
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WSCF

ANALYTICAL LABORATORY REPORT

Attention: JAMES SICKLES
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000376

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000642	VS702-203-S116UP	Gross Beta	FILTER			U		1.10e-006	03/10/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Gross Beta Absolute Count Error	FILTER			5.4E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		196	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ce-144 by GEA	FILTER	LA-508-462	U	-3.04E+00	pCi	9.96	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ce-144 Rel. % Count Error	FILTER	LA-508-462		196	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ce-144 by GEA	FILTER	LA-508-462	U	-6.08E+00	pCi	19.90	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ce-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		679	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ce-60 by GEA	FILTER	LA-508-462	U	2.09E-01	pCi	2.88	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		142	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Cs-134 by GEA	FILTER	LA-508-462	U	-9.84E-01	pCi	2.34	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Cs-137 by GEA	FILTER	LA-508-462	U	1.06E-01	pCi	2.09	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		129	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Eu-152 by GEA	FILTER	LA-508-462	U	2.27E+00	pCi	5.70	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		217	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Eu-154 by GEA	FILTER	LA-508-462	U	-1.61E+00	pCi	6.31	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		809	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Eu-155 by GEA	FILTER	LA-508-462	U	-4.59E-01	pCi	6.51	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		191	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Nb-94 by GEA	FILTER	LA-508-462	U	5.65E-01	pCi	2.13	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		570	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ru-103 by GEA	FILTER	LA-508-462	U	-1.57E-01	pCi	1.64	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		268	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Ru-106 by GEA	FILTER	LA-508-462	U	4.44E+00	pCi	22.50	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		136	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Sb-125 by GEA	FILTER	LA-508-462	U	-1.95E+00	pCi	4.43	03/09/99	03/07/99	03/08/99

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Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention:
Project Number

JAMES SICKLES
MISC.

PROJ. HANFORD MNGMT. CONT.

Group #: 99000376

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000642	VS702-203-S116UP	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		560.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Sn-113 by GEA	FILTER	LA-508-462	U	-2.22e-01	pCi	2.15	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		371.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000642	VS702-203-S116UP	Zn-65 by GEA	FILTER	LA-508-462	U	-7.88e-01	pCi	5.27	03/09/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Gross Alpha	FILTER	LA-508-462	U	-9.0E-08	uCi	8.30e-007	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Gross Alpha Abs. Chng Error	FILTER						03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Gross Beta	FILTER		U	3.1E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Gross Beta Absolute Chng Error	FILTER						03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		419.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Ce-144 by GEA	FILTER	LA-508-462	U	-1.52e+00	pCi	11.20	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	CePr-144 Rel. % Count Error	FILTER	LA-508-462		419.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	CePr-144 by GEA	FILTER	LA-508-462	U	-3.03e+00	pCi	22.30	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Co-60 by GEA	FILTER	LA-508-462	U	1.50e-01	pCi	3.23	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		275.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Cs-134 by GEA	FILTER	LA-508-462	U	-5.16e-01	pCi	2.50	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		631.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Cs-137 by GEA	FILTER	LA-508-462	U	2.12e-01	pCi	2.55	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		235	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Eu-152 by GEA	FILTER	LA-508-462	U	-1.29e+00	pCi	5.19	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Eu-154 by GEA	FILTER	LA-508-462	U	-2.53e-01	pCi	8.80	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		586.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Eu-155 by GEA	FILTER	LA-508-462	U	-6.19e-01	pCi	6.22	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		79.1	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	Nb-94 by GEA	FILTER	LA-508-462	U	1.33e+00	pCi	2.25	03/10/99	03/07/99	03/08/99

MDL = Minimum Detection Limit

RQ = Result Qualifier

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* - Indicates results that have NOT been validated.

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PROJECT HANFORD MANAGEMENT CONTRACTORS

D - Compound concentration resulted from a dilution.

J - Estimated value.

U - The analyte was analyzed for but not detected.

Z - See Comments.

WSCF ANALYTICAL LABORATORY REPORT

Attention: JAMES SICKLES
Project Number MISC.
Sample # Client ID

Test Performed
Matrix Method RQ Result Units MDL Analyzed Sampled Received

Group #: 99000376

W99F000643	VS702-207-S118UP	LA-508-462	U	342.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	LA-508-462	U	3.33e-01	pCi	2.16	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	LA-508-462	U	236.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	LA-508-462	U	5.03e+00	pCi	22.60	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	LA-508-462	U	98.2	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	LA-508-462	U	3.86e+00	pCi	5.51	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	LA-508-462	U	191.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	LA-508-462	U	-9.71e-01	pCi	2.53	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	LA-508-462	U	366.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000643	VS702-207-S118UP	LA-508-462	U	-8.84e-01	pCi	5.81	03/10/99	03/07/99	03/08/99

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PROJECT HANFORD MANAGEMENT CONTRACTORS

D - Compound concentration resulted from a dilution.
J - Estimated value.
Z - See Comments.
U - The analyte was analyzed for but not detected.

WSCF
ANALYTICAL COMMENT REPORT

Attention: Project Number		Group #: 99000376	
Sample #	Client ID	Lab Area	Test Comment

Lab Areas: VALGROUP - Group Validation VALTEST - Test Validation TESTDATA - Test Data Entry
LOGSAMP - Login for Sample LOGTEST - Login for Tests

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w04c/2 Report#: 99000376

Report Date: 11-mar-1999

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WSCF TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Project Number		Group #: 99000376	
Sample #	Client ID	Test Name	Peak Name
		CAS#	RT
		RQ	Result
			Units

RQ=Result Qualifier

8 - The analyte was detected in the associated method blank.
 N - Identification is based on a mass spectral library search.
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J - Estimated value.
 U - The analyte was analyzed for but not detected.

W04E Report#: 99000376 Report Date: 11-mar-1999

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WSCF
ANALYTICAL LABORATORY REPORT

for

PROJECT HANFORD MANAGEMENT CONTRACTORS
RICHLAND WA 99352

Attention: LEONARD A. PINGEL

Report#: 99000378
Report Date: 11-mar-1999
Report W004/ver. 3
PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention:
Project Number

LEONARD A. PINGEL
MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000644	VS006-201-Fila	Gross Alpha	FILTER			U	1.0E-07	uCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Gross Alpha Abs. Cntg Error	FILTER			U	4.1E-07	uCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Gross Beta	FILTER			U	1.1E-06	uCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Gross Beta Absolute Cntg Error	FILTER			U	8.1E-07	uCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	510	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ce-144 by GEA	FILTER	LA-508-462		U	1.12E+00	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ce-144 Rel. % Count Error	FILTER	LA-508-462		U	510	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ce-144 by GEA	FILTER	LA-508-462		U	2.25E+00	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	282	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Co-60 by GEA	FILTER	LA-508-462		U	5.53E-01	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ce-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	134	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ce-134 by GEA	FILTER	LA-508-462		U	1.05E+00	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ce-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	183	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ce-137 by GEA	FILTER	LA-508-462		U	5.53E-01	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	1000	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Eu-152 by GEA	FILTER	LA-508-462		U	1.33E-02	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	155	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Eu-154 by GEA	FILTER	LA-508-462		U	1.88E+00	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	465	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Eu-155 by GEA	FILTER	LA-508-462		U	6.55E-01	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	286	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Nb-94 by GEA	FILTER	LA-508-462		U	4.49E-01	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	418	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ru-103 by GEA	FILTER	LA-508-462		U	2.41E-01	pCi	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		U	275	%	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-Fila	Ru-106 by GEA	FILTER	LA-508-462		U	4.37E+00	pCi	03/10/99	03/07/99	03/08/99

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RQ=Result Qualifier

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E - Compound concentration exceeded calibration range.
N - Identification is based on a mass spectral library search.
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J - Estimated value.
Z - See Comments.
U - The analyte was analyzed for but not detected.

Report W004/ver. 3
PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF

ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number MISC. :PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000644	VS006-201-FILa	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	118.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-FILa	Sb-125 by GEA	FILTER	LA-508-462	U	2.54e+00	pCi	4.67	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-FILa	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	700.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-FILa	Sn-113 by GEA	FILTER	LA-508-462	U	1.79e-01	pCi	2.25	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-FILa	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	255.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000644	VS006-201-FILa	Zn-65 by GEA	FILTER	LA-508-462	U	1.05e+00	pCi	5.46	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Gross Alpha	FILTER	LA-508-462	U	-9.0E-08	uCi	8.30e-007	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462	U	2.1E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Gross Beta	FILTER	LA-508-462	U	2.4E-06	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Gross Beta Absolute Cntg Error	FILTER	LA-508-462	U	1.1E-06	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	625.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Ce-144 by GEA	FILTER	LA-508-462	U	-1.05e+00	pCi	11.50	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	CePr-144 Rel. % Count Error	FILTER	LA-508-462	U	625.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	CePr-144 by GEA	FILTER	LA-508-462	U	-2.11e+00	pCi	22.90	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	126.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Co-60 by GEA	FILTER	LA-508-462	U	1.33e+00	pCi	3.60	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	898.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Cs-134 by GEA	FILTER	LA-508-462	U	1.51e-01	pCi	2.61	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	1000.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Cs-137 by GEA	FILTER	LA-508-462	U	4.54e-02	pCi	2.22	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	1000.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Eu-152 by GEA	FILTER	LA-508-462	U	-8.03e-02	pCi	5.25	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	316.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Eu-154 by GEA	FILTER	LA-508-462	U	1.19e+00	pCi	7.90	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	422.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Eu-155 by GEA	FILTER	LA-508-462	U	-8.40e-01	pCi	6.16	03/10/99	03/07/99	03/08/99

MDL=Minimum Detection Limit

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N - Identification is based on a mass spectral library search.
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J - Estimated value.
Z - See Comments.
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Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF

ANALYTICAL LABORATORY REPORT

Attention:
Project Number

LEONARD A. PINGEL
MISC.

PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000645	VS006-201-FILb	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		102.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Nb-94 by GEA	FILTER	LA-508-462	U	1.28e+00	pCi	2.60	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		391.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Ru-103 by GEA	FILTER	LA-508-462	U	2.80e-01	pCi	1.95	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		445.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Ru-106 by GEA	FILTER	LA-508-462	U	2.65e+00	pCi	20.90	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		488.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Sb-125 by GEA	FILTER	LA-508-462	U	5.40e-01	pCi	5.03	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		247.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Sn-113 by GEA	FILTER	LA-508-462	U	5.64e-01	pCi	2.59	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Zn-65 by GEA	FILTER	LA-508-462	U	1.22e-01	pCi	6.01	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Gross Alpha	FILTER	LA-508-462	U	1.6E-07	uCi	8.30e-007	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462		4.1E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Gross Beta	FILTER	LA-508-462		1.5E-06	uCi	1.10e-006	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Gross Beta Absolute Cntg Error	FILTER	LA-508-462		8.9E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		299.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Ce-144 by GEA	FILTER	LA-508-462	U	2.32e+00	pCi	12.70	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	CePr-144 Rel. % Count Error	FILTER	LA-508-462		299.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	CePr-144 by GEA	FILTER	LA-508-462	U	4.63e+00	pCi	25.50	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Co-60 by GEA	FILTER	LA-508-462	U	4.20e-02	pCi	3.07	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		142.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Cs-134 by GEA	FILTER	LA-508-462	U	9.95e-01	pCi	2.92	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		124.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000645	VS006-201-FILb	Cs-137 by GEA	FILTER	LA-508-462	U	1.21e+00	pCi	3.01	03/09/99	03/07/99	03/08/99

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PROJECT HANFORD MANAGEMENT CONTRACTORS

D - Compound concentration resulted from a dilution.
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U - The analyte was analyzed for but not detected.

WSCF ANALYTICAL LABORATORY REPORT

Attention:
Project Number

LEONARD A. PINGEL
MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000646	VS006-206-FILa	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		220.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Eu-152 by GEA	FILTER	LA-508-462	U	-1.44e+00	pCi	5.39	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		176.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Eu-154 by GEA	FILTER	LA-508-462	U	-2.60e+00	pCi	7.94	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	654.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Eu-155 by GEA	FILTER	LA-508-462	U	5.74e-01	pCi	6.65	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Nb-94 by GEA	FILTER	LA-508-462	U	7.39e-02	pCi	2.55	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		380.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Ru-103 by GEA	FILTER	LA-508-462	U	-2.31e-01	pCi	1.97	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		731.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Ru-106 by GEA	FILTER	LA-508-462	U	-1.74e+00	pCi	22.00	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		643.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Sb-125 by GEA	FILTER	LA-508-462	U	-5.94e-01	pCi	5.79	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		86.3	%	0.00	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Sn-113 by GEA	FILTER	LA-508-462	U	1.55e+00	pCi	2.71	03/09/99	03/07/99	03/08/99
W99F000646	VS006-206-FILa	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		125.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Zn-65 by GEA	FILTER	LA-508-462	U	-3.07e+00	pCi	6.22	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Gross Alpha	FILTER	LA-508-462	U	3.3E-08	uCi	8.30e-007	03/10/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462		3.2E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Gross Beta	FILTER	LA-508-462		1.3E-06	uCi	1.10e-006	03/10/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Gross Beta Absolute Cntg Error	FILTER	LA-508-462		8.5E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		100.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Ce-144 by GEA	FILTER	LA-508-462	U	-6.51e+00	pCi	6.24	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	CePr-144 Rel. % Count Error	FILTER	LA-508-462		100.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	CePr-144 by GEA	FILTER	LA-508-462	U	-1.30e+01	pCi	10.50	03/09/99	03/07/99	03/08/99

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E - Compound concentration exceeded calibration range.
N - Identification is based on a mass spectral library search.

** Indicates results that have NOT been validated.

Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention:
Project Number

LEONARD A. PINGEL
MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample # Client ID

Test Performed

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000647	VS006-206-FILb	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		100.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Co-60 by GEA	FILTER	LA-508-462	U	-2.10e+00	pCi	2.66	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		209.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Cs-134 by GEA	FILTER	LA-508-462	U	5.67e-01	pCi	2.43	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		195.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Cs-137 by GEA	FILTER	LA-508-462	U	8.19e-01	pCi	2.74	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		342.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Eu-152 by GEA	FILTER	LA-508-462	U	9.61e-01	pCi	5.56	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Eu-154 by GEA	FILTER	LA-508-462	U	3.88e-02	pCi	9.94	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		752.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Eu-155 by GEA	FILTER	LA-508-462	U	-4.73e-01	pCi	6.41	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		284.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Nb-94 by GEA	FILTER	LA-508-462	U	-4.10e-01	pCi	2.06	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		245.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Ru-103 by GEA	FILTER	LA-508-462	U	4.52e-01	pCi	2.14	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		100.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Ru-106 by GEA	FILTER	LA-508-462	U	-1.21e+01	pCi	16.70	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		185.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Sb-125 by GEA	FILTER	LA-508-462	U	1.42e+00	pCi	5.17	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		542.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Sn-113 by GEA	FILTER	LA-508-462	U	2.37e-01	pCi	2.40	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		257.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000647	VS006-206-FILb	Zn-65 by GEA	FILTER	LA-508-462	U	-1.19e+00	pCi	5.33	03/09/99	03/07/99	03/08/99
W99F000648	VS006-211-FILa	Gross Alpha	FILTER	LA-508-462		-9.05e-08	uCi	8.30e-007	03/10/99	03/07/99	03/08/99
W99F000648	VS006-211-FILa	Gross Alpha Abs. Orig Error	FILTER	LA-508-462		2.1E-07	uCi	0.00	03/10/99	03/07/99	03/08/99

MDL=Minimum Detection Limit
DO=...

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Report W004/ver. 3

D - Compound concentration resulted from a dilution.
J - Estimated value.
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PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention:
Project Number

LEONARD A. PINGEL
MISC. : PROJ. HANFORD MNGMT. CONT.

Sample # Client ID

Group #: 9900378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000648	VS00G-211-FILa	Gross Beta	FILTER			U	4.9E-07	1.10E-006	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Gross Beta Absolute Count Error	FILTER				6.5E-07	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Cs-144 Rel. % Count Error (GEA)	FILTER	LA-508-462			281	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Cs-144 by GEA	FILTER	LA-508-462				0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	CePr-144 Rel. % Count Error	FILTER	LA-508-462			201	10.60	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	CePr-144 by GEA	FILTER	LA-508-462				0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462			-4.41E+00	21.10	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Co-60 by GEA	FILTER	LA-508-462			229	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462			6.32E-01	3.06	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Cs-134 by GEA	FILTER	LA-508-462			299	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462			4.97E-01	2.90	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Cs-137 by GEA	FILTER	LA-508-462			1000	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462			8.87E-02	2.24	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Eu-152 by GEA	FILTER	LA-508-462			460	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462			6.67E-01	5.35	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Eu-154 by GEA	FILTER	LA-508-462			230	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462			-1.22E+00	5.37	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Eu-155 by GEA	FILTER	LA-508-462			150	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462			2.55E+00	6.44	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Nb-94 by GEA	FILTER	LA-508-462			611	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462			-1.80E-01	1.38	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Ru-103 by GEA	FILTER	LA-508-462			696	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462			1.45E-01	1.31	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Ru-106 by GEA	FILTER	LA-508-462			259	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462			4.04E+00	20.20	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa	Sb-125 by GEA	FILTER	LA-508-462			332	0.00	03/10/99	03/07/99	03/08/99
W99F000648	VS00G-211-FILa		FILTER	LA-508-462			8.22E-01	5.24	03/10/99	03/07/99	03/08/99

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PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F0000648	VS006-211-FILa	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		390.	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000648	VS006-211-FILa	Sn-113 by GEA	FILTER	LA-508-462	U	-3.39e-01	pCi	2.20	03/09/99	03/07/99	03/08/99
W99F0000648	VS006-211-FILa	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000648	VS006-211-FILa	Zn-65 by GEA	FILTER	LA-508-462	U	-2.66e-01	pCi	5.80	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Gross Alpha	FILTER	LA-508-462	U	4.0E-07	uCi	8.30e-007	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462	U	5.4E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Gross Beta	FILTER	LA-508-462	U	7.7E-07	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Gross Beta Absolute Cntg Error	FILTER	LA-508-462	U	7.2E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		129.	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Ce-144 by GEA	FILTER	LA-508-462	U	-5.20e+00	pCi	11.10	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	CePr-144 Rel. % Count Error	FILTER	LA-508-462		129.	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	CePr-144 by GEA	FILTER	LA-508-462	U	-1.04e-01	pCi	22.20	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		193.	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Co-60 by GEA	FILTER	LA-508-462	U	8.26e-01	pCi	2.80	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Cs-134 by GEA	FILTER	LA-508-462	U	-2.47e-02	pCi	2.14	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		142.	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Cs-137 by GEA	FILTER	LA-508-462	U	1.04e+00	pCi	2.94	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		304.	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Eu-152 by GEA	FILTER	LA-508-462	U	-9.77e-01	pCi	5.16	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		138.	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Eu-154 by GEA	FILTER	LA-508-462	U	-3.23e+00	pCi	7.43	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		202.	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Eu-155 by GEA	FILTER	LA-508-462	U	-1.75e+00	pCi	5.85	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		127.	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000649	VS006-211-FILb	Nb-94 by GEA	FILTER	LA-508-462	U	9.99e-01	pCi	2.56	03/09/99	03/07/99	03/08/99

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Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL		Group #: 99000378									
Project Number MISC.		:PROJ. HANFORD MNGMT. CONT.									
Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000049	VS006-211-FILb	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		361.	%	0.00	03/03/99	03/07/99	03/08/99
W99F000049	VS006-211-FILb	Ru-103 by GEA	FILTER	LA-508-462		-3.12e-01	pCi	2.00	03/03/99	03/07/99	03/08/99
W99F000049	VS006-211-FILb	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		195.	%	0.00	03/03/99	03/07/99	03/08/99
W99F000049	VS006-211-FILb	Ru-106 by GEA	FILTER	LA-508-462		6.02e+00	pCi	24.60	03/03/99	03/07/99	03/08/99
W99F000049	VS006-211-FILb	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/03/99	03/07/99	03/08/99
W99F000049	VS006-211-FILb	Sb-125 by GEA	FILTER	LA-508-462		1.48e-01	pCi	5.41	03/03/99	03/07/99	03/08/99
W99F000049	VS006-211-FILb	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/03/99	03/07/99	03/08/99
W99F000049	VS006-211-FILb	Sn-113 by GEA	FILTER	LA-508-462		-1.33e-01	pCi	2.71	03/03/99	03/07/99	03/08/99
W99F000049	VS006-211-FILb	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		331.	%	0.00	03/03/99	03/07/99	03/08/99
W99F000049	VS006-211-FILb	Zn-65 by GEA	FILTER	LA-508-462		-1.10e+00	pCi	6.48	03/03/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Gross Alpha	FILTER	LA-508-462		3.2E-07	uCi	7.30e-007	03/03/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Gross Alpha Abs. Chng Error	FILTER	LA-508-462		4.7E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Gross Beta	FILTER	LA-508-462		1.1E-06	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Gross Beta Absolute Chng Error	FILTER	LA-508-462		7.8E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		131.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Ce-144 by GEA	FILTER	LA-508-462		-3.75e+00	pCi	8.14	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	CePr-144 Rel. % Count Error	FILTER	LA-508-462		131.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	CePr-144 by GEA	FILTER	LA-508-462		-7.49e+00	pCi	16.30	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		248.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Co-60 by GEA	FILTER	LA-508-462		5.75e-01	pCi	2.69	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		120.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Cs-134 by GEA	FILTER	LA-508-462		1.07e+00	pCi	2.71	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		276.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Cs-137 by GEA	FILTER	LA-508-462		5.05e-01	pCi	2.69	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000050	VS006-216-FILa	Eu-152 by GEA	FILTER	LA-508-462		-2.64e-01	pCi	5.53	03/10/99	03/07/99	03/08/99

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PROJECT HANFORD MANAGEMENT CONTRACTORS

D - Compound concentration resulted from a dilution.
 J - Estimated value.
 Z - See Comments.
 U - The analyte was analyzed for but not detected.

WSCF ANALYTICAL LABORATORY REPORT

Attention:
Project Number

LEONARD A. PINGEL
MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000650	VS006-216-FILa	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		249.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Eu-154 by GEA	FILTER	LA-508-462	U	-1.37e+00	pCi	8.22	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		526.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Eu-155 by GEA	FILTER	LA-508-462	U	-6.43e-01	pCi	6.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		120.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Nb-94 by GEA	FILTER	LA-508-462	U	-9.09e-01	pCi	1.78	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		102.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Ru-103 by GEA	FILTER	LA-508-462	U	-9.88e-01	pCi	1.02	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Ru-106 by GEA	FILTER	LA-508-462	U	-3.16e-01	pCi	19.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		412.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Sb-125 by GEA	FILTER	LA-508-462	U	6.70e-01	pCi	5.19	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		668.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Sn-113 by GEA	FILTER	LA-508-462	U	-1.69e-01	pCi	2.05	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		319.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000650	VS006-216-FILa	Zn-65 by GEA	FILTER	LA-508-462	U	-1.09e+00	pCi	6.10	03/10/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	Gross Alpha	FILTER			2.0E-07	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	Gross Alpha Abs., Chng Error	FILTER			3.9E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	Gross Beta	FILTER			4.9E-07	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	Gross Beta Absolute Chng Error	FILTER			121.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		4.58e+00	pCi	10.70	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	Ce-144 by GEA	FILTER	LA-508-462	U	121.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	CePr-144 Rel. % Count Error	FILTER	LA-508-462		9.15e+00	pCi	21.50	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	CePr-144 by GEA	FILTER	LA-508-462	U	321.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		-4.42e-01	pCi	2.62	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILb	Co-60 by GEA	FILTER	LA-508-462	U				03/09/99	03/07/99	03/08/99

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D - Compound concentration resulted from a dilution.
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PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT. Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000651	VS006-216-FILB	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Cs-134 by GEA	FILTER	LA-508-462	U	5.28e-02	pCi	2.37	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Cs-137 by GEA	FILTER	LA-508-462	U	-5.05e-03	pCi	2.30	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		168.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Eu-152 by GEA	FILTER	LA-508-462	U	-1.75e+00	pCi	4.90	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		365.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Eu-154 by GEA	FILTER	LA-508-462	U	-1.15e+00	pCi	7.76	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		221.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Eu-155 by GEA	FILTER	LA-508-462	U	1.72e+00	pCi	6.41	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		245.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Nb-94 by GEA	FILTER	LA-508-462	U	-5.28e-01	pCi	2.21	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		59.0	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Ru-103 by GEA	FILTER	LA-508-462	U	1.63e+00	pCi	1.72	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		283.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Ru-106 by GEA	FILTER	LA-508-462	U	-4.25e+00	pCi	20.90	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		94.5	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Sb-125 by GEA	FILTER	LA-508-462	U	2.98e+00	pCi	5.76	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		125.	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Sn-113 by GEA	FILTER	LA-508-462	U	6.05e-01	pCi	2.26	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F000651	VS006-216-FILB	Zn-65 by GEA	FILTER	LA-508-462	U	4.44e-02	pCi	4.87	03/09/99	03/07/99	03/08/99
W99F000652	VS006-221-FILB	Gross Alpha	FILTER	LA-508-462		7.1E-08	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000652	VS006-221-FILB	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462	U	3.0E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000652	VS006-221-FILB	Gross Beta	FILTER	LA-508-462		4.6E-07	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000652	VS006-221-FILB	Gross Beta Absolute Cntg Error	FILTER	LA-508-462	U	6.1E-07	uCi	0.00	03/10/99	03/07/99	03/08/99

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PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF

ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT. Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F0000652	VS00G-221-FILa	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Ce-144 by GEA	FILTER	LA-508-462	U	3.39e-01	pCi	12.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	CePr-144 Rel. % Count Error	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	CePr-144 by GEA	FILTER	LA-508-462	U	6.78e-01	pCi	24.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		440	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Co-60 by GEA	FILTER	LA-508-462	U	-3.68e-01	pCi	3.02	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		339	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Cs-134 by GEA	FILTER	LA-508-462	U	4.51e-01	pCi	2.96	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		311	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Cs-137 by GEA	FILTER	LA-508-462	U	-4.48e-01	pCi	2.48	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		156	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Eu-152 by GEA	FILTER	LA-508-462	U	-2.27e+00	pCi	5.86	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		156	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Eu-154 by GEA	FILTER	LA-508-462	U	3.22e+00	pCi	10.50	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		398	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Eu-155 by GEA	FILTER	LA-508-462	U	-8.87e-01	pCi	6.02	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Nb-94 by GEA	FILTER	LA-508-462	U	5.20e-03	pCi	2.27	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		159	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Ru-103 by GEA	FILTER	LA-508-462	U	-7.57e-01	pCi	2.02	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Ru-106 by GEA	FILTER	LA-508-462	U	-1.57e-01	pCi	25.10	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		480	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Sb-125 by GEA	FILTER	LA-508-462	U	6.16e-01	pCi	5.02	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		93.5	%	0.00	03/09/99	03/07/99	03/08/99
W99F0000652	VS00G-221-FILa	Sn-113 by GEA	FILTER	LA-508-462	U	1.57e+00	pCi	2.68	03/09/99	03/07/99	03/08/99

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Report W004/ver. 3
PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF

ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT. Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000652	V5006-221-FILb	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		87.5	%	0.00	03/09/99	03/07/99	03/08/99
W99F000652	V5006-221-FILb	Zn-65 by GEA	FILTER	LA-508-462	U	3.59e+00	pCi	6.55	03/09/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Gross Alpha	FILTER		U	3.2E-07	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Gross Alpha Abs. Cnvg Error	FILTER			4.7E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Gross Beta	FILTER		U	1.8E-07	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Gross Beta Absolute Cnvg Error	FILTER			5.2E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		199.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Ce-144 by GEA	FILTER	LA-508-462	U	3.11e+00	pCi	11.30	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	CePr-144 Rel. % Count Error	FILTER	LA-508-462		199.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	CePr-144 by GEA	FILTER	LA-508-462	U	6.21e+00	pCi	22.50	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Co-60 by GEA	FILTER	LA-508-462	U	5.90e-02	pCi	3.37	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Cs-134 by GEA	FILTER	LA-508-462	U	5.34e-02	pCi	2.62	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		396.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Cs-137 by GEA	FILTER	LA-508-462	U	3.28e-01	pCi	2.34	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		195.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Eu-152 by GEA	FILTER	LA-508-462	U	1.58e+00	pCi	5.28	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		122.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Eu-154 by GEA	FILTER	LA-508-462	U	3.68e+00	pCi	7.20	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		524.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Eu-155 by GEA	FILTER	LA-508-462	U	7.17e-01	pCi	5.80	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		264.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Nb-94 by GEA	FILTER	LA-508-462	U	4.42e-01	pCi	2.27	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		202.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000653	V5006-221-FILb	Ru-103 by GEA	FILTER	LA-508-462	U	5.90e-01	pCi	2.06	03/10/99	03/07/99	03/08/99

MDL=Minimum Detection Limit

RQ=Result Qualifier

B - The analyte was detected in the associated method blank.

E - Compound concentration exceeded calibration range.

N - Identification is based on a mass spectral library search.

* - Indicates results that have NOT been validated.

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PROJECT HANFORD MANAGEMENT CONTRACTORS

D - Compound concentration resulted from a dilution.

J - Estimated value.

U - The analyte was analyzed for but not detected.

WSCF

ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT. Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000053	VS006-221-FILb	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	297.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000053	VS006-221-FILb	Ru-106 by GEA	FILTER	LA-508-462	U	3.80e+00	pCi	21.90	03/10/99	03/07/99	03/08/99
W99F000053	VS006-221-FILb	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	463.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000053	VS006-221-FILb	Sb-125 by GEA	FILTER	LA-508-462	U	5.70e-01	pCi	4.70	03/10/99	03/07/99	03/08/99
W99F000053	VS006-221-FILb	Sm-113 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	685.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000053	VS006-221-FILb	Sm-113 by GEA	FILTER	LA-508-462	U	1.75e-01	pCi	2.23	03/10/99	03/07/99	03/08/99
W99F000053	VS006-221-FILb	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	636.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Zn-65 by GEA	FILTER	LA-508-462	U	4.32e-01	pCi	5.07	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Gross Alpha	FILTER	LA-508-462	U	3.2E-07	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Gross Alpha Abs. Orig Error	FILTER	LA-508-462	U	4.7E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Gross Beta	FILTER	LA-508-462	U	9.2E-07	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Gross Beta Absolute Cntg Error	FILTER	LA-508-462	U	7.4E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	494.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Ce-144 by GEA	FILTER	LA-508-462	U	1.25e+00	pCi	10.70	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Ce-144 Rel. % Count Error	FILTER	LA-508-462	U	494.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Ce-144 by GEA	FILTER	LA-508-462	U	2.49e+00	pCi	21.30	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	100.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Co-60 by GEA	FILTER	LA-508-462	U	1.51e+00	pCi	3.42	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	219.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Cs-134 by GEA	FILTER	LA-508-462	U	5.12e-01	pCi	2.12	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Cs-137 by GEA	FILTER	LA-508-462	U	1.70e-02	pCi	2.30	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	574.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Eu-152 by GEA	FILTER	LA-508-462	U	5.35e-01	pCi	5.60	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	824.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Eu-154 by GEA	FILTER	LA-508-462	U	4.34e-01	pCi	6.97	03/10/99	03/07/99	03/08/99

MDL=Minimum Detection Limit

RQ=Result Qualifier

B - The analyte was detected in the associated method blank.
E - Compound concentration exceeded calibration range.
N - Identification is based on a mass spectral library search.
D - Compound concentration resulted from a dilution.
J - Estimated value.
Z - See Comments.
U - The analyte was analyzed for but not detected.

* - Indicates results that have NOT been validated.

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PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000054	VS006-226-FILa	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		133.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Eu-155 by GEA	FILTER	LA-508-462	U	-2.00e+00	pCi	5.63	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		459.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Nb-94 by GEA	FILTER	LA-508-462	U	2.72e-01	pCi	2.33	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		513.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Ru-103 by GEA	FILTER	LA-508-462	U	-2.14e-01	pCi	1.97	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		714.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Ru-106 by GEA	FILTER	LA-508-462	U	1.41e+00	pCi	19.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		226.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Sb-125 by GEA	FILTER	LA-508-462	U	1.01e+00	pCi	4.55	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		192.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Sn-113 by GEA	FILTER	LA-508-462	U	6.51e-01	pCi	2.39	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		100.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000054	VS006-226-FILa	Zn-65 by GEA	FILTER	LA-508-462	U	-3.45e+00	pCi	4.81	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Gross Alpha	FILTER		U	5.7E-07	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Gross Alpha Abs. Count Error	FILTER			5.9E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Gross Beta	FILTER			1.8E-06	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Gross Beta Absolute Count Error	FILTER			9.2E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		100.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Ce-144 by GEA	FILTER	LA-508-462	U	-6.63e+00	pCi	10.60	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	CePr-144 Rel. % Count Error	FILTER	LA-508-462		100.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	CePr-144 by GEA	FILTER	LA-508-462	U	-1.33e+01	pCi	21.30	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		164.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Co-60 by GEA	FILTER	LA-508-462	U	9.90e-01	pCi	3.48	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		144.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS006-226-FILb	Cs-134 by GEA	FILTER	LA-508-462	U	9.70e-01	pCi	2.81	03/10/99	03/07/99	03/08/99

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PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000055	VS00G-22G-FILb	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		128.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Cs-137 by GEA	FILTER	LA-508-462	U	-1.06e+00	pCi	2.26	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		447.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Eu-152 by GEA	FILTER	LA-508-462	U	-7.26e-01	pCi	5.69	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		669.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Eu-154 by GEA	FILTER	LA-508-462	U	6.71e-01	pCi	8.97	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		192.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Eu-155 by GEA	FILTER	LA-508-462	U	1.76e+00	pCi	6.25	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		370.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Nb-94 by GEA	FILTER	LA-508-462	U	2.94e-01	pCi	2.13	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		124.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Ru-103 by GEA	FILTER	LA-508-462	U	8.11e-01	pCi	2.67	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Ru-106 by GEA	FILTER	LA-508-462	U	1.85e-01	pCi	22.70	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		95.4	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Sb-125 by GEA	FILTER	LA-508-462	U	3.24e+00	pCi	6.30	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Sm-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		155.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Sm-113 by GEA	FILTER	LA-508-462	U	9.66e-01	pCi	2.86	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		100.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-22G-FILb	Zn-65 by GEA	FILTER	LA-508-462	U	-3.50e+00	pCi	5.34	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-231-FILa	Gross Alpha	FILTER			4.5E-07	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-231-FILa	Gross Alpha Abs. Orig Error	FILTER			5.3E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-231-FILa	Gross Beta	FILTER			6.4E-07	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-231-FILa	Gross Beta Absolute Orig Error	FILTER			6.7E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-231-FILa	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		361.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000055	VS00G-231-FILa	Ce-144 by GEA	FILTER	LA-508-462	U	-1.62e+00	pCi	10.30	03/10/99	03/07/99	03/08/99

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Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF

ANALYTICAL LABORATORY REPORT

Attention:
Project Number

LEONARD A. PINGEL
MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000056	VS006-231-FILa	CePr-144 Rel. % Count Error	FILTER	LA-508-462		361.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	CePr-144 by GEA	FILTER	LA-508-462	U	-3.24e+00	pCi	20.50	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		134.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Co-60 by GEA	FILTER	LA-508-462	U	1.02e+00	pCi	3.06	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		131.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Cs-134 by GEA	FILTER	LA-508-462	U	-1.06e+00	pCi	2.23	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		64.7	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Cs-137 by GEA	FILTER	LA-508-462	U	2.40e+00	pCi	3.22	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		161.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Eu-152 by GEA	FILTER	LA-508-462	U	-1.57e+00	pCi	4.30	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		340.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Eu-154 by GEA	FILTER	LA-508-462	U	1.40e+00	pCi	9.44	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		191.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Eu-155 by GEA	FILTER	LA-508-462	U	-1.99e+00	pCi	5.52	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		894.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Nb-94 by GEA	FILTER	LA-508-462	U	1.42e-01	pCi	2.37	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		600.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Ru-103 by GEA	FILTER	LA-508-462	U	-1.02e-01	pCi	1.78	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		234.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Ru-106 by GEA	FILTER	LA-508-462	U	-4.41e+00	pCi	17.80	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Sb-125 by GEA	FILTER	LA-508-462	U	2.55e-01	pCi	4.91	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		104.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Sn-113 by GEA	FILTER	LA-508-462	U	-1.20e+00	pCi	1.97	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		469.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000056	VS006-231-FILa	Zn-65 by GEA	FILTER	LA-508-462	U	7.72e-01	pCi	5.99	03/10/99	03/07/99	03/08/99

MDL=Minimum Detection Limit

RQ=Result Qualifier

B - The analyte was detected in the associated method blank.
E - Compound concentration exceeded calibration range.
N - Identification is based on a mass spectral library search.
D - Compound concentration resulted from a dilution.
J - Estimated value.
U - The analyte was analyzed for but not detected.

* - Indicates results that have NOT been validated.

Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF

ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000657	VS006-231-FILb	Gross Alpha	FILTER	LA-508-462	U	-5.5E-08	uCi	7.30E-007	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462	U	1.7E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Gross Beta	FILTER	LA-508-462	U	6.4E-07	uCi	1.00E-006	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Gross Beta Absolute Cntg Error	FILTER	LA-508-462	U	6.7E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Ce-144 by GEA	FILTER	LA-508-462	U	-5.65E-01	pCi	11.10	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	CePr-144 Rel. % Count Error	FILTER	LA-508-462	U	1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	CePr-144 by GEA	FILTER	LA-508-462	U	-1.13E+00	pCi	22.10	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	178	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Co-60 by GEA	FILTER	LA-508-462	U	7.92E-01	pCi	3.07	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Cs-134 by GEA	FILTER	LA-508-462	U	9.40E-02	pCi	2.81	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	360	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Cs-137 by GEA	FILTER	LA-508-462	U	3.79E-01	pCi	2.50	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	584	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Eu-152 by GEA	FILTER	LA-508-462	U	-5.05E-01	pCi	5.19	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	791	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Eu-154 by GEA	FILTER	LA-508-462	U	4.25E-01	pCi	6.97	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	100	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Eu-155 by GEA	FILTER	LA-508-462	U	-4.42E+00	pCi	5.37	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	184	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Nb-94 by GEA	FILTER	LA-508-462	U	-6.37E-01	pCi	1.07	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	426	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Ru-103 by GEA	FILTER	LA-508-462	U	2.34E-01	pCi	1.01	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	226	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Ru-106 by GEA	FILTER	LA-508-462	U	-5.08E+00	pCi	19.70	03/10/99	03/07/99	03/08/99

MDL = Minimum Detection Limit

RQ = Result Qualifier

D - Compound concentration resulted from a dilution.
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U - The analyte was analyzed for but not detected.

B - The analyte was detected in the associated method blank.
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PROJECT HANFORD MANAGEMENT CONTRACTORS

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ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number: MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000657	VS006-231-FILb	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		279.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Sb-125 by GEA	FILTER	LA-508-462	U	-7.92e-01	pCi	3.96	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		293.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Sn-113 by GEA	FILTER	LA-508-462	U	4.41e-01	pCi	2.41	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		441.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000657	VS006-231-FILb	Zn-65 by GEA	FILTER	LA-508-462	U	-6.93e-01	pCi	5.52	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Gross Alpha	FILTER	LA-508-462	U	3.2E-07	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462		4.7E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Gross Beta	FILTER	LA-508-462		3.7E-06	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Gross Beta Absolute Cntg Error	FILTER	LA-508-462		7.8E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	-1.33e-00	pCi	9.55	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Ce-144 by GEA	FILTER	LA-508-462		387.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	CePr-144 Rel. % Count Error	FILTER	LA-508-462	U	-2.78e+00	pCi	19.10	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	CePr-144 by GEA	FILTER	LA-508-462		313.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	5.79e-01	pCi	3.05	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Co-60 by GEA	FILTER	LA-508-462		933.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	-1.33e-01	pCi	2.33	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Cs-134 by GEA	FILTER	LA-508-462		687.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	-1.95e-01	pCi	2.46	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Cs-137 by GEA	FILTER	LA-508-462		147.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	-2.16e+00	pCi	5.25	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Eu-152 by GEA	FILTER	LA-508-462		158.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	-3.04e+00	pCi	10.20	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Eu-154 by GEA	FILTER	LA-508-462		101.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	3.46e+00	pCi	6.69	03/10/99	03/07/99	03/08/99
W99F000658	VS006-236-FILa	Eu-155 by GEA	FILTER	LA-508-462							

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E - Compound concentration exceeded calibration range.
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Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF

ANALYTICAL LABORATORY REPORT

Attention:
Project Number

LEONARD A. PINGEL
MISC. : PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000058	VS00G-23G-FILa	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Nb-94 by GEA	FILTER	LA-508-462	U	1.24e-01	pCi	2.29	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	185	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Ru-103 by GEA	FILTER	LA-508-462	U	6.82e-01	pCi	2.43	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	461	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Ru-106 by GEA	FILTER	LA-508-462	U	2.57e+00	pCi	20.90	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Sb-125 by GEA	FILTER	LA-508-462	U	2.80e-01	pCi	5.75	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	325	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Sn-113 by GEA	FILTER	LA-508-462	U	4.24e-01	pCi	2.38	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	347	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILa	Zn-65 by GEA	FILTER	LA-508-462	U	7.90e-01	pCi	5.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Gross Alpha	FILTER	LA-508-462	U	5.5E-08	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462	U	1.7E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Gross Beta	FILTER	LA-508-462	U	1.4E-06	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Gross Beta Absolute Cntg Error	FILTER	LA-508-462	U	8.5E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Cs-134 by GEA	FILTER	LA-508-462	U	3.13e-01	pCi	9.98	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	CaPr-144 Rel. % Count Error	FILTER	LA-508-462	U	1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	CaPr-144 by GEA	FILTER	LA-508-462	U	6.27e-01	pCi	20.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	883	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Co-60 by GEA	FILTER	LA-508-462	U	1.41e-01	pCi	2.42	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	611	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Cs-134 by GEA	FILTER	LA-508-462	U	2.11e-01	pCi	2.50	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462	U	693	%	0.00	03/10/99	03/07/99	03/08/99
W99F000058	VS00G-23G-FILb	Cs-137 by GEA	FILTER	LA-508-462	U	1.56e-01	pCi	2.02	03/10/99	03/07/99	03/08/99

MDL=Minimum Detection Limit

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D - Compound concentration resulted from a dilution.

J - Estimated value.

Z - See Comments.

U - The analyte was analyzed for but not detected.

.. Indicates results that have NOT been validated.

Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF ANALYTICAL LABORATORY REPORT

Attention:
Project Number

LEONARD A. PINGEL
MISC.

PROJ. HANFORD MNGMT. CONT.

Group #: 99000378

Sample # Client ID

Test Performed

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000659	VS006-236-FILb	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		180.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Eu-152 by GEA	FILTER	LA-508-462	U	1.44e+00	pCi	4.97	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		832.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Eu-154 by GEA	FILTER	LA-508-462	U	5.04e-01	pCi	8.28	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		320.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Eu-155 by GEA	FILTER	LA-508-462	U	-9.02e-01	pCi	5.19	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		894.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Nb-94 by GEA	FILTER	LA-508-462	U	1.42e-01	pCi	2.37	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		130.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Ru-103 by GEA	FILTER	LA-508-462	U	6.21e-01	pCi	1.72	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		423.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Ru-106 by GEA	FILTER	LA-508-462	U	-2.96e+00	pCi	18.40	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		137.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Sb-125 by GEA	FILTER	LA-508-462	U	-1.37e+00	pCi	4.38	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		789.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Sn-113 by GEA	FILTER	LA-508-462	U	-1.68e-01	pCi	2.38	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		175.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000659	VS006-236-FILb	Zn-65 by GEA	FILTER	LA-508-462	U	1.52e+00	pCi	5.55	03/10/99	03/07/99	03/08/99
W99F000660	VS006-241-FILa	Gross Alpha	FILTER	LA-508-462	U	-5.55e-08	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000660	VS006-241-FILa	Gross Alpha Abs. Cntg Error	FILTER	LA-508-462		1.75e-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000660	VS006-241-FILa	Gross Beta	FILTER	LA-508-462		1.8E-06	uCi	1.00e-006	03/10/99	03/07/99	03/08/99
W99F000660	VS006-241-FILa	Gross Beta Absolute Cntg Error	FILTER	LA-508-462		9.2E-07	uCi	0.00	03/10/99	03/07/99	03/08/99
W99F000660	VS006-241-FILa	Ce-144 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000660	VS006-241-FILa	Ce-144 by GEA	FILTER	LA-508-462	U	-5.28e-01	pCi	10.60	03/10/99	03/07/99	03/08/99
W99F000660	VS006-241-FILa	CePu-144 Rel. % Count Error	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000660	VS006-241-FILa	CePu-144 by GEA	FILTER	LA-508-462	U	-1.05e+00	pCi	21.10	03/10/99	03/07/99	03/08/99

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* - Indicates results that have NOT been validated.

Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

D - Compound concentration resulted from a dilution.

J - Estimated value.

Z - See Comments.

U - The analyte was analyzed for but not detected.

WSCF

ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL				Group #: 99000378							
Project Number				:PROJ. HANFORD MNGMT. CONT.							
Misc.											
Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
W99F000600	V5006-241-FILa	Co-60 Rel. % Count Error (GEA)	FILTER	LA-508-462		380.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Co-60 by GEA	FILTER	LA-508-462	U	-4.28e-01	pCi	3.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Cs-134 Rel. % Count Error (GEA)	FILTER	LA-508-462		256.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Cs-134 by GEA	FILTER	LA-508-462	U	-4.75e-01	pCi	2.18	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Cs-137 Rel. % Count Error (GEA)	FILTER	LA-508-462		147.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Cs-137 by GEA	FILTER	LA-508-462	U	-8.30e-01	pCi	2.01	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Eu-152 Rel. % Count Error (GEA)	FILTER	LA-508-462		1000	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Eu-152 by GEA	FILTER	LA-508-462	U	-2.12e-01	pCi	5.23	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Eu-154 Rel. % Count Error (GEA)	FILTER	LA-508-462		152.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Eu-154 by GEA	FILTER	LA-508-462	U	1.04e+00	pCi	6.71	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Eu-155 Rel. % Count Error (GEA)	FILTER	LA-508-462		317.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Eu-155 by GEA	FILTER	LA-508-462	U	1.13e+00	pCi	6.58	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Nb-94 Rel. % Count Error (GEA)	FILTER	LA-508-462		186.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Nb-94 by GEA	FILTER	LA-508-462	U	-5.44e-01	pCi	1.71	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Ru-103 Rel. % Count Error (GEA)	FILTER	LA-508-462		763.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Ru-103 by GEA	FILTER	LA-508-462	U	1.43e-01	pCi	2.04	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Ru-106 Rel. % Count Error (GEA)	FILTER	LA-508-462		157.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Ru-106 by GEA	FILTER	LA-508-462	U	-7.41e+00	pCi	19.40	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Sb-125 Rel. % Count Error (GEA)	FILTER	LA-508-462		178.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Sb-125 by GEA	FILTER	LA-508-462	U	1.43e+00	pCi	5.21	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		260.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Sn-113 by GEA	FILTER	LA-508-462	U	-4.69e-01	pCi	2.09	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		131.	%	0.00	03/10/99	03/07/99	03/08/99
W99F000600	V5006-241-FILa	Zn-65 by GEA	FILTER	LA-508-462	U	2.46e+00	pCi	6.65	03/10/99	03/07/99	03/08/99
W99F000601	V5006-241-FILb	Gross Alpha	FILTER			3.2E-07	uCi	7.30e-007	03/10/99	03/07/99	03/08/99
W99F000601	V5006-241-FILb	Gross Alpha Abs. Orig Error	FILTER			4.7E-07	uCi	0.00	03/10/99	03/07/99	03/08/99

MDL=Minimum Detection Limit

RQ=Result Qualifier

D - Compound concentration resulted from a dilution.
 J - Estimated value.
 U - The analyte was analyzed for but not detected.

B - The analyte was detected in the associated method blank.
 E - Compound concentration exceeded calibration range.
 N - Identification is based on a mass spectral library search.

* Indicates results that have NOT been validated.

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PROJECT HANFORD MANAGEMENT CONTRACTORS

Group #: 99000378

MDL=Minimum Detection Limit
RQ=Result Qualifier B - The analyzer

D - Compound concentration resulted from a dilution,
J - Estimated value, Z - See Comments.
U - The analyte was analyzed for but not detected.

B - The analyte was detected in the associated method blank.
E - Compound concentration exceeded calibration range.
N - Identification is based on a mass spectral library search.
 When validated.

* - Indicates results that have NOT been validated.
Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

WSCF

ANALYTICAL LABORATORY REPORT

Attention: LEONARD A. PINGEL
Project Number MISC. : PROJ. HANFORD MNGMT. CONT. Group #: 99000378

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Analyzed	Sampled	Received
V99F000661	VS006-241-FILb	Sn-113 Rel. % Count Error (GEA)	FILTER	LA-508-462		256.	%	0.00	03/10/99	03/07/99	03/08/99
V99F000661	VS006-241-FILb	Sn-113 by GEA	FILTER	LA-508-462	U	-5.65e-01	pCi	2.47	03/10/99	03/07/99	03/08/99
V99F000661	VS006-241-FILb	Zn-65 Rel. % Count Error (GEA)	FILTER	LA-508-462		179.	%	0.00	03/10/99	03/07/99	03/08/99
V99F000661	VS006-241-FILb	Zn-65 by GEA	FILTER	LA-508-462	U	-1.91e+00	pCi	5.54	03/10/99	03/07/99	03/08/99

MDL=Minimum Detection Limit

RQ=Result Qualifier

R - The analyte was detected in the associated method blank.
E - Compound concentration exceeded calibration range.
N - Identification is based on a mass spectral library search.

D - Compound concentration resulted from a dilution.
J - Estimated value.
Z - See Comments.
U - The analyte was analyzed for but not detected.

.. Indicates results that have NOT been validated.

Report W004/ver. 3

PROJECT HANFORD MANAGEMENT CONTRACTORS

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Group #: 99000378

Comment

TESTDATA - Test Data Entry

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w04c/2 Report#: 99000378

Report Date: 11-mar-1999

Page 1

WSCF TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Project Number		Group #:		99000378	
Sample #	Client ID	Test Name	Peak Name	CAS#	RT
					RQ
					Result
					Units

RQ = Result Qualifier

B - The analyte was detected in the associated method blank.
 N - Identification is based on a mass spectral library search.

J - Estimated value.

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 U - The analyte was analyzed for but not detected.

W04E Report #: 99000378

Report Date: 11-mar-1999

Page 1

DON'T SAY IT --- Write It!

DATE: March 11, 1999

TO: K. W. Gray S5-07

FROM: R. L. Brown S6-14

Telephone: 372-2932

cc: L. A. Pingel, Jr.
R. J. Giordano
RLB File

SUBJECT: RELEASE OF VAPOR SAMPLES

I have reviewed the laboratory analysis of the vapor samples taken at 106-C and 702-AZ. The review of the data is shown below. Based on this review, the samples associated with 106-C and 702-AZ have no potential for internal contamination above release limits and can be released based on external surveys.

Should you have any questions, please contact me on 372-2932.

Radioactive Release for Particulate or Surface Contamination

The samples were drawn through a 2 micron prefilter. Laboratory results from the prefilter showed activity of up to $2.4 \text{ E-6 } \mu\text{Ci/sample}$ beta gamma and 3.2 E-7 alpha. This translates to approximately less than 10 dpm beta gamma and less than one dpm alpha, the portions of the sampling system down stream of the sample point are not considered potentially contaminated for particulate or surface contamination

Source Documents

Occupational Radiation Protection (excludes release)

10CFR835, *Occupational Radiation Protection*
HSRCM, *Hanford Site Radiological Control Manual*

Protection of the Public and Environment (includes release)

DOE5400.5, *Radiation Protection of the Public and the Environment*

Implementing (release)

Completed Decision Making Package (CDMP), #CDGH-9607-RSL-0055, *Release Survey Technical Basis*
HNF-IP-0718, *Health Physics Technical Practices and Procedures*, Section 6.1, "Release Surveys for Material and Equipment".

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

Section 2 of 5

Document Information			
Document #	HNF-4440	Revision	0
Title	TANK VAPOR SAMPLING & ANALYSIS DATA PACKAGE FOR TANK 241C106 WASTE RETRIEVAL SLUICING SYS PROCESS TEST PHASE 2 SAMPLED 03/07/1999		
Date	05/25/1999		
Originator	LOCKREM LL	Originator Co.	NHC
Recipient		Recipient Co.	
References	EDT-620356		
Keywords			
Projects			
Other Information	2.0 ANALYSES SEC 2.2 GENERAL INFORMATION & 2.2 VOLATILE ORGANIC COMPOUNDS IN SUMMA SAMPLES (TO-14 METHOD)		

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2.0 Analyses Section

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2.1 General Information

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2.1.1 SCOPE

The analyses section of this data package presents the results of the laboratory analyses of vapor samples collected on March 7, 1999, from the 296-C-006 ventilation system stack, 241-AZ-702 ventilation system stack, and ambient air at various locations. These analyses were performed for Lockheed Martin Hanford Corporation (LMHC) and Tank Waste Remediation System (TWRS) in accordance with the analytical requirements specified in the *Waste Retrieval Sluicing System Vapor Sampling and Analysis Plan for Evaluation of Organic Emissions Process Test Phase II*, HNF-4030, Rev. 0, (LMHC, 1999). Discussion and data from the collection of these samples are presented in the sampling section of this data package.

Results for each target analyte are organized by the method used for each analysis. The 7 analytical methods are presented in sections 2.2 through 2.8. Each of these sections has subsections that contain the case narrative, analytical results summary, quality control summary, and supporting data.

2.1.2 ANALYTICAL LOGBOOKS

Table 2-1 provides a listing of the logbooks used during analysis and the corresponding page numbers that contain data and information relevant to this sampling event.

Table 2-1. Analytical Laboratory Project Logbooks.

Logbook Title	Logbook Number	Page Numbers
Preparation of Samples and Standards for TST Analysis	WHC-N-1411-1	137 - 143
Thermal Desorption	WHC-N-943-1	34 - 37
Maintenance and Run Log for Hewlett Packard GC/FTIR/MS	WHC-N-932-1	102 - 111
Tank Vapor Headspace Sampling and Analysis Program - Ammonia Analyses	WHC-N-1400-1	138 +
Instrument Log for OI 4460A, HP5890 and HP5971 MSD	WHC-N-1025-4	22 - 23
Tank Vapor Headspace Sampling and Analysis Program - Inorganic Anion Analyses	WHC-N-1399-1	129 +
TNMOC (TO-12) Analysis	WHC-N-1319-1	81 +
Permanent Gas Analysis	HNF-N-125-1	19 - 20

2.1.3 VAPOR PROGRAM REQUIRED QUANTITATION LIMITS

Table 2-2 contains a listing of the Vapor Program Required Quantitation Limit (VPRQL) and corresponding CAS number for each program target analyte.

Table 2-2. Vapor Program Required Quantitation Limits. (5 sheets)

Analyte	CAS Number	VPRQL (mg/m ³)	VPRQL (ppbv)
VOCs in TST Samples			
Acetone	67-64-1	0.15	63
Acetonitrile	75-05-8	0.15	89
Benzene	71-43-2	0.15	47
1-Butanol	71-36-3	0.15	49
Dodecane	112-40-3	0.15	22
n-Hexane	110-54-3	0.15	43
Propanenitrile	107-12-0	0.15	67
Tridecane	629-50-5	0.15	20
Dichloromethane (methylene chloride)	75-09-2	0.15	43
Butanenitrile	109-74-0	0.15	53
2-Pentanone	107-87-9	0.15	43
n-Heptane	142-82-5	0.15	37
Methyl Benzene (Toluene)	108-88-3	0.15	40
Pentanenitrile	110-59-8	0.15	44
2-Hexanone (Methyl Butyl Ketone)	591-78-6	0.15	37
Octane	111-65-9	0.15	32
Hexanenitrile	628-73-9	0.15	38
2-Heptanone	110-43-0	0.15	32
n-Nonane	111-84-2	0.15	29
Heptanenitrile	629-08-3	0.15	33
2-Octanone	111-13-7	0.15	29

Table 2-2. Vapor Program Required Quantitation Limits. (5 sheets)

Analyte	CAS Number	VPRQL (mg/m3)	VPRQL (ppbv)
Decane	124-18-5	0.15	26
Undecane	1120-21-4	0.15	23
Dodecane	112-40-3	0.15	22
Methanol	7-56-1	0.15	110
Ethanol	64-17-5	0.15	80
1-Propanol	71-23-8	0.15	61
Tetrahydrofuran	109-99-9	0.15	51
1,2,4-Trimethylbenzene	95-63-6	0.15	30
o-Xylene	95-47-6	0.15	34
Carbon Tetrachloride	56-23-5	0.15	24
Chloroform	67-66-3	0.15	31
Tetrachloroethylene	127-18-4	0.15	22
Permanent Gases in SUMMA Samples			
Carbon Dioxide	124-38-9	90	50 ppmv
Carbon Monoxide	630-08-0	57	50 ppmv
Hydrogen	1333-74-0	4.1	50 ppmv
Methane	74-82-8	33	50 ppmv
Nitrous oxide	10024-97-2	90	50 ppmv
TNMOC in SUMMA Samples			
Total Non-methane Organic Compounds		0.07	150
VOCs in SUMMA Samples			
Acetone	67-64-1	0.012	5.0

Table 2-2. Vapor Program Required Quantitation Limits. (5 sheets)

Analyte	CAS Number	VPRQL (mg/m ³)	VPRQL (ppbv)
Acetonitrile	75-05-8	0.008	5.0
Benzene	71-43-2	0.016	5.0
Butanal	123-72-8	0.015	5.0
1-Butanol	71-36-3	0.015	5.0
Propanenitrile	107-12-0	0.011	5.0
Chloroethane	75-00-3	0.013	5.0
Trichlorodifluoromethane (Freon 12)	75-71-8	0.025	5.0
Methylbenzene	108-88-3	0.019	5.0
Ethylbenzene	100-41-4	0.022	5.0
2-Butanone	78-93-3	0.015	5.0
n-Heptane	142-72-5	0.020	5.0
Tetrahydrofuran	109-99-9	0.015	5.0
2-Propanol	67-63-0	0.012	5.0
1-Propanol	71-23-8	0.012	5.0
Trichlorofluoromethane (Freon 11)	75-69-4	0.028	5.0
o-Xylene	95-47-6	0.022	5.0
m-Xylene	108-38-3	0.022	5.0
p-Xylene	106-42-3	0.022	5.0
1,2,4-Trimethylbenzene	95-63-6	0.024	5.0
Decane	124-18-5	0.029	5.0
4-Methyl-2-pentanone	108-10-1	0.020	5.0
Butanenitrile	109-74-0	0.014	5.0
Octane	111-65-9	0.023	5.0
Tetrachloroethylene	127-18-4	0.034	5.0
Chloromethane	74-87-3	0.010	5.0

Table 2-2. Vapor Program Required Quantitation Limits. (5 sheets)

Analyte	CAS Number	VPRQL (mg/m3)	VPRQL (ppbv)
Dichloromethane (methylene chloride)	75-09-2	0.017	5.0
Chloroform (trichloromethane)	67-66-3	0.024	5.0
Carbon tetrachloride (tetrachloromethane)	56-23-5	0.031	5.0
Pentane	109-66-0	0.015	5.0
2-Methylpentane	107-83-5	0.018	5.0
1-Hexene	592-41-6	0.017	5.0
n-Butane	106-97-8	0.012	5.0
3-Methyl hexane	589-34-4	0.020	5.0
1,4-Diethylene dioxide (dioxin)	123-91-1	0.018	5.0
Chlorobenzene	108-90-7	0.023	5.0
Styrene	100-42-5	0.021	5.0
3-Heptanone	106-35-4	0.023	5.0
Cyclohexanone	108-94-1	0.020	5.0
Furan	110-00-9	0.014	5.0
n-Nonane	111-84-2	0.026	5.0
Ethanol	64-17-5	0.009	5.0
2-Pentanone	107-87-9	0.018	5.0
2-Hexanone	591-78-6	0.020	5.0
2-Heptanone	110-43-0	0.023	5.0
2-Octanone	111-13-7	0.026	5.0
Inorganic Sorbent Tube Train Samples			
Ammonia	7664-41-7	10	14 ppmv
Nitrogen dioxide	10102-44-0	5.0	2.7 ppmv
Nitric oxide	10102-43-9	5.0	4.1 ppmv

Table 2-2. Vapor Program Required Quantitation Limits. (5 sheets)

Analyte	CAS Number	VPRQL (mg/m3)	VPRQL (ppbv)
Water	7732-18-5	5400	6700 ppmv

2.1.4 DATA QUALIFIER FLAGS

Table 2-3 contains a listing of each data qualifier flag and its corresponding definition.

Table 2-3. Data Qualifier Flag Translation Table.

Qualifier ("Q") Flag	Definition
T	Target analyte reported in sample was also found in trip blank above action limit.
F	Target analyte reported in sample was also found in field blank above action limit.
B	Target analyte reported in sample was also found in laboratory blank above action limit.
D	Target analyte reported is the result of a secondary dilution.
E	Target analyte concentration reported is greater than the highest calibration standard, but the analysis could not be repeated.
Q	Target analyte was detected, but at concentrations less than the Vapor Program Required Quantitation Limit.
J	Tentatively Identified Compound: Non-target analyte reported concentration is an estimate.
N	Tentatively Identified Compound: Non-target analyte reported is tentative, not confirmed with authentic standards.
M	Target analyte was absent (not detected) in sample.
*	Asteric: Data did not meet quality control requirements; refer to data package case narrative.

2.1.5 TANK VAPOR SAMPLE ANALYSIS PROCEDURES

All analyses were performed according to the procedures listed in Table 2-4. Any exceptions to these procedures are noted in the relevant analysis subsection.

Table 2-4. Summary of Tank Vapor Sample Analysis Procedures.

Procedure Title	Procedure #/Revision #
Determination of Volatile Organic Compounds in Hanford Waste Tank Headspace Samples Using SUMMA Passivated Canister Sampling and GC/MS Analysis	LA-523-404/A-1
Analysis of Semi-Volatile Organic Compounds in Ambient Air and Tank Headspace	LA-523-428/A-0
Total Nonmethane Organic Compounds	LA-523-407/A-0
Determination of Permanent Gases in SUMMA Passivated Canisters	LA-523-409/A-0
Measurement of Organics by Thermal Desorption/Gas Chromatography/Mass Spectrometry	LA-523-408/A-1
Determination of Ammonia in Sorbent Tube Leachate by Ion Chromatography	LA-533-402/A-0
Determination of Inorganic Anions in Sorbent Tube Leachate by Ion Chromatography	LA-533-400/A-0
Preparation of Triple Sorbent Tubes for Field Sampling, Analysis and Calibration Standards	LA-549-404/A-1

2.2 Volatile Organic Compounds in SUMMA Canister Samples (TO-14 Method)

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2.2.1 Narrative

This section contains descriptions of the analytical method and quality assurance used during analysis.

2.2.1.1 Determination of Volatile Organic Compounds in SUMMA Canister Samples (TO-14 Method)

The SUMMA samples were analyzed for volatile organic compounds (VOCs) according to procedure LA-523-404, Rev. A-1, *Determination of Volatile Organic Compounds in Hanford Site Waste Tank Headspace Samples Using SUMMA Passivated Canister Sampling and GC-MS Analysis*. This method is based on a modified U. S. Environmental Protection Agency (EPA) method TO-14. The VOCs were concentrated from the tank headspace sample by cryogenic trapping with liquid argon and subsequently analyzed by gas chromatography-mass spectrometry (GC-MS). The method offers low ppbv instrument detection limits.

For target analytes, quantitation is performed based on a 5-point calibration with standard mixtures of the target analyte compounds. Non-target compounds detected in the vapor samples are qualitatively identified via computer-automated comparison of the compound's mass spectrum with the Wiley 138 and National Institute of Standards and Technology (NIST) libraries of mass spectra. They are designated as tentatively identified compounds (TICs) if the match quality meets certain criteria (70 % or better match). The concentration of a TIC is estimated using the response factor of the chlorobenzene-d5 internal standard.

The instrumentation consists of a Hewlett-Packard (Palo Alto, CA) model 5890 Series II gas chromatograph equipped with a Hewlett-Packard model 5972 bench top mass spectrometer. A 60 meter methylphenyl-type capillary column (DB-5, J & W Scientific, Folsom, CA) with an internal diameter of 0.32 mm and 1.0 μ m film thickness is used for compound separation.

The pressure of the SUMMA canisters was checked before analysis; all SUMMA canisters were at ambient pressure (approximately 14.7 psia). The canisters were then pressurized to twice the ambient pressure (dilution factor=2) with Ultrapure air (Scott-Marrin) and allowed to equilibrate for 4 hours or longer. A 50.0 torr sample was withdrawn from the pressurized SUMMA canister for analysis. A fixed volume of an internal standard with 2 components was added to each sample prior to injection. For target compounds that exceeded the calibration range of the instrument, a second dilution was made by transferring 500.0 ml from the original, pressurized canister to another 6 L SUMMA canister and pressurizing to 2 atm (total dilution factor = 48). A 50 torr sample was analyzed and the original concentration for the target compounds was calculated; the compounds determined with a secondary dilution are flagged "D" in the target compound tables.

2.2.1.2 Volatile Organic Compound (TO-14 Method) Analytical Quality Assurance

Method LA-523-404, Rev. A-1, is used for the qualitative and quantitative gas chromatography/mass spectrometry (GC/MS) determination of volatile target organic compounds in waste tank headspace samples collected in SUMMA passivated canisters. Non-target organic compounds detected during sample analysis must meet threshold levels prior to reporting. Non-target compounds are reported as "tentatively identified compounds (TICs)" and concentration estimates of TICs are made relative to selected internal standards.

The GC/MS system is tuned and calibrated initially prior to starting sample analysis, and each time continuing calibration criteria cannot be met for subsequent analysis. To ensure satisfactory initial performance, the GC/MS system must meet established tuning and analyte sensitivity criteria. At least 5 concentration levels are used for the initial calibration or ICAL of each target VOC. Internal standards are added to calibration standards and samples in order to compute analyte relative response factors (RRFs). Final computations of sample target analyte concentrations are made using RRFs. The validity of the initial calibration is demonstrated by meeting deviation or curve fit criteria and through the satisfactory measurement of a "check standard", the ICVS, for the target analytes. Initial calibration blanks are measured for target analyte levels to demonstrate satisfactory system cleanliness.

Each day the GC/MS is used for analysis, the continued performance and sensitivity of the system is verified through an "auto-tune" or the analysis of the tuning check compound. GC/MS tuning compound criteria must be met. Also, a mid-level check standard, or CCVS, is measured. Criteria for the CCVS that must be met are percent recovery of the CCVS analytes, response factor sensitivity, and internal standard area counts. Continuing calibration blanks (CCBs) are measured for target analytes to document the continued satisfactory cleanliness of the GC/MS system.

With each tank sample reporting batch, the analysis of a method blank (MB) is conducted and reported. The MB cannot exceed maximum allowable contamination levels for target analytes. With each tank sample reporting batch, the analysis of a laboratory control sample (LCS) and LCS duplicate is conducted. The recovery of the LCS analytes must meet accuracy (percent recovery - %R) and precision (relative percent difference - RPD) requirements. Also, with each tank sample reporting batch, an actual tank sample is analyzed in duplicate, the "laboratory sample duplicate". The RPD between the sample analyte concentrations measured above reporting limits and its sample duplicate analyte concentrations must meet precision requirement or the resulting data is flagged.

The GC-MS system was calibrated according to procedure LA-523-404, Rev. A-1. Two certified gas standards prepared by Scott-Marrin (Riverside, CA) were used: A nonpolar standard with 34 compounds (certificate #CC105483) and a polar standard containing 22 compounds (certificate #CC105523). A 6 point calibration was performed over the range from 4.2 to 126 ppbv. The calibration is documented in logbook WHC-N-932-1, pages 102 and 103. All compounds met the %RSD requirement of 25 % for the calibration. The precision of the calibration was checked on the day of the sample analysis by analyzing an independently prepared laboratory control standard (Scott-Merrin # CC68664). The recovery of the analytes

was within the required range of 65 - 135 % except for 1,2,4-trimethylbenzene (214 % and 206 % recovery).

Two internal standards were used to calculate the RRF for each target compound. The recovery of the internal standards for all analyses relative to the CCVS was within the required 50 - 150 % range.

A continuing calibration verification standard (CCVS) prepared from the nonpolar standard was analyzed daily. The response factors for these compounds from the initial calibration were compared with the CCRF on the day of analysis. All compounds in the CCVS met the required 25 % RPD except 1,1,2,2-tetrachloroethane (58 % on 3/23/1999, -93 % on 3/24/1999, and -64 % on 4/08/1999). In addition, a polar CCVS was also analyzed; the following target analytes exceeded the 25 % RPD: tetrahydrofuran (30 % on 3/23/1999, 37 % on 3/24/1999), and acetonitrile (-30 % on 3/23/1999).

The primary dilution of a tank headspace sample (VS702-204-S079) was analyzed in duplicate (replicate analysis). All compounds met the required RPD of 35 %.

Method blanks collected from a SUMMA canister filled with ultrapure air contained the target analytes acetone (4.8 ppbv) on 3/22/1999, butanal (3.6 ppbv), 1-butanol (3.6 ppbv), and 3-heptanone (19 ppbv) on 3/23/1999, and 3-heptanone (4.9 ppbv) on 3/24/1999. The following TICs were also found in these samples: 2-butoxy ethanol (6.0 ppbv) on 3/22/1999, pyridine (8.6 ppbv), 4-heptanone (9.2 ppbv), 3-heptanol (12 ppbv), 2-butoxy ethanol (5.8 ppbv), a unknown (15 ppbv), 2-ethyl-1-hexanol (46 ppbv), and tridecane (5.0 ppbv) on 3/23/1999, an unknown (15 ppbv) and 2-ethyl-1-hexanol (46 ppbv) on 3/24/1999.

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2.2.2 Result Summary Tables

The result summary tables list all target analytes by increasing chromatographic retention times. Also listed are the results of the duplicate analysis using the same SUMMA sample and the relative percent difference (RPD) calculated from these values. All reported values have been corrected to 25 °C and 1 atmosphere pressure.

This section contains tables with the tentatively identified compounds (TICs) found in the vapor samples. The concentrations of these compounds were estimated based on the response of an internal standard. An extended list of TICs (at concentrations of 5 ppbv or greater) is included for sample VS006-237-S071.

Phase II 296-C-006 Stack Target Analyte Concentrations for SUMMA Analyses				Sample Number		VS006-202-S011			
				Analysis Date		3/24/99			
				Analysis Time		8:14 AM			
				Primary Dilution File ID		19032407.D			
				Secondary Dilution File ID					
Target Analyte Name	CAS #	Mol Wt	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Freon 12	75-71-8	120	7.86	5.0	0.025	0.025	5.0	M	17 Days
Methyl chloride	74-87-3	50	9.44	5.0	0.010	0.01	5.0	M	17 Days
N-Butane	106-97-8	58	11.51	5.0	0.012	0.097	41		17 Days
Ethyl Chloride	75-00-3	64	13.78	5.0	0.013	0.013	5.0	M	17 Days
Freon 11	75-69-4	136	15.66	5.0	0.028	0.028	5.0	Q	17 Days
N-Pentane	109-66-0	72	16.36	5.0	0.015	0.06	20		17 Days
Dichloromethane	75-09-2	84	18.04	5.0	0.017	0.017	5.0	M	17 Days
2-Methyl-Pentane	107-83-5	86	19.48	5.0	0.018	0.018	5.0	Q	17 Days
1-Hexene	592-41-6	84	20.48	5.0	0.017	0.018	5.2		17 Days
N-Hexane	110-54-3	86	20.85	5.0	0.018	0.53	150		17 Days
Chloroform	67-66-3	118	21.66	5.0	0.024	0.024	5.0	M	17 Days
Benzene	71-43-2	78	23.48	5.0	0.016	0.016	5.0	M	17 Days
Carbon Tetrachloride	56-23-5	152	23.53	5.0	0.031	0.031	5.0	M	17 Days
3-Methyl-Hexane	589-34-4	100	23.96	5.0	0.020	0.02	5.0	M	17 Days
N-Heptane	142-82-5	100	24.89	5.0	0.020	0.053	13		17 Days
Toluene	108-88-3	92	27.54	5.0	0.019	0.019	5.0	M	17 Days
N-Octane	111-65-9	114	28.56	5.0	0.023	0.025	5.4		17 Days
Tetrachloroethylene	127-18-4	164	29.15	5.0	0.034	0.034	5.0	M	17 Days
Chlorobenzene	108-90-7	112	30.43	5.0	0.023	0.023	5.0	M	17 Days
Ethylbenzene	100-41-4	106	30.89	5.0	0.022	0.022	5.0	M	17 Days
m,p-Xylene	108-38-3/ 106-42-3	106	31.15	5.0	0.022	0.022	5.0	M	17 Days
Styrene	100-42-5	104	31.88	5.0	0.021	0.021	5.0	M	17 Days
N-Nonane	111-84-2	128	31.90	5.0	0.026	0.026	5.0		17 Days
1,1,2,2-Tetrachloroethane	79-34-5	166	32.72	5.0	0.034	0.034	5.0	M	17 Days
o-Xylene	95-47-6	106	31.98	5.0	0.022	0.022	5.0	M	17 Days
N-Decane	124-18-5	142	34.97	5.0	0.029	0.15	25		17 Days
1,2,4-Trimethylbenzene	95-63-6	120	35.15	5.0	0.025	0.025	5.0	M	17 Days
Ethanol	64-17-5	46	14.76	5.0	0.009	0.26	140		17 Days
Acetonitrile	75-05-8	41	16.03	5.0	0.008	0.062	37		17 Days
Acetone	67-64-1	58	16.11	5.0	0.012	0.14	60		17 Days
Furan	110-00-9	68	16.41	5.0	0.014	0.014	5.0	M	17 Days
2-Propanol	67-63-0	60	16.94	5.0	0.012	0.012	5.0	M	17 Days
1-Propanol	71-23-8	60	19.35	5.0	0.012	0.077	31		17 Days
Propanenitrile	107-12-0	55	19.95	5.0	0.011	0.03	13		17 Days
Butanal	123-72-8	72	20.54	5.0	0.015	0.078	26		17 Days
2-Butanone	78-93-3	72	20.73	5.0	0.015	0.041	14		17 Days
Tetrahydrofuran	109-99-9	72	22.09	5.0	0.015	0.041	14		17 Days
1-Butanol	71-36-3	74	23.55	5.0	0.015	0.26	87		17 Days
Butanenitrile	109-74-0	69	23.77	5.0	0.014	0.046	16		17 Days
2-Pentanone	107-87-9	86	24.37	5.0	0.018	0.022	6.3		17 Days
1,4-Dioxane	123-91-1	88	25.23	5.0	0.018	0.018	5.0	M	17 Days
4-Methyl-2-Pentanone	108-10-1	100	26.38	5.0	0.020	0.02	5.0	M	17 Days
2-Hexanone	591-78-6	100	28.13	5.0	0.020	0.025	6.0		17 Days
3-Heptanone	106-35-4	114	31.43	5.0	0.023	0.26	56	B	17 Days
2-Heptanone	110-43-3	114	34.56	5.0	0.023	0.023	5.0		17 Days
Cyclohexanone	108-94-1	98	31.90	5.0	0.020	0.02	5.0	M	17 Days
2-Octanone	111-13-7	128	34.70	5.0	0.026	0.026	5.0	M	17 Days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)

² Data Flags:

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of primary dilution

D2: Target analyte reported is the result of a secondary dilution

D3: Target analyte reported is the result of a tertiary (or higher) dilution

F: Target analyte was found in field blank

M: Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

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Phase II 296-C-006 Stack Target Analyte Concentrations for SUMMA Analyses				Sample Number		VS006-212-S028			
				Analysis Date		3/23/99			
				Analysis Time		1:19 PM			
				Primary Dilution File ID					
				Secondary Dilution File ID		19032306.D			
Target Analyte Name	CAS #	Mol Wt	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Freon 12	75-71-8	120	7.86	5.0	0.025	0.025	5.0	D2, M	16 days
Methyl chloride	74-87-3	50	9.44	5.0	0.010	0.01	5.0	D2, M	16 days
N-Butane	106-97-8	58	11.51	5.0	0.012	2.9	1200	D2	16 days
Ethyl Chloride	75-00-3	64	13.78	5.0	0.013	0.013	5.0	D2, M	16 days
Freon 11	75-69-4	136	15.66	5.0	0.028	0.028	5.0	D2, M	16 days
N-Pentane	109-66-0	72	16.36	5.0	0.015	1.7	560	D2	16 days
Dichloromethane	75-09-2	84	18.04	5.0	0.017	0.017	5.0	D2, M	16 days
2-Methyl-Pentane	107-83-5	86	19.48	5.0	0.018	0.018	5.0	D2, Q	16 days
1-Hexene	592-41-6	84	20.48	5.0	0.017	4.1	1200	D2	16 days
N-Hexane	110-54-3	86	20.85	5.0	0.018	2.4	690	D2	16 days
Chloroform	67-66-3	118	21.66	5.0	0.024	0.024	5.0	D2, M	16 days
Benzene	71-43-2	78	23.48	5.0	0.016	0.016	5.0	D2, M	16 days
Carbon Tetrachloride	56-23-5	152	23.53	5.0	0.031	0.031	5.0	D2, M	16 days
3-Methyl-Hexane	589-34-4	100	23.96	5.0	0.020	0.16	40	D2	16 days
N-Heptane	142-82-5	100	24.89	5.0	0.020	13	3200	D2	16 days
Toluene	108-88-3	92	27.54	5.0	0.019	0.019	100	D2, Q	16 days
N-Octane	111-65-9	114	28.56	5.0	0.023	2.8	600	D2	16 days
Tetrachloroethylene	127-18-4	164	29.15	5.0	0.034	0.034	5.0	D2, M	16 days
Chlorobenzene	108-90-7	112	30.43	5.0	0.023	0.023	5.0	D2, M	16 days
Ethylbenzene	100-41-4	106	30.89	5.0	0.022	0.022	5.0	D2, M	16 days
m,p-Xylene	108-38-3/ 106-42-3	106	31.15	5.0	0.022	0.022	5.0	D2, M	16 days
Styrene	100-42-5	104	31.88	5.0	0.021	0.021	5.0	D2, M	16 days
N-Nonane	111-84-2	128	31.90	5.0	0.026	3.3	630	D2	16 days
1,1,2,2-Tetrachloroethane	79-34-5	166	32.72	5.0	0.034	0.034	5.0	D2, M	16 days
o-Xylene	95-47-6	106	31.98	5.0	0.022	0.022	5.0	D2, M	16 days
N-Decane	124-18-5	142	34.97	5.0	0.029	7.6	1300	D2	16 days
1,2,4-Trimethylbenzene	95-63-6	120	35.15	5.0	0.025	0.025	5.0	D2, M	16 days
Ethanol	64-17-5	46	14.76	5.0	0.009	1.3	690	D2	16 days
Acetonitrile	75-05-8	41	16.03	5.0	0.008	0.32	190	D2	16 days
Acetone	67-64-1	58	16.11	5.0	0.012	2.4	1000	D2	16 days
Furan	110-00-9	68	16.41	5.0	0.014	0.014	5.0	D2, M	16 days
2-Propanol	67-63-0	60	16.94	5.0	0.012	0.012	5.0	D2, M	16 days
1-Propanol	71-23-8	60	19.35	5.0	0.012	0.27	110	D2	16 days
Propanenitrile	107-12-0	55	19.95	5.0	0.011	0.29	130	D2	16 days
Butanal	123-72-8	72	20.54	5.0	0.015	1.2	400	D2, B	16 days
2-Butanone	78-93-3	72	20.73	5.0	0.015	0.68	230	D2	16 days
Tetrahydrofuran	109-99-9	72	22.09	5.0	0.015	0.015	5.0	D2, M	16 days
1-Butanol	71-36-3	74	23.55	5.0	0.015	1.3	440	D2, B	16 days
Butanenitrile	109-74-0	69	23.77	5.0	0.014	0.54	190	D2	16 days
2-Pentanone	107-87-9	86	24.37	5.0	0.018	0.49	140	D2	16 days
1,4-Dioxane	123-91-1	88	25.23	5.0	0.018	0.018	5.0	D2, M	16 days
4-Methyl-2-Pentanone	108-10-1	100	26.38	5.0	0.020	0.02	5.0	D2, M	16 days
2-Hexanone	591-78-6	100	28.13	5.0	0.020	1.4	350	D2	16 days
3-Heptanone	106-35-4	114	31.43	5.0	0.023	36	7700	D2, M, B	16 days
2-Heptanone	110-43-3	114	34.56	5.0	0.023	7.9	1700	D2	16 days
Cyclohexanone	108-94-1	98	31.90	5.0	0.020	0.02	5.0	D2, M	16 days
2-Octanone	111-13-7	128	34.70	5.0	0.026	0.29	55	D2	16 days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)

² Data Flags:

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of primary dilution

D2: Target analyte reported is the result of a secondary dilution

D3: Target analyte reported is the result of a tertiary (or higher) dilution

F: Target analyte was found in field blank

M: Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

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Phase II 296-C-006 Stack Target Analyte Concentrations for SUMMA Analyses				Sample Number		VS006-222-S039			
				Analysis Date		3/23/99			
				Analysis Time		11:18			
				Primary Dilution File ID					
				Secondary Dilution File ID		19032304.D			
Target Analyte Name	CAS #	Mol Wt	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Freon 12	75-71-8	120	7.86	5.0	0.025	0.025	5.0	D2, M	16 days
Methyl chloride	74-87-3	50	9.44	5.0	0.010	0.01	5.0	D2, M	16 days
N-Butane	106-97-8	58	11.51	5.0	0.012	11	4800	D2	16 days
Ethyl Chloride	75-00-3	64	13.78	5.0	0.013	0.013	5.0	D2, M	16 days
Freon 11	75-69-4	136	15.66	5.0	0.028	0.028	5.0	D2, M	16 days
N-Pentane	109-66-0	72	16.36	5.0	0.015	5.3	1800	D2	16 days
Dichloromethane	75-09-2	84	18.04	5.0	0.017	0.017	5.0	D2, M	16 days
2-Methyl-Pentane	107-83-5	86	19.48	5.0	0.018	0.95	270	D2	16 days
1-Hexene	592-41-6	84	20.48	5.0	0.017	11	3300	D2	16 days
N-Hexane	110-54-3	86	20.85	5.0	0.018	6.7	1900	D2	16 days
Chloroform	67-66-3	118	21.66	5.0	0.024	0.024	5.0	D2, M	16 days
Benzene	71-43-2	78	23.48	5.0	0.016	0.21	67	D2	16 days
Carbon Tetrachloride	56-23-5	152	23.53	5.0	0.031	0.031	5.0	D2, M	16 days
3-Methyl-Hexane	589-34-4	100	23.96	5.0	0.020	0.02	5.0	D2, M	16 days
N-Heptane	142-82-5	100	24.89	5.0	0.020	29	7100	D2, E	16 days
Toluene	108-88-3	92	27.54	5.0	0.019	0.94	250	D2	16 days
N-Octane	111-65-9	114	28.56	5.0	0.023	7.9	1700	D2	16 days
Tetrachloroethylene	127-18-4	164	29.15	5.0	0.034	0.034	5.0	D2, M	16 days
Chlorobenzene	108-90-7	112	30.43	5.0	0.023	0.023	5.0	D2, M	16 days
Ethylbenzene	100-41-4	106	30.89	5.0	0.022	0.022	5.0	D2, M	16 days
m,p-Xylene	108-38-3/ 106-42-3	106	31.15	5.0	0.022	0.13	31	D2	16 days
Styrene	100-42-5	104	31.88	5.0	0.021	0.021	5.0	D2, M	16 days
N-Nonane	111-84-2	128	31.90	5.0	0.026	10	2000	D2	16 days
1,1,2,2-Tetrachloroethane	79-34-5	166	32.72	5.0	0.034	0.034	5.0	D2, M	16 days
o-Xylene	95-47-6	106	31.98	5.0	0.022	0.022	5.0	D2, M	16 days
N-Decane	124-18-5	142	34.97	5.0	0.029	18	3100	D2	16 days
1,2,4-Trimethylbenzene	95-63-6	120	35.15	5.0	0.025	0.025	5.0	D2, M	16 days
Ethanol	64-17-5	46	14.76	5.0	0.009	0.90	480	D2	16 days
Acetonitrile	75-05-8	41	16.03	5.0	0.008	0.23	140	D2	16 days
Acetone	67-64-1	58	16.11	5.0	0.012	1.8	740	D2	16 days
Furan	110-00-9	68	16.41	5.0	0.014	0.014	5.0	D2, M	16 days
2-Propanol	67-63-0	60	16.94	5.0	0.012	0.012	5.0	D2, M	16 days
1-Propanol	71-23-8	60	19.35	5.0	0.012	0.15	60	D2	16 days
Propanenitrile	107-12-0	55	19.95	5.0	0.011	0.41	180	D2	16 days
Butanal	123-72-8	72	20.54	5.0	0.015	0.88	300	D2, B	16 days
2-Butanone	78-93-3	72	20.73	5.0	0.015	0.56	190	D2	16 days
Tetrahydrofuran	109-99-9	72	22.09	5.0	0.015	0.015	5.0	D2, M	16 days
1-Butanol	71-36-3	74	23.55	5.0	0.015	1.4	470	D2, B	16 days
Butanenitrile	109-74-0	69	23.77	5.0	0.014	0.88	310	D2	16 days
2-Pentanone	107-87-9	86	24.37	5.0	0.018	0.49	140	D2	16 days
1,4-Dioxane	123-91-1	88	25.23	5.0	0.018	0.018	5.0	D2, M	16 days
4-Methyl-2-Pentanone	108-10-1	100	26.38	5.0	0.020	0.02	5.0	D2, M	16 days
2-Hexanone	591-78-6	100	28.13	5.0	0.020	2.3	560	D2	16 days
3-Heptanone	106-35-4	114	31.43	5.0	0.023	38	8200	D2, E, B	16 days
2-Heptanone	110-43-3	114	34.56	5.0	0.023	13	2800	D2	16 days
Cyclohexanone	108-94-1	98	31.90	5.0	0.020	0.02	5.0	D2, M	16 days
2-Octanone	111-13-7	128	34.70	5.0	0.026	0.79	150	D2	16 days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)
² Data Flags:
B: Target analyte was detected in laboratory blank
D: Target analyte reported is the result of primary dilution
D2: Target analyte reported is the result of a secondary dilution
D3: Target analyte reported is the result of a tertiary (or higher) dilution
F: Target analyte was found in field blank
M: Target analyte was absent (not detected) in sample
Q: Target analyte was detected, but at concentrations less than VPRQL

Phase II 296-C-006 Stack Target Analyte Concentrations for SUMMA Analyses				Sample Number		VS006-232-S056			
				Analysis Date		3/22/99			
				Analysis Time		8:19 PM			
				Primary Dilution File ID		19032209.D			
				Secondary Dilution File ID		19032305.D			
Target Analyte Name	CAS #	Mol. Wt.	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Freon 12	75-71-8	120	7.86	5.0	0.025	0.025	5.0	D2, M	16 days
Methyl chloride	74-87-3	50	9.44	5.0	0.010	0.01	5.0	D2, M	16 days
N-Butane	106-97-8	58	11.51	5.0	0.012	15	6300	D2	16 days
Ethyl Chloride	75-00-3	64	13.78	5.0	0.013	0.013	5.0	D2, M	16 days
Freon 11	75-69-4	136	15.66	5.0	0.028	0.028	5.0	D2, M	16 days
N-Pentane	109-66-0	72	16.36	5.0	0.015	7.7	2600	D2	16 days
Dichloromethane	75-09-2	84	18.04	5.0	0.017	0.017	5.0	D2, M	16 days
2-Methyl-Pentane	107-83-5	86	19.48	5.0	0.018	1.5	420	D2	16 days
1-Hexene	592-41-6	84	20.48	5.0	0.017	18	5200	D2	16 days
N-Hexane	110-54-3	86	20.85	5.0	0.018	11	3100	D2	16 days
Chloroform	67-66-3	118	21.66	5.0	0.024	0.024	5.0	D2, M	16 days
Benzene	71-43-2	78	23.48	5.0	0.016	0.35	110	D2	16 days
Carbon Tetrachloride	56-23-5	152	23.53	5.0	0.031	0.031	5.0	D2, M	16 days
3-Methyl-Hexane	589-34-4	100	23.96	5.0	0.020	0.02	5.0	D2, M	16 days
N-Heptane	142-82-5	100	24.89	5.0	0.020	74	18000	D2	16 days
Toluene	108-88-3	92	27.54	5.0	0.019	1.4	380	D2	16 days
N-Octane	111-65-9	114	28.56	5.0	0.023	13	2700	D2	16 days
Tetrachloroethylene	127-18-4	164	29.15	5.0	0.034	0.034	5.0	D2, M	16 days
Chlorobenzene	108-90-7	112	30.43	5.0	0.023	0.023	5.0	D2, M	16 days
Ethylbenzene	100-41-4	106	30.89	5.0	0.022	0.12	28	D2	16 days
m,p-Xylene	108-38-3/106-42-3	106	31.15	5.0	0.022	0.17	40	D2	16 days
Styrene	100-42-5	104	31.88	5.0	0.021	0.021	5.0	D2, M	16 days
N-Nonane	111-84-2	128	31.90	5.0	0.026	17	3300	D2	16 days
1,1,2,2-Tetrachloroethane	79-34-5	166	32.72	5.0	0.034	0.034	5.0	D2, M	16 days
o-Xylene	95-47-6	106	31.98	5.0	0.022	0.022	5.0	D2, M	16 days
N-Decane	124-18-5	142	34.97	5.0	0.029	24	4200	D2	16 days
1,2,4-Trimethylbenzene	95-63-6	120	35.15	5.0	0.025	0.025	5.0	D2, M	16 days
Ethanol	64-17-5	46	14.76	5.0	0.009	1.2	650	D2	16 days
Acetonitrile	75-05-8	41	16.03	5.0	0.008	0.20	120	D2	16 days
Acetone	67-64-1	58	16.11	5.0	0.012	2.6	1100	D2, B	16 days
Furan	110-00-9	68	16.41	5.0	0.014	0.014	5.0	D2, M	16 days
2-Propanol	67-63-0	60	16.94	5.0	0.012	0.053	22	D2	16 days
1-Propanol	71-23-8	60	19.35	5.0	0.012	0.29	120	D2	16 days
Propanenitrile	107-12-0	55	19.95	5.0	0.011	0.61	270	D2	16 days
Butanal	123-72-8	72	20.54	5.0	0.015	1.6	550	D2	16 days
2-Butanone	78-93-3	72	20.73	5.0	0.015	0.83	280	D2	16 days
Tetrahydrofuran	109-99-9	72	22.09	5.0	0.015	0.11	37	D2	16 days
1-Butanol	71-36-3	74	23.55	5.0	0.015	2.5	810	D2	16 days
Butanenitrile	109-74-0	69	23.77	5.0	0.014	1.3	470	D2	16 days
2-Pentanone	107-87-9	86	24.37	5.0	0.018	0.70	200	D2	16 days
1,4-Dioxane	123-91-1	88	25.23	5.0	0.018	0.018	5.0	D2, M	16 days
4-Methyl-2-Pentanone	108-10-1	100	26.38	5.0	0.020	0.11	27	D2	16 days
2-Hexanone	591-78-6	100	28.13	5.0	0.020	3.8	920	D2	16 days
3-Heptanone	106-35-4	114	31.43	5.0	0.023	79	17000	D2, E	16 days
2-Heptanone	110-43-3	114	34.56	5.0	0.023	20	4200	D2	16 days
Cyclohexanone	108-94-1	98	31.90	5.0	0.020	0.02	5.0	D2, M	16 days
2-Octanone	111-13-7	128	34.70	5.0	0.026	1.2	230	D2	16 days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)

² Data Flags:

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of primary dilution

D2: Target analyte reported is the result of a secondary dilution

D3: Target analyte reported is the result of a tertiary (or higher) dilution

F: Target analyte was found in field blank

M: Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

Phase II 296-C-006 Stack Target Analyte Concentrations for SUMMA Analyses				Sample Number		VS006-237-S071			
				Analysis Date		3/22/99			
				Analysis Time		19:01			
				Primary Dilution File ID		19032208.D			
				Secondary Dilution File ID		19032204.D			
Target Analyte Name	CAS #	Mol Wt	Ref. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Freon 12	75-71-8	120	7.86	5.0	0.025	0.025	5.0	D2, M	15 Days
Methyl chloride	74-87-3	50	9.44	5.0	0.010	0.01	5.0	D2, M	15 Days
N-Butane	106-97-8	58	11.51	5.0	0.012	13	5300	D3	15 Days
Ethyl Chloride	75-00-3	64	13.78	5.0	0.013	0.013	5.0	D2, M	15 Days
Freon 11	75-69-4	136	15.66	5.0	0.028	0.028	5.0	D2, M	15 Days
N-Pentane	109-66-0	72	16.36	5.0	0.015	8.3	2800	D2	15 Days
Dichloromethane	75-09-2	84	18.04	5.0	0.017	0.017	5.0	D2, M	15 Days
2-Methyl-Pentane	107-83-5	86	19.48	5.0	0.018	1.5	430	D2	15 Days
1-Hexene	592-41-6	84	20.48	5.0	0.017	19	5500	D2	15 Days
N-Hexane	110-54-3	86	20.85	5.0	0.018	12	3300	D2	15 Days
Chloroform	67-66-3	118	21.66	5.0	0.024	0.024	5.0	D2, M	15 Days
Benzene	71-43-2	78	23.48	5.0	0.016	0.35	110	D2	15 Days
Carbon Tetrachloride	56-23-5	152	23.53	5.0	0.031	0.031	5.0	D2, M	15 Days
3-Methyl-Hexane	589-34-4	100	23.96	5.0	0.020	0.02	5.0	D2, M	15 Days
N-Heptane	142-82-5	100	24.89	5.0	0.020	70	17000	D3	15 Days
Toluene	108-88-3	92	27.54	5.0	0.019	1.4	380	D2	15 Days
N-Octane	111-65-9	114	28.56	5.0	0.023	13	2800	D2	15 Days
Tetrachloroethylene	127-18-4	164	29.15	5.0	0.034	0.034	5.0	D2, M	15 Days
Chlorobenzene	108-90-7	112	30.43	5.0	0.023	0.023	5.0	D2, M	15 Days
Ethylbenzene	100-41-4	106	30.89	5.0	0.022	0.13	31	D2	15 Days
m,p-Xylene	108-38-3/ 106-42-3	106	31.15	5.0	0.022	0.22	50	D2	15 Days
Styrene	100-42-5	104	31.88	5.0	0.021	0.021	5.0	D2, M	15 Days
N-Nonane	111-84-2	128	31.90	5.0	0.026	18	3400	D2	15 Days
1,1,2,2-Tetrachloroethane	79-34-5	166	32.72	5.0	0.034	0.034	5.0	D2, M	15 Days
o-Xylene	95-47-6	106	31.98	5.0	0.022	0.022	5.0	D2, M	15 Days
N-Decane	124-18-5	142	34.97	5.0	0.029	24	4200	D2	15 Days
1,2,4-Trimethylbenzene	95-63-6	120	35.15	5.0	0.025	0.025	5.0	D2, M	15 Days
Ethanol	64-17-5	46	14.76	5.0	0.009	1.3	700	D2	15 Days
Acetonitrile	75-05-8	41	16.03	5.0	0.008	0.45	5.0	D2, M	15 Days
Acetone	67-64-1	58	16.11	5.0	0.012	2.8	1200	D2, B	15 Days
Furan	110-00-9	68	16.41	5.0	0.014	0.014	5.0	D2, M	15 Days
2-Propanol	67-63-0	60	16.94	5.0	0.012	0.012	5.0	D2, M	15 Days
1-Propanol	71-23-8	60	19.35	5.0	0.012	0.20	80	D2	15 Days
Propanenitrile	107-12-0	55	19.95	5.0	0.011	0.63	280	D2	15 Days
Butanal	123-72-8	72	20.54	5.0	0.015	0.91	310	D2	15 Days
2-Butanone	78-93-3	72	20.73	5.0	0.015	0.71	240	D2	15 Days
Tetrahydrofuran	109-99-9	72	22.09	5.0	0.015	0.015	5.0	D2, M	15 Days
1-Butanol	71-36-3	74	23.55	5.0	0.015	2.7	890	D2	15 Days
Butanenitrile	109-74-0	69	23.77	5.0	0.014	1.4	490	D2	15 Days
2-Pentanone	107-87-9	86	24.37	5.0	0.018	0.67	190	D2	15 Days
1,4-Dioxane	123-91-1	88	25.23	5.0	0.018	0.018	5.0	D2, M	15 Days
4-Methyl-2-Pentanone	108-10-1	100	26.38	5.0	0.020	0.02	5.0	D2, M	15 Days
2-Hexanone	591-78-6	100	28.13	5.0	0.020	3.5	860	D2	15 Days
3-Heptanone	106-35-4	114	31.43	5.0	0.023	84	18000	D3	15 Days
2-Heptanone	110-43-3	114	34.56	5.0	0.023	20	4300	D2	15 Days
Cyclohexanone	108-94-1	98	31.90	5.0	0.020	0.02	5.0	D2, M	15 Days
2-Octanone	111-13-7	128	34.70	5.0	0.026	1.5	280	D2	15 Days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)
² Data Flags:
B: Target analyte was detected in laboratory blank
D: Target analyte reported is the result of primary dilution
D2: Target analyte reported is the result of a secondary dilution
D3: Target analyte reported is the result of a tertiary (or higher) dilution
F: Target analyte was found in field blank
M: Target analyte was absent (not detected) in sample
Q: Target analyte was detected, but at concentrations less than VPRQL

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Phase II C-Tank Farm Ambient Air Target Analyte Concentrations for SUMMA Analyses				Sample Number		VSAMB-201-S017				VSAMB-205-S014			
				Analysis Date		3/23/99				3/23/99			
				Analysis Time		2:22 PM				3:25 PM			
				Primary Dilution File ID		19032307.D				19032308.D			
				Sample Collection Location		Ambient at Stack				Ambient at Fresh Air (FA) Truck			
Target Analyte Name	CAS #	Mol Wt	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Freon 12	75-71-8	120	7.86	5.0	0.025	0.025	5.0	M	16 days	0.025	5.0	M	16 days
Methyl chloride	74-87-3	50	9.44	5.0	0.010	0.010	5.0	M	16 days	0.010	5.0	M	16 days
N-Butane	106-97-8	58	11.51	5.0	0.012	0.012	5.0	M	16 days	0.012	5.0	M	16 days
Ethyl Chloride	75-00-3	64	13.78	5.0	0.013	0.013	5.0	M	16 days	0.013	5.0	M	16 days
Freon 11	75-69-4	136	15.66	5.0	0.028	0.028	5.0	M	16 days	0.028	5.0	M	16 days
N-Pentane	109-66-0	72	16.36	5.0	0.015	0.015	5.0	M	16 days	0.015	5.0	M	16 days
Dichloromethane	75-09-2	84	18.04	5.0	0.017	0.017	5.0	M	16 days	0.017	5.0	M	16 days
2-Methyl-Pentane	107-83-5	86	19.48	5.0	0.018	0.018	5.0	M	16 days	0.018	5.0	M	16 days
1-Hexene	592-41-6	84	20.48	5.0	0.017	0.017	5.0	M	16 days	0.017	5.0	M	16 days
N-Hexane	110-54-3	86	20.85	5.0	0.018	0.018	5.0	M	16 days	0.018	5.0	M	16 days
Chloroform	67-66-3	118	21.66	5.0	0.024	0.024	5.0	M	16 days	0.024	5.0	M	16 days
Benzene	71-43-2	78	23.48	5.0	0.016	0.016	5.0	M	16 days	0.016	5.0	M	16 days
Carbon Tetrachloride	56-23-5	152	23.53	5.0	0.031	0.031	5.0	M	16 days	0.031	5.0	M	16 days
3-Methyl-Hexane	589-34-4	100	23.96	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	16 days
N-Heptane	142-82-5	100	24.89	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	16 days
Toluene	108-88-3	92	27.54	5.0	0.019	0.019	5.0	M	16 days	0.019	5.0	M	16 days
N-Octane	111-65-9	114	28.56	5.0	0.023	0.023	5.0	M	16 days	0.023	5.0	M	16 days
Tetrachloroethylene	127-18-4	164	29.15	5.0	0.034	0.034	5.0	M	16 days	0.034	5.0	M	16 days
Chlorobenzene	108-90-7	112	30.43	5.0	0.023	0.023	5.0	M	16 days	0.023	5.0	M	16 days
Ethylbenzene	100-41-4	106	30.89	5.0	0.022	0.022	5.0	M	16 days	0.022	5.0	M	16 days
m,p-Xylene	108-38-3/106-42-3	106	31.15	5.0	0.022	0.022	5.0	M	16 days	0.022	5.0	M	16 days
Styrene	100-42-5	104	31.88	5.0	0.021	0.021	5.0	M	16 days	0.021	5.0	M	16 days
N-Nonane	111-84-2	128	31.90	5.0	0.026	0.026	5.0	M	16 days	0.026	5.0	M	16 days
1,1,2,2-Tetrachloroethane	79-34-5	166	32.72	5.0	0.034	0.034	5.0	M	16 days	0.034	5.0	M	16 days
o-Xylene	95-47-6	106	31.98	5.0	0.022	0.022	5.0	M	16 days	0.022	5.0	M	16 days
N-Decane	124-18-5	142	34.97	5.0	0.029	0.029	5.0	M	16 days	0.029	5.0	M	16 days
1,2,4-Trimethylbenzene	95-63-6	120	35.15	5.0	0.025	0.025	5.0	M	16 days	0.025	5.0	M	16 days
Ethanol	64-17-5	46	14.76	5.0	0.009	0.009	5.0	Q	16 days	0.009	5.0	Q	16 days
Acetonitrile	75-05-8	41	16.03	5.0	0.008	0.008	5.0	M	16 days	0.008	5.0	M	16 days
Acetone	67-64-1	58	16.11	5.0	0.012	0.018	7.7		16 days	0.013	5.5		16 days
Furan	110-00-9	68	16.41	5.0	0.014	0.014	5.0	M	16 days	0.014	5.0	M	16 days
2-Propanol	67-63-0	60	16.94	5.0	0.012	0.012	5.0	M	16 days	0.012	5.0	M	16 days
1-Propanol	71-23-8	60	19.35	5.0	0.012	0.012	5.0	M	16 days	0.012	5.0	M	16 days
Propanenitrile	107-12-0	55	19.95	5.0	0.011	0.011	5.0	M	16 days	0.011	5.0	M	16 days
Butanal	123-72-8	72	20.54	5.0	0.015	0.015	5.0	M	16 days	0.015	5.0	M	16 days
2-Butanone	78-93-3	72	20.73	5.0	0.015	0.015	5.0	M	16 days	0.015	5.0	M	16 days
Tetrahydrofuran	109-99-9	72	22.09	5.0	0.015	0.015	5.0	M	16 days	0.015	5.0	M	16 days
1-Butanol	71-36-3	74	23.55	5.0	0.015	0.015	5.0	M	16 days	0.015	5.0	M	16 days
Butanenitrile	109-74-0	69	23.77	5.0	0.014	0.014	5.0	M	16 days	0.014	5.0	M	16 days
2-Pentanone	107-87-9	86	24.37	5.0	0.018	0.018	5.0	M	16 days	0.018	5.0	M	16 days
1,4-Dioxane	123-91-1	88	25.23	5.0	0.018	0.018	5.0	M	16 days	0.018	5.0	M	16 days
4-Methyl-2-Pentanone	108-10-1	100	26.38	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	16 days
2-Hexanone	591-78-6	100	28.13	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	16 days
3-Heptanone	106-35-4	114	31.43	5.0	0.023	0.058	13		16 days	0.031	6.7		16 days
2-Heptanone	110-43-3	114	34.56	5.0	0.023	0.023	5.0	M	16 days	0.023	5.0	Q	16 days
Cyclohexanone	108-94-1	98	31.90	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	16 days
2-Octanone	111-13-7	128	34.70	5.0	0.026	0.026	5.0	M	16 days	0.026	5.0	M	16 days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)² Data Flags:

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of a secondary dilution

F: Target analyte was found in field blank

M: Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

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Phase II C-Tank Farm Ambient Air Target Analyte Concentrations for SUMMA Analyses				Sample Number		VSAMB-206-S046				VSAMB-207-S065			
				Analysis Date		3/23/99				3/24/99			
				Analysis Time		4:27 PM				10:47 AM			
				Primary Dilution File ID		19032309.D				19032404.D			
				Sample Collection Location		Ambient Downwind				Ambient at Stack (Peak)			
Target Analyte Name	CAS #	Mol Wt	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Freon 12	75-71-8	120	7.86	5.0	0.025	0.025	5.0	M	16 days	0.025	5.0	M	17 Days
Methyl chloride	74-87-3	50	9.44	5.0	0.010	0.010	5.0	M	16 days	0.010	5.0	M	17 Days
N-Butane	106-97-8	58	11.51	5.0	0.012	0.012	5.0	M	16 days	0.012	5.0	M	17 Days
Ethyl Chloride	75-00-3	64	13.78	5.0	0.013	0.013	5.0	M	16 days	0.013	5.0	M	17 Days
Freon 11	75-69-4	136	15.66	5.0	0.028	0.028	5.0	M	16 days	0.028	5.0	M	17 Days
N-Pentane	109-66-0	72	16.36	5.0	0.015	0.015	5.0	M	16 days	0.015	5.0	M	17 Days
Dichloromethane	75-09-2	84	18.04	5.0	0.017	0.017	5.0	M	16 days	0.017	5.0	M	17 Days
2-Methyl-Pentane	107-83-5	86	19.48	5.0	0.018	0.018	5.0	M	16 days	0.018	5.0	M	17 Days
1-Hexene	592-41-6	84	20.48	5.0	0.017	0.017	5.0	M	16 days	0.017	5.0	M	17 Days
N-Hexane	110-54-3	86	20.85	5.0	0.018	0.018	5.0	M	16 days	0.018	5.0	M	17 Days
Chloroform	67-66-3	118	21.66	5.0	0.024	0.024	5.0	M	16 days	0.024	5.0	M	17 Days
Benzene	71-43-2	78	23.48	5.0	0.016	0.016	5.0	M	16 days	0.016	5.0	M	17 Days
Carbon Tetrachloride	56-23-5	152	23.53	5.0	0.031	0.031	5.0	M	16 days	0.031	5.0	M	17 Days
3-Methyl-Hexane	589-34-4	100	23.96	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	17 Days
N-Heptane	142-82-5	100	24.89	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	17 Days
Toluene	108-88-3	92	27.54	5.0	0.019	0.019	5.0	M	16 days	0.019	5.0	M	17 Days
N-Octane	111-65-9	114	28.56	5.0	0.023	0.023	5.0	M	16 days	0.023	5.0	M	17 Days
Tetrachloroethylene	127-18-4	164	29.15	5.0	0.034	0.034	5.0	M	16 days	0.034	5.0	M	17 Days
Chlorobenzene	108-90-7	112	30.43	5.0	0.023	0.023	5.0	M	16 days	0.023	5.0	M	17 Days
Ethylbenzene	100-41-4	106	30.89	5.0	0.022	0.022	5.0	M	16 days	0.022	5.0	M	17 Days
m,p-Xylene	108-38-3												
m,p-Xylene	106-42-3	106	31.15	5.0	0.022	0.022	5.0	M	16 days	0.022	5.0	M	17 Days
Styrene	100-42-5	104	31.88	5.0	0.021	0.021	5.0	M	16 days	0.021	5.0	M	17 Days
N-Nonane	111-84-2	128	31.90	5.0	0.026	0.026	5.0	M	16 days	0.026	5.0	M	17 Days
1,1,2,2-Tetrachloroethane	79-34-5	166	32.72	5.0	0.034	0.034	5.0	M	16 days	0.034	5.0	M	17 Days
o-Xylene	95-47-6	106	31.98	5.0	0.022	0.022	5.0	M	16 days	0.022	5.0	M	17 Days
N-Decane	124-18-5	142	34.97	5.0	0.029	0.029	5.0	M	16 days	0.029	5.0	M	17 Days
1,2,4-Trimethylbenzene	95-63-6	120	35.15	5.0	0.025	0.025	5.0	M	16 days	0.025	5.0	M	17 Days
Ethanol	64-17-5	46	14.76	5.0	0.009	0.009	5.0	Q	16 days	0.009	5.0	Q	17 Days
Acetonitrile	75-05-8	41	16.03	5.0	0.008	0.008	5.0	M	16 days	0.008	5.0	M	17 Days
Acetone	67-64-1	58	16.11	5.0	0.012	0.012	5.0		16 days	0.012	5.0	Q	17 Days
Furan	110-00-9	68	16.41	5.0	0.014	0.014	5.0	M	16 days	0.014	5.0	M	17 Days
2-Propanol	67-63-0	60	16.94	5.0	0.012	0.012	5.0	M	16 days	0.012	5.0	M	17 Days
1-Propanol	71-23-8	60	19.35	5.0	0.012	0.012	5.0	M	16 days	0.012	5.0	M	17 Days
Propanenitrile	107-12-0	55	19.95	5.0	0.011	0.011	5.0	M	16 days	0.011	5.0	M	17 Days
Butanal	123-72-8	72	20.54	5.0	0.015	0.015	5.0	Q	16 days	0.015	5.0	Q	17 Days
2-Butanone	78-93-3	72	20.73	5.0	0.015	0.015	5.0	M	16 days	0.015	5.0	Q	17 Days
Tetrahydrofuran	109-99-9	72	22.09	5.0	0.015	0.015	5.0	M	16 days	0.015	5.0	M	17 Days
1-Butanol	71-36-3	74	23.55	5.0	0.015	0.015	5.0	M	16 days	0.015	5.0	Q	17 Days
Butanenitrile	109-74-0	69	23.77	5.0	0.014	0.014	5.0	M	16 days	0.014	5.0	M	17 Days
2-Pentanone	107-87-9	86	24.37	5.0	0.018	0.018	5.0	M	16 days	0.018	5.0	M	17 Days
1,4-Dioxane	123-91-1	88	25.23	5.0	0.018	0.018	5.0	M	16 days	0.018	5.0	M	17 Days
4-Methyl-2-Pentanone	108-10-1	100	26.38	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	17 Days
2-Hexanone	591-78-6	100	28.13	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	17 Days
3-Heptanone	106-35-4	114	31.43	5.0	0.023	0.023	5.0	Q	16 days	0.023	5.0	Q	17 Days
2-Heptanone	110-43-3	114	34.56	5.0	0.023	0.023	5.0	Q	16 days	0.023	5.0	M	17 Days
Cyclohexanone	108-94-1	98	31.90	5.0	0.020	0.020	5.0	M	16 days	0.020	5.0	M	17 Days
2-Octanone	111-13-7	128	34.70	5.0	0.026	0.026	5.0	M	16 days	0.026	5.0	M	17 Days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)

² Data Flags:

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of primary dilution

D2: Target analyte reported is the result of a secondary dilution

D3: Target analyte reported is the result of a tertiary (or higher) dilution

F: Target analyte was found in field blank

M: Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

HNF-4440 Rev. 0

Phase II C-Tank Farm Ambient Air Target Analyte Concentrations for SUMMA Analyses				Sample Number		VSAMB-211-S067				VSAMB-212-S098			
				Analysis Date		3/24/99				3/24/99			
				Analysis Time		12:02 PM				1:12 PM			
				Primary Dilution File ID		19032405.D				19032406.D			
				Sample Collection Location		Ambient at Fresh Air Truck				Ambient at FA Boundry Downwind			
Target Analyte Name	CAS #	Mol Wt	Ret Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag2	Elapsed Hold Time	(mg/m ³) ¹	ppbv	Flag2	Elapsed Hold Time
Freon 12	75-71-8	120	7.86	5.0	0.025	0.025	5.0	M	17 Days	0.025	5.0	M	17 Days
Methyl chloride	74-87-3	50	9.44	5.0	0.010	0.010	5.0	M	17 Days	0.010	5.0	M	17 Days
N-Butane	106-97-8	58	11.51	5.0	0.012	0.012	5.0	Q	17 Days	0.012	5.0	Q	17 Days
Ethyl Chloride	75-00-3	64	13.78	5.0	0.013	0.013	5.0	M	17 Days	0.013	5.0	M	17 Days
Freon 11	75-69-4	136	15.66	5.0	0.028	0.028	5.0	M	17 Days	0.028	5.0	M	17 Days
N-Pentane	109-66-0	72	16.36	5.0	0.015	0.015	5.0	M	17 Days	0.015	5.0	M	17 Days
Dichloromethane	75-09-2	84	18.04	5.0	0.017	0.017	5.0	M	17 Days	0.017	5.0	M	17 Days
2-Methyl-Pentane	107-83-5	86	19.48	5.0	0.018	0.018	5.0	M	17 Days	0.018	5.0	M	17 Days
1-Hexene	592-41-6	84	20.48	5.0	0.017	0.017	5.0	M	17 Days	0.017	5.0	M	17 Days
N-Hexane	110-54-3	86	20.85	5.0	0.018	0.018	5.0	M	17 Days	0.018	5.0	M	17 Days
Chloroform	67-66-3	118	21.66	5.0	0.024	0.024	5.0	M	17 Days	0.024	5.0	M	17 Days
Benzene	71-43-2	78	23.48	5.0	0.016	0.016	5.0	M	17 Days	0.016	5.0	M	17 Days
Carbon Tetrachloride	56-23-5	152	23.53	5.0	0.031	0.031	5.0	M	17 Days	0.031	5.0	M	17 Days
3-Methyl-Hexane	589-34-4	100	23.96	5.0	0.020	0.020	5.0	Q	17 Days	0.020	5.0	M	17 Days
N-Heptane	142-82-5	100	24.89	5.0	0.020	0.020	5.0	M	17 Days	0.020	5.0	Q	17 Days
Toluene	108-88-3	92	27.54	5.0	0.019	0.019	5.0	M	17 Days	0.019	5.0	M	17 Days
N-Octane	111-65-9	114	28.56	5.0	0.023	0.023	5.0	M	17 Days	0.023	5.0	M	17 Days
Tetrachloroethylene	127-18-4	164	29.15	5.0	0.034	0.034	5.0	M	17 Days	0.034	5.0	M	17 Days
Chlorobenzene	108-90-7	112	30.43	5.0	0.023	0.023	5.0	M	17 Days	0.023	5.0	M	17 Days
Ethylbenzene	100-41-4	106	30.89	5.0	0.022	0.022	5.0	M	17 Days	0.022	5.0	M	17 Days
m,p-Xylene	108-38-3/106-42-3	106	31.15	5.0	0.022	0.001	5.0	M	17 Days	0.022	5.0	M	17 Days
Styrene	100-42-5	104	31.88	5.0	0.021	0.021	5.0	M	17 Days	0.021	5.0	M	17 Days
N-Nonane	111-84-2	128	31.90	5.0	0.026	0.026	5.0	M	17 Days	0.026	5.0	M	17 Days
1,1,2,2-Tetrachloroethane	79-34-5	166	32.72	5.0	0.034	0.034	5.0	M	17 Days	0.034	5.0	M	17 Days
o-Xylene	95-47-6	106	31.98	5.0	0.022	0.022	5.0	M	17 Days	0.022	5.0	M	17 Days
N-Decane	124-18-5	142	34.97	5.0	0.029	0.029	5.0	M	17 Days	0.029	5.0	M	17 Days
1,2,4-Trimethylbenzene	95-63-6	120	35.15	5.0	0.025	0.025	5.0	M	17 Days	0.025	5.0	M	17 Days
Ethanol	64-17-5	46	14.76	5.0	0.009	0.009	5.0	Q	17 Days	0.009	5.0	Q	17 Days
Acetonitrile	75-05-8	41	16.03	5.0	0.008	0.008	5.0	M	17 Days	0.008	5.0	M	17 Days
Acetone	67-64-1	58	16.11	5.0	0.012	0.012	5.0	Q	17 Days	0.013	5.4		17 Days
Furan	110-00-9	68	16.41	5.0	0.014	0.014	5.0	M	17 Days	0.014	5.0	M	17 Days
2-Propanol	67-63-0	60	16.94	5.0	0.012	0.012	5.0	M	17 Days	0.012	5.0	M	17 Days
1-Propanol	71-23-8	60	19.35	5.0	0.012	0.012	5.0	Q	17 Days	0.012	5.0	M	17 Days
Propanenitrile	107-12-0	55	19.95	5.0	0.011	0.011	5.0	M	17 Days	0.011	5.0	M	17 Days
Butanal	123-72-8	72	20.54	5.0	0.015	0.015	5.0	M	17 Days	0.015	5.0	M	17 Days
2-Butanone	78-93-3	72	20.73	5.0	0.015	0.015	5.0	M	17 Days	0.015	5.0	M	17 Days
Tetrahydrofuran	109-99-9	72	22.09	5.0	0.015	0.015	5.0	M	17 Days	0.015	5.0	M	17 Days
1-Butanol	71-36-3	74	23.55	5.0	0.015	0.015	5.0	M	17 Days	0.015	5.0	Q	17 Days
Butanenitrile	109-74-0	69	23.77	5.0	0.014	0.014	5.0	M	17 Days	0.014	5.0	M	17 Days
2-Pentanone	107-87-9	86	24.37	5.0	0.018	0.018	5.0	M	17 Days	0.018	5.0	M	17 Days
1,4-Dioxane	123-91-1	88	25.23	5.0	0.018	0.018	5.0	M	17 Days	0.018	5.0	M	17 Days
4-Methyl-2-Pentanone	108-10-1	100	26.38	5.0	0.020	0.020	5.0	M	17 Days	0.020	5.0	M	17 Days
2-Hexanone	591-78-6	100	28.13	5.0	0.020	0.020	5.0	M	17 Days	0.020	5.0	M	17 Days
3-Heptanone	106-35-4	114	31.43	5.0	0.023	0.023	5.0	M	17 Days	0.023	5.0	Q	17 Days
2-Heptanone	110-43-3	114	34.56	5.0	0.023	0.023	5.0	M	17 Days	0.023	5.0	M	17 Days
Cyclohexanone	108-94-1	98	31.90	5.0	0.020	0.020	5.0	M	17 Days	0.020	5.0	M	17 Days
2-Octanone	111-13-7	128	34.70	5.0	0.026	0.026	5.0	M	17 Days	0.026	5.0	M	17 Days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)

² Data Flags:

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of a secondary dilution

F: Target analyte was found in field blank

M: Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

HNF-4440 Rev. 0

Phase II 241-AZ-702 Stack Target Analyte Concentrations for SUMMA Analyses				Sample Number		VS702-202-S058				VS702-204-S079			
				Analysis Date		3/24/99				3/24/99			
				Analysis Time		3:33 PM				5:09 PM			
				Primary Dilution File ID		19032408.D				19032409.D			
				Secondary File ID		19040805.D							
Target Analyte Name	CAS#	Mol Wt	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Freon 12	75-71-8	120	7.86	5.0	0.025	0.025	5.0	M	17 Days	0.025	5.0	M	17 Days
Methyl chloride	74-87-3	50	9.44	5.0	0.010	0.01	5.0	M	17 Days	0.01	5.0	M	17 Days
N-Butane	106-97-8	58	11.51	5.0	0.012	0.012	5.0	Q	17 Days	0.20	84		17 Days
Ethyl Chloride	75-00-3	64	13.78	5.0	0.013	0.013	5.0	M	17 Days	0.013	5.0	M	17 Days
Freon 11	75-69-4	136	15.66	5.0	0.028	0.15	27		17 Days	0.17	31		17 Days
N-Pentane	109-66-0	72	16.36	5.0	0.015	0.015	5.0	Q	17 Days	0.09	31		17 Days
Dichloromethane	75-09-2	84	18.04	5.0	0.017	0.017	5.0	M	17 Days	0.017	5.0	M	17 Days
2-Methyl-Pentane	107-83-5	86	19.48	5.0	0.018	0.018	5.0	M	17 Days	0.018	5.0	Q	17 Days
1-Hexene	592-41-6	84	20.48	5.0	0.017	0.017	5.0	M	17 Days	0.11	31		17 Days
N-Hexane	110-54-3	86	20.85	5.0	0.018	0.018	5.0	Q	17 Days	0.067	19		17 Days
Chloroform	67-66-3	118	21.66	5.0	0.024	0.024	5.0	Q	17 Days	0.024	5.0	Q	17 Days
Benzene	71-43-2	78	23.48	5.0	0.016	0.016	5.0	M	17 Days	0.016	5.0	Q	17 Days
Carbon Tetrachloride	56-23-5	152	23.53	5.0	0.031	0.031	5.0	M	17 Days	0.031	5.0	M	17 Days
3-Methyl-Hexane	589-34-4	100	23.96	5.0	0.020	0.02	5.0	M	17 Days	0.02	5.0	M	17 Days
N-Heptane	142-82-5	100	24.89	5.0	0.020	0.021	5.2		17 Days	0.16	38		17 Days
Toluene	108-88-3	92	27.54	5.0	0.019	0.019	5.0	M	17 Days	0.019	5.0	Q	17 Days
N-Octane	111-65-9	114	28.56	5.0	0.023	0.023	5.0	M	17 Days	0.023	5.0	Q	17 Days
Tetrachloroethylene	127-18-4	164	29.15	5.0	0.034	0.069	10		17 Days	0.084	13		17 Days
Chlorobenzene	108-90-7	112	30.43	5.0	0.023	0.023	5.0	M	17 Days	0.023	5.0	M	17 Days
Ethylbenzene	100-41-4	106	30.89	5.0	0.022	0.022	5.0	M	17 Days	0.022	5.0	M	17 Days
m,p-Xylene	108-38-3/106-42-3	106	31.15	5.0	0.022	0.022	5.0	M	17 Days	0.022	5.0	M	17 Days
Styrene	100-42-5	104	31.88	5.0	0.021	0.021	5.0	M	17 Days	0.021	5.0	M	17 Days
N-Nonane	111-84-2	128	31.90	5.0	0.026	0.026	5.0	M	17 Days	0.026	5.0	M	17 Days
1,1,2,2-Tetrachloroethane	79-34-5	166	32.72	5.0	0.034	0.034	5.0	M	17 Days	0.034	5.0	M	17 Days
o-Xylene	95-47-6	106	31.98	5.0	0.022	0.022	5.0	M	17 Days	0.022	5.0	M	17 Days
N-Decane	124-18-5	142	34.97	5.0	0.029	0.029	5.0	M	17 Days	0.029	5.0	M	17 Days
1,2,4-Trimethylbenzene	95-63-6	120	35.15	5.0	0.025	0.025	5.0	M	17 Days	0.025	5.0	M	17 Days
Ethanol	64-17-5	46	14.76	5.0	0.0090	0.26	140		17 Days	0.17	91		17 Days
Acetonitrile	75-05-8	41	16.03	5.0	0.0080	0.23	140		17 Days	0.11	64		17 Days
Acetone	67-64-1	58	16.11	5.0	0.012	1.4	590		17 Days	0.40	170		17 Days
Furan	110-00-9	68	16.41	5.0	0.014	0.014	5.0	M	17 Days	0.014	5.0	M	17 Days
2-Propanol	67-63-0	60	16.94	5.0	0.012	0.012	5.0	Q	17 Days	0.012	5.0	Q	17 Days
1-Propanol	71-23-8	60	19.35	5.0	0.012	0.049	20		17 Days	0.035	14		17 Days
Propanenitrile	107-12-0	55	19.95	5.0	0.011	0.10	46		17 Days	0.067	30		17 Days
Butanal	123-72-8	72	20.54	5.0	0.015	0.042	14		17 Days	0.11	38		17 Days
2-Butanone	78-93-3	72	20.73	5.0	0.015	0.13	46		17 Days	0.094	32		17 Days
Tetrahydrofuran	109-99-9	72	22.09	5.0	0.015	0.015	5.0	Q	17 Days	0.015	5.0	Q	17 Days
1-Butanol	71-36-3	74	23.55	5.0	0.015	0.17	56		17 Days	0.13	44		17 Days
Butanenitrile	109-74-0	69	23.77	5.0	0.014	0.014	5.0	M	17 Days	0.014	5.0	M	17 Days
2-Pentanone	107-87-9	86	24.37	5.0	0.018	0.018	5.0		17 Days	0.025	7.2		17 Days
1,4-Dioxane	123-91-1	88	25.23	5.0	0.018	0.018	5.0	M	17 Days	0.018	5.0	M	17 Days
4-Methyl-2-Pentanone	108-10-1	100	26.38	5.0	0.020	0.02	5.0	M	17 Days	0.02	5.0	M	17 Days
2-Hexanone	591-78-6	100	28.13	5.0	0.020	0.02	5.0	Q	17 Days	0.02	5.0	Q	17 Days
3-Heptanone	106-35-4	114	31.43	5.0	0.023	0.029	6.2		17 Days	0.05	11		17 Days
2-Heptanone	110-43-3	114	34.56	5.0	0.023	0.023	5.0	Q	17 Days	0.023	5.0	Q	17 Days
Cyclohexanone	108-94-1	98	31.90	5.0	0.020	0.02	5.0	M	17 Days	0.02	5.0	M	17 Days
2-Octanone	111-13-7	128	34.70	5.0	0.026	0.026	5.00	M	17 Days	0.026	5.0	M	17 Days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)

² Data Flags:

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of primary dilution

D2: Target analyte reported is the result of a secondary dilution

D3: Target analyte reported is the result of a tertiary (or higher) dilution

F: Target analyte was found in field blank

M Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

Phase II 296-C-006 Stack Tentatively Identified Compounds For Summa Analyses		Sample Number: VS006-202-S011 Analysis Date: 3/24/99 Data File ID: 19032407.D			
Retention Time (min)	Tentative ID	Compound Identification #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
7.13	Propene	115-07-1	42	0.11	66
8.91	Methyl nitrite	624-91-9	61	0.059	24
9.14	Cyclopropane	75-19-4	42	0.021	12
11.01	Acetaldehyde	75-07-0	44	0.010	5.8
11.22	1-Butene	106-98-9	56	0.13	59
11.65	Methyl Alcohol	67-56-1	42	0.075	44
12.61	2-Butene, (Z)-	590-18-1	56	0.016	7.0
13.19	Unknown	U00000-03*	na	0.020	na
15.95	1-Pentene	109-67-1	70	0.035	12
17.85	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-	76-13-1	186	0.062	8.2
18.26	Unknown	U00000-03*	na	0.032	na
20.10	Pentane, 3-methyl-	96-14-0	86	0.028	7.8
22.01	Nitric acid, ethyl ester	625-58-1	91	0.027	7.2
22.09	Cyclopentane, methyl-	96-37-7	84	0.12	36
24.56	1-Heptene	592-76-7	98	0.020	5.0
24.73	Butanenitrile, 2-methylene	1647-11-6	81	0.0091	2.8
25.04	3-Heptene, (Z)-	592-78-9	98	0.031	7.7
25.16	2-Heptene, (E)-	14686-13-6	98	0.070	18
25.50	2-Heptene, (Z)-	592-77-8	98	0.047	12
25.74	Nitric acid, propyl ester	627-13-4	105	0.098	23
27.63	Heptane, 3-methyl-	589-81-1	114	0.033	7.1
29.34	Unknown	U00000-03*	na	0.026	na
30.99	4-Heptanone	123-19-3	114	0.032	6.8
33.19	1,3-Diethyl-1,4-epoxybutane, isomer	UHC000-15*	128	0.028	5.3
33.32	Unknown	U00000-03*	na	0.013	na
33.62	Unknown	U00000-03*	na	0.028	na
37.82	Undecane	1120-21-4	156	0.82	130
38.87	Unknown	U00000-03*	na	0.031	na
40.46	Dodecane	112-40-3	170	0.58	84
42.41	Tridecane	629-50-5	184	0.28	37

Notes: Estimation based on chlorobenzene-d5 internal standard

TICs are reported above 5 ppbv

*Unique identification number assigned by PNNL personnel to compounds

Phase II 296-C-006 Stack Tentatively Identified Compounds For Summa Analyses		Sample Number: VS006-212-S028		Analysis Date: 3/23/99	
		Data File ID: 19032306.D			
Retention Time (min)	Tentative ID	Compound Identification #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
11.22	1-Butene	106-98-9	56	5.6	2500
25.06	3-Heptene, (Z)-	592-78-9	98	17	4100
25.16	2-Heptene, (E)-	14686-13-6	98	33	8100
25.49	2-Heptene, (Z)-	592-77-8	98	23	5800
27.03	2,3-Hexadiene, 2-methyl-	29212-09-7	96	7.0	1800
27.63	Heptane, 3-methyl-	589-81-1	114	16	3400
28.19	Heptane, 3-methylene-	1632-16-2	112	17	3600
30.98	4-Heptanone	123-19-3	114	9.5	2000
33.04	1,3-Diethyl-1,4-epoxybutane, isomer	UHC000-15*	128	6.4	1200
33.18	1,3-Diethyl-1,4-epoxybutane, isomer	UHC000-15*	128	7.4	1400
33.32	Unknown	U00000-03	na	5.8	na
34.47	Cyclotetrasiloxane, octamethyl	556-67-2	296	30	2400
35.31	Unknown	U00000-03*	na	8.8	na
37.81	Undecane	1120-21-4	156	18	2800
38.87	Unknown	U00000-03*	na	24	na
40.46	Dodecane	112-40-3	170	31	4500
42.41	Tridecane	629-50-5	184	24	3100

Notes: Estimation based on chlorobenzene-d5 internal standard
TICs are reported above 5 ppbv
*Unique identification number assigned by PNNL personnel to compounds

Phase II 296-C-006 Stack Tentatively Identified Compounds For Summa Analyses		Sample Number: VS006-222-S039		Analysis Date: 3/23/99		Data File ID: 19032304.D	
Retention Time (min)	Tentative ID	Compound Identification #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)		
11.21	1-Butene	106-98-9	56	2.3	1000		
25.06	3-Heptene, (Z)-	7642-10-6	98	37	9300		
25.19	2-Heptene, (E)-	14686-13-6	98	62	16000		
25.51	2-Heptene, (Z)-	592-77-8	98	49	12000		
27.03	2,3-Hexadiene, 2-methyl-	29212-09-7	96	21	5300		
27.64	Heptane, 3-methyl-	589-81-1	114	42	8900		
28.21	Heptane, 3-methylene-	1632-16-2	112	37	8200		
30.99	4-Heptanone	123-19-3	114	29	6300		
33.05	1,3-Diethyl-1,4-epoxybutane, isomer	UHC000-15*	128	18	3400		
33.18	1,3-Diethyl-1,4-epoxybutane, isomer	UHC000-15*	128	21	3900		
33.32	Unknown	U00000-03*	na	19	na		
33.62	Unknown	U00000-03*	na	16	na		
34.48	Cyclotetrasiloxane, octamethyl	556-67-2	296	26	2200		
35.33	Unknown	U00000-03*	na	24	na		
37.82	Undecane	1120-21-4	156	30	4700		
38.86	Unknown	U00000-03*	na	20	na		
40.46	Dodecane	112-40-3	170	44	6300		
42.41	Tridecane	629-50-5	184	31	4100		

Notes: Estimation based on chlorobenzene-d5 internal standard

TICs are reported above 5 ppbv

*Unique identification number assigned by PNNL personnel to compounds

Phase II 296-C-006 Stack Tentatively Identified Compounds For Summa Analyses		Sample Number: VS006-232-S056 Analysis Date: 3/22/99 Data File ID: 19032209.D			
Retention Time (min)	Tentative ID	Compound Identification #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
25.09	3-Heptene, (Z)-	7642-10-6	98	65	16000
25.54	2-Heptene, (Z)-	592-77-8	98	86	22000
27.05	2,3-Hexadiene, 2-methyl-	29212-09-7	96	39	10000
27.67	Heptane, 3-methyl-	589-81-1	114	72	15000
28.23	Heptane, 3-methylene-	1632-16-2	112	63	14000
31.01	4-Heptanone	123-19-3	114	51	11000
33.06	1,3-Diethyl-1,4-epoxybutane, isomer	UHC000-15*	128	30	5800
33.20	1,3-Diethyl-1,4-epoxybutane, isomer	UHC000-15*	128	35	6600
33.34	Unknown	U00000-03*	na	31	na
34.48	Cyclotetrasiloxane, octamethyl	556-67-2	296	28	2300
35.34	Unknown	U00000-03*	na	40	na
35.80	1-Hexanol, 2-ethyl-	104-76-7	130	38	7200
37.83	Undecane	1120-21-4	156	41	6400
40.47	Dodecane	112-40-3	170	55	7900
42.41	Tridecane	629-50-5	184	32	4200

Notes: Estimation based on chlorobenzene-d5 internal standard
TICs are reported above 5 ppbv
*Unique identification number assigned by PNNL personnel to compounds

HNF-4440 Rev. 0

Phase II
296-C-006 Stack
Tentatively Identified Compounds
For Summa Analyses

Sample Number: VS006-237-S071

Analysis Date: 3/22/99

Data File ID: 19032208.D

Retention Time (min)	Tentative ID	Compound ID Number	Mol Wt	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)	Comments
7.18	Propene & propane	115-07-1	42	12	6900	Co-elution
8.76	1-Propyne	74-98-6	40	0.45	270	
8.97	Methyl nitrite	74-99-7	40			No library match but same retention time as before
9.18	Cyclopropane	624-91-9	61	0.26	100	
9.88	Isobutane	75-19-4	42	1.2	700	
11.03	Acetaldehyde	75-28-5	58	0.80	340	
11.24	1-Butene	75-07-0	44	0.37	200	
12.17	E-2-Butene	106-98-9	56	31	14000	Based on retention time
12.62	Z-2-Butene	624-64-6	56	2.2	980	
12.93	1-Propene, 2-methyl-	590-18-1	56	1.9	950	Very similar to 2-butene
13.19	Unknown	115-11-7	56	4.8	2100	Based on retention time
14.04	1,2-Butadiene	U00000-03*	60	0.097	40.00	Old: MW=74
14.36	1-Butene, 2-methyl-	590-19-2	54	0.29	130	Old: C4-diene/yne
14.46	Cyclobutane	563-46-2	70	0.51	180	New
15.09	Butane, 2-methyl-	287-23-0	56	0.23	100	Old: 1,1-Dimethylcyclopropane
15.53	1,4-Pentadiene	78-78-4	72	1.5	520	
16.00	1-Pentene	591-93-5	68	0.21	77	New
16.29	1-butene, 2-methyl-	109-67-1	70	10	3700	
16.90	2-Pentene, E	563-46-2	70	2.1	730	Similar to 1,2-dimethylcyclopropane
17.21	2-Pentene, Z	627-20-3	70	2.4	840	
17.28	Ethylcyclopropane	627-20-3	70	1.5	530	
17.41	1,2-dimethyl cyclopropane	1191-96-4	70	2.0	720	
17.49	1-Pentyne	930-18-7	70	0.34	120	
17.69	1,3-pentadiene	627-19-0	68	0.34	120	Old: C5 cycloalkane/alkene
17.81	Unknown	2004-70-8	68	0.18	65	
17.92	Butane, 2,2-dimethyl-	U00000-03*	78	0.40	130	No good match; related isomer below ?
18.07	C5 diene/cycloalkane	75-83-2	86	0.098	28	Before: Unknown; good match, mass high ?
18.26	Unknown	UAE005-03*	68	0.092	33	1,3-pentadiene or ethylidene cyclopropane
18.69	C5 diene/cycloalkane	U00000-03*	76	0.35	110	Probably nitric acid methyl ester
19.04	1-Pentene, 4-methyl-	UAE005-03*	68	0.13	47	1,2-pentadiene
19.37	Cyclopentane	691-37-2	84	1.9	560	Better match than 1-ethyl-1-methyl cyclopropane
19.52	Pentane, 2-methyl-	287-92-3	84	0.55	160	Coelutes with 1-propanol
19.68	Unknown C6 Alkene/Cycloalkane	107-83-5	86	2.8	800	
19.82	Silanol, trimethyl-	UAE006-02*	84	0.24	71	Trimethyl cyclopropane
19.94	Propanenitrile	1066-40-6	90	0.45	120	
20.08	1,5-Hexadiene	107-12-0	55	0.59	260	
20.10	Pentane, 3-methyl-	592-42-7	82	0.55	160	Coelution with next
20.16	C5 diene/yne	96-14-0	86	0.67	190	Old: C6 aliphatic compound
20.93	Pentane, 3-methylene-	UAE005-04*??	86	0.22	64	Old: Unknown
21.04	3-Hexene, E	760-21-4	84	0.37	110	
		13269-52-8	84	1.3	370	

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Phase II
296-C-006 Stack
Tentatively Identified Compounds
For Summa Analyses

Sample Number: VS006-237-S071

Analysis Date: 3/22/99

Data File ID: 19032208.D

Retention Time (min)	Tentative ID	Compound ID Number	Mol Wt	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)	Comments
21.18	2-Hexene, E	4050-45-7	84	1.7	480	
21.24	Unknown C6 Alkene/Cycloalkane	UAE006-02*	84	0.29	86	4-methyl-2- pentene
21.42	C6 Cyclic alkene	UAE006-02*	82	0.32	95	3- or 4-methyl cyclopentene
21.58	3-Hexene, Z	7642-09-3	84	2.6	760	
21.72	Cyclopropane, propyl-	2415-72-7	84	1.1	320	
21.81	1-Hexyne	693-02-7	82	2.0	600	
21.87	Unknown C6 Alkene/Cycloalkane	UAE006-02*	84	0.62	180	Coelution
22.03	Nitric acid ethyl ester	625-58-1	91	0.99	270	
22.79	Unknown	U00000-03*	82	0.71	210	3-methyl-1-pentyne ?
23.04	Hexene, -methyl-, isomer		98	1.1	270	3- or 2-methyl-3-hexene
23.10	Cyclopentene, methyl-, isomer		82	0.83	250	1- or 4-methyl cyclopentene
23.27	1-Hexene, 5-methyl-	3524-73-0	98	0.52	130	
23.39	3-Hexene, 2-methyl-, E	692-24-0	98	1.6	400	
23.60	Hexane, 2-methyl-	591-76-4	100	3.5	860	
23.71	2-Hexene, 5-methyl-, E	7385-82-2	98	2.0	500	
23.86	3-Heptene, E	14686-14-7	98	5.3	1300	
24.05	2-Hexyne,	764-35-2	82	0.90	270	Coelution
24.22	2-hexene, 5-methyl, cis & trans	3404-62-4	98	1.7	430	
24.29	Cyclohexene	110-83-8	82	0.49	150	
24.49	1-Hexene, 2-methyl-	6094-02-6	98	1.6	410	
24.59	1-Heptene	592-76-7	98	27	6700	
24.75	Butanenitrile, 2-methylene-	1647-11-6	81	2.2	670	
25.10	3-Heptene, Z	592-78-9	98	61	15000	
25.23	2-Heptene, E	14686-13-6	98	100	25000	
25.55	2-Heptene, Z	592-77-8	98	82	20000	
25.63	2,4-hexadiene, 4-methyl-	1116-90-1	96	0.78	200	
25.80	Cyclopropane, butyl-	930-57-4	98	21	5200	
25.96	Methylcyclohexane	108-87-2	98	2.1	520	
26.17	Hexane, 2,4-dimethyl-	589-43-5	114	1.1	250	
26.34	Cyclopentane, ethyl-	1640-89-7	98	2.0	510	
26.56	3,4-Heptadiene	2454-31-1	96	1.7	420	3,4-Heptadiene or 2,4-dimethyl-1,3-pentadiene
26.68	Unknown C8 Alkene/Cycloalkane	UAE008-02*	112	3.2	700	
26.79	1-Heptene, 3-methyl-	4810-09-7	112	3.5	760	
26.88	Unknown	U00000-03*	112	0.68	150	No good match; octene ?
27.04	2,3-Hexadiene, 2-methyl-	29212-09-7	96	39	9800	
27.67	Heptane, 3-methyl-	589-81-1	114	68	1500	
27.77	Octene, isomer		112	5.2	1100	2-octene
27.82	2-Heptyne	1119-65-9	96	12	3000	
27.99	3-Hexanone	589-38-8	100	0.69	170	
28.24	Heptane, 3-methylene-	1632-16-2	112	60	13000	
28.32	3-heptene, 5-methyl-,	50422-80-5	112	12	2600	
28.46	4-Octene, isomer	14850-23-8	112	6.1	1300	
28.58	C8-Alkene	UAE008-01*	112	60	13000	Coelution
28.62	Octene, isomer		112	13	2800	New
28.66	Octene, isomer		112	3.3	720	New
28.78	Octene, isomer		112	10	2300	
28.94	2-Heptene, 3-methyl-	3404-75-9	112	23	5000	

Phase II
296-C-006 Stack
Tentatively Identified Compounds
For Summa Analyses

Sample Number: VS006-237-S071
 Analysis Date: 3/22/99
 Data File ID: 19032208.D

Retention Time (min)	Tentative ID	Compound ID Number	Mol Wt	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)	Comments
29.05	Octene, isomer		112	11	2400	2-octene, E
29.08	Octene, isomer		112	5.2	1100	2-octene, Z
29.52	Cyclobutane, butyl-	13152-44-8	112	2.9	630	New
29.76	3-Hexanone, 5-methyl-	623-56-3	114	2.1	460	
29.87	Cyclopentane, propyl-	2040-96-2	114	1.1	240	New
30.00	Cyclohexane, ethyl-	1678-91-7	112	2.1	460	
30.13	Cyclohexane, 1,1,3-trimethyl-	3073-66-3	126	2.3	450	
30.54	C9 aliphatic hydrocarbon	U00009-01*	126	0.65	130	
30.77	C9 aliphatic hydrocarbon	U00009-01*	128	2.2	420	Nonane isomer
30.92	Unknown	U00000-03*	113	3.1	670	
31.02	4-Heptanone	123-19-3	114	46	9800	
31.22	Hexanenitrile	628-73-9	97	2.2	560	
31.32	n-Butyl ether	142-96-1	130	10	2000	
31.73	3-Heptanol	589-82-2	116	13	2800	
31.83	Unknown	U00000-03*	126	2.0	380	Nonene isomer ?
32.07	2-Nonene(E)	6434-78-2	126	0.84	160	New
32.15	Unknown	U00000-03*	126	1.9	360	No good match
32.27	Unknown	U00000-03*	124	2.8	550	Poorly resolved (mixture)
32.53	Unknown C9 Alkene/Cycloalkane	UAE009-02*	126	1.6	310	
32.74	Unknown	U00000-03*	128	11	2200	
32.85	4-Heptanone, 3-methyl-	15726-15-5	128	2.5	470	
33.08	1,3-Diethyl-1,4-epoxybutane, isomer	UHC000-14*	128	28	5300	
33.21	1,3-Diethyl-1,4-epoxybutane, isomer	UHC000-14*	128	32	6200	
33.35	Unknown	U00000-03*	128	30	5600	No good match
33.65	Unknown	U00000-03*	126	38	7500	
33.94	C10 aliphatic hydrocarbon-	U00010-01*	142	2.7	460	
34.19	4-Octanone	589-63-9	128	8.8	1700	
34.39	Heptanenitrile	629-08-3	111	8.2	1800	
34.53	3-Octanone	106-68-3	128	3.1	600	
34.7	2-Octanone	111-13-7	140	4.1	710	
34.72	1-Decene	872-05-9	140	6.0	1000	New, coelution
34.82	Cyclohexane, 1-methyl-3-propyl-	4291-80-9	140	2.0	360	
35.13	Unknown	U00000-03*	140	2.4	420	
35.35	Unknown	U00000-03*	140	41	7200	
35.68	Decane, 4-methyl-	2847-72-5	156	7.8	1200	
35.80	1-Hexanol, 2-ethyl-	104-76-7	130	56	10000	
36.31	Cyclohexane, (2-methylpropyl)-	1678-98-4	140	2.8	490	
36.42	Unknown	U00000-03*	154	2.8	450	
37.05	Decane, 3-methyl-	13151-34-3	156	1.4	210	
37.36	Octanenitrile	124-12-9	125	12	2300	
37.61	Undecene, 1- or 3- isomer	821-97-6	154	5.9	940	
37.83	Undecane	1120-21-4	156	40	6300	
37.94	Unknown	U00000-03*	154	2.1	340	ORNL: C11 alkene
38.14	Unknown	U00000-03*	154	13	2000	Coelution
38.62	3,7-dimethyl decane	17312-54-8	170	2.0	290	
38.76	Unknown	U00000-03*	139	11	1900	ORNL: nonanenitrile
38.87	Unknown	U00000-03*	152	21	3300	Old: trans-Decalin, 2-methyl-
39.18	C5 substituted Cyclohexane	UCY011-01*	154	3.1	500	Poor match

Phase II
296-C-006 Stack
Tentatively Identified Compounds
For Summa Analyses

Sample Number: VS006-237-S071
 Analysis Date: 3/22/99
 Data File ID: 19032208.D

Retention Time (min)	Tentative ID	Compound ID Number	Mol Wt	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)	Comments
39.28	Undecane, 6-methyl-	17302-33-9	170	1.7	250	
39.38	Naphthalene, decahydro, 2-methyl	2958-76-1	152	2.2	350	
39.55	Undecane, 2-methyl-	7045-71-8	170	2.3	330	
39.73	Undecane, 3-methyl-	1002-43-3	170	1.1	150	
40.11	Nonanenitrile	2243-27-8	139	4.1	730	New
40.27	Dodecene, isomer		168	3.8	550	
40.36	Naphthalene, decahydro, 2,3-dimethyl-	1008-80-6	166	15	2200	Poor library match
40.48	Dodecane	112-40-3	170	58	8400	
40.70	Naphthalene, decahydro-, 2,6-dimethyl-	1618-22-0	166	0.90	130	
40.81	Dodecane, 6-methyl-	6044-71-9	184	5.9	780	
41.51	Cyclohexane, 2-butyl-1,1,3-trimethyl-	54676-39-0	182	1.4	190	
41.63	Cyclohexane, (4-methylpentyl)-	61142-20-9	168	0.83	120	
41.80	Undecane, 2,10-dimethyl-	17301-27-8	184	0.54	72	
41.98	Decane, 2,6,7-trimethyl-	62108-25-2	184	1.6	210	
42.25	Decanenitrile	1975-78-6	153	2.3	360	New
42.25	Tridecene, 3,5, or 6- isomer		182	5.8	770	
42.43	Tridecane	629-50-5	184	37	4900	
42.71	Unknown	U00000-03*	198	0.22	27	Old: Tridecane, 6-methyl-; poorly resolved
43.53	Unknown	U00000-03*	184	1.5	200	Old: 2,6,10- or 2,6,11- trimethyl dodecane
43.80	Tetradecane	629-59-4	198	3.8	470	

Comments: Quantitation is based on the chlorobenzene-d5 internal standard

The extended TIC list reports nontarget compounds at estimated concentrations of 5 ppbv or higher
 Identification is generally based on data from C106, phase 1 sluicing except were noted ("old")

*Unique identification number assigned by PNNL personnel to compounds
 without CAS#. Necessary for Tank Vapor Database purposes.

Phase II C-Tank Farm Ambient Air Tentatively Identified Compounds For Summa Analyses			Sample Number: VSAMB-201-S017 Analysis Date: 3/23/99 Data File ID: 19032307.D		
Retention Time (min)	Tentative ID	CAS #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
35.31	Unknown	U00000-03	na	0.019	na
38.86	Unknown	U00000-03	na	0.081	na
40.45	Dodecane	112-40-3	170	0.086	12
42.40	Tridecane	629-50-5	184	0.17	23

Notes: Estimation based on chlorobenzene-d5 internal standard
TICs are reported above 5 ppbv

Phase II C-Tank Farm Ambient Air Tentatively Identified Compounds For Summa Analyses		Sample Number: VSAMB-205-S044 Analysis Date: 3/23/99 Data File ID: 19032308.D			
Retention Time (min)	Tentative ID	CAS #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
35.80	1-Hexanol, 2-ethyl-	104-76-7	130	0.070	13
38.86	Unknown	U00000-03	na	0.054	na
42.41	Tridecane	629-50-5	184	0.15	20

Notes: Estimation based on chlorobenzene-d5 internal standard
TICs are reported above 5 ppbv

Phase II C-Tank Farm Ambient Air Tentatively Identified Compounds For Summa Analyses		Sample Number: VSAMB-207-S065 Analysis Date: 3/24/99 Data File ID: 19032404.D			
Retention Time (min)	Tentative ID	CAS #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
38.86	Unknown	U00000-03	na	0.081	na
42.41	Tridecane	629-50-5	184	0.039	5.2
42.63	Unknown	U00000-03	na	0.027	na

Notes: Estimation based on chlorobenzene-d5 internal standard
TICs are reported above 5 ppbv

Phase II C-Tank Farm Ambient Air Tentatively Identified Compounds For Summa Analyses		Sample Number: VSAMB-206-S046 Analysis Date: 3/23/99 Data File ID: 19032309.D			
Retention Time (min)	Tentative ID	CAS #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
35.80	1-Hexanol, 2-ethyl-	104-76-7	130	0.031	5.9
38.86	Unknown	U00000-03	na	0.039	na
42.41	Tridecane	629-50-5	184	0.12	15

Notes: Estimation based on chlorobenzene-d5 internal standard
TICs are reported above 5 ppbv

Phase II C-Tank Farm Ambient Air Tentatively Identified Compounds For Summa Analyses		Sample Number: VSAMB-211-S067 Analysis Date: 3/24/99 Data File ID: 19032405.D			
Retention Time (min)	Tentative ID	CAS #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
38.86	Unknown	U00000-03	na	0.080	na

Notes: Estimation based on chlorobenzene-d5 internal standard
 TICs are reported above 5 ppbv

Phase II C-Tank Farm Ambient Air Tentatively Identified Compounds For Summa Analyses		Sample Number: VSAMB-212-S098 Analysis Date: 3/24/99 Data File ID: 19032406.D			
Retention Time (min)	Tentative ID	CAS #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
38.87	Unknown	U00000-03	na	0.077	na

Notes: Estimation based on chlorobenzene-d5 internal standard
TICs are reported above 5 ppbv

Phase II 296-C-006 Stack Tentatively Identified Compounds For Summa Analyses		Sample Number: VS702-202-S058 Analysis Date: 3/24/99 Data File ID: 19032408.D			
Retention Time (min)	Tentative ID	CAS #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
10.95	Acetaldehyde	75-07-0	44	0.029	16
18.26	Unknown	U00000-03	na	0.018	na
19.95	Propanenitrile	107-12-0	55	0.028	12
22.01	Nitric acid, ethyl ester	625-58-1	91	0.026	7.0
25.75	Unknown	U00000-03	na	0.025	na
27.63	Pentanenitrile	110-59-8	83	0.065	19
38.87	Unknown	U00000-03	na	0.014	na

Notes: Estimation based on chlorobenzene-d5 internal standard
TICs are reported above 5 ppbv

Phase II 296-C-006 Stack Tentatively Identified Compounds For Summa Analyses		Sample Number: VS702-204-S079 Analysis Date: 3/24/99 Data File ID: 19032409.D			
Retention Time (min)	Tentative ID	Compound Identification #	Mol Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
7.19	Propene	115-07-1	42	0.15	85
9.16	Cyclopropane	75-19-4	42	0.016	10
10.94	Acetaldehyde	75-07-0	44	0.089	49
11.25	1-Butene	106-98-9	56	0.41	180
12.18	2-Butene, (E)-	624-64-6	56	0.021	9.0
12.63	2-Butene, (Z)-	590-18-1	56	0.029	13
12.90	1-Propene, 2-methyl-	115-11-7	56	0.055	24
15.10	Butane, 2-methyl-	78-78-4	72	0.015	5.1
15.97	1-Pentene	109-67-1	70	0.085	30
16.21	Propanal	123-38-6	58	0.017	7.1
16.87	2-Pentene, (E)-	627-20-3	70	0.018	6.3
17.29	Cyclopropane, ethyl-	1191-96-4	70	0.026	9.0
18.26	Unknown	U00000-03*	na	0.045	na
19.02	1-Pentene, 4-methyl	691-37-2	84	0.012	5.0
22.02	Nitric acid, ethyl ester	625-58-1	91	0.049	13
24.56	1-Heptene	592-76-7	98	0.043	11
24.77	Pentanal	110-62-3	86	0.024	6.9
25.05	3-Heptene	592-78-9	98	0.15	38
25.17	2-Heptene, (E)-	14686-13-6	98	0.23	58
25.50	2-Heptene, (Z)-	592-77-8	98	0.17	43
25.75	Cyclopropane, butyl-	930-57-4	98	0.073	18
27.04	2,3-Hexadiene, 2-methyl-	29212-09-7	96	0.078	20
27.63	Heptane, 3-methyl-	589-81-1	114	0.13	28
27.80	2-Heptyne	1119-65-9	96	0.03	7.8
28.20	Heptane, 3-methylene-	1632-16-2	112	0.027	5.9
30.99	4-Heptanone	123-19-3	114	0.034	7.4
38.87	Unknown	U00000-03*	na	0.01	na

Notes: Estimation based on chlorobenzene-d5 internal standard
TICs are reported above 5 ppbv
*Unique identification number assigned by PNNL personnel to compounds

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	Sample Number		VS702-204-S079	VS702-204-S079		
C-106	Analysis Date		3/24/99	4/8/99		
Duplicate Analysis	Analysis Time		17:09	14:30		
	File ID		19032409.D	19040807.D		
Target Analyte Name	VPRQL (ppbv)	VPRQL (mg/m ³)	(ppbv)	(ppbv)	RPD (%)	Comments
Freon 12	5.0	0.025	5.0	5.0		
Methyl chloride	5.0	0.010	5.0	5.0		
N-Butane	5.0	0.012	84	88	5.0	
Ethyl Chloride	5.0	0.013	5.0	5.0		
Freon 11	5.0	0.028	31	31	0.4	
N-Pentane	5.0	0.015	31	29	6.0	
Dichloromethane	5.0	0.017	5.0	5.0		
2-Methyl-Pentane	5.0	0.018	5.0	5.0		
1-Hexene	5.0	0.017	31	31	0.2	
N-Hexane	5.0	0.018	19	19	1.6	
Chloroform	5.0	0.024	5.0	5.0		
Benzene	5.0	0.016	5.0	5.0		
Carbon Tetrachloride	5.0	0.031	5.0	5.0		
3-Methyl-Hexane	5.0	0.020	5.0	5.0		
N-Heptane	5.0	0.020	38	38	1.3	
Toluene	5.0	0.019	5	5.0		
N-Octane	5.0	0.023	5	5.0		
Tetrachloroethylene	5.0	0.034	13	12	4.7	
Chlorobenzene	5.0	0.023	5.0	5.0		
Ethylbenzene	5.0	0.022	5.0	5.0		
m,p-Xylene	5.0	0.022	5.0	5.0		
Styrene	5.0	0.021	5.0	5.0		
N-Nonane	5.0	0.026	5.0	5.0		
1,1,2,2-Tetrachloroethane	5.0	0.034	5.0	5.0		
o-Xylene	5.0	0.022	5.0	5.0		
N-Decane	5.0	0.029	5.0	5.0		
1,2,4-Trimethylbenzene	5.0	0.025	5.0	5.0		
Ethanol	5.0	0.0090	91	98	7.4	
Acetonitrile	5.0	0.0080	64	66	3.1	
Acetone	5.0	0.012	165	170	2.7	
Furan	5.0	0.014	5.0	5.0		
2-Propanol	5.0	0.012	5.0	5.0		
1-Propanol	5.0	0.012	14	16	11.2	
Propanenitrile	5.0	0.011	30	31	4.6	
Butanal	5.0	0.015	38	39	2.0	
2-Butanone	5.0	0.015	32	36	11.8	
Tetrahydrofuran	5.0	0.015	5.0	5.0		
1-Butanol	5.0	0.015	44	46	5.5	
Butanenitrile	5.0	0.014	22	24	8.7	
2-Pentanone	5.0	0.018	7.1	8.4	16.8	
1,4-Dioxane	5.0	0.018	5.0	5.0		
4-Methyl-2-Pentanone	5.0	0.020	5.0	5.0		
2-Hexanone	5.0	0.020	5.0	5.0		
3-Heptanone	5.0	0.023	11	10	9.7	
2-Heptanone	5.0	0.023	5.0	5.0		
Cyclohexanone	5.0	0.020	5.0	5.0		
2-Octanone	5.0	0.026	5.0	5.0		

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2.2.3 Quality Control Summary Tables

This section contains 4 tables that summarize the quality control parameters used during analysis:

- The Laboratory Blank Summary lists the target compounds above 2.5 ppbv and TICs found in analyzing a method blank.
- A continuing calibration verification standard (CCVS) is analyzed before the analysis of the vapor samples to assure valid calibration. The Continuing Calibration Reports have the continuing calibration response factors (CCRF) for all target compounds and the percent deviation from the CCRFs calculated during initial calibration.
- The Internal Standards Area Counts Table lists the area counts of the 2 internal standards added during the analysis and % recoveries.
- Two laboratory control samples (LCSs) are analyzed with each batch of vapor samples to measure accuracy and precision. This table lists % recovery and %RPD for the 6 compounds in the LCS.

Laboratory Blank Summary

Laboratory identification number 19032203.d
 Analysis date and time 3/22/99 12:21
 Associated Vapor sample VS006-237-S071-2, VS006-232-S056-2

Target analyte	CAS	Retention Time	Concentration (ppbv)	Concentration (mg/m ³)
Acetone	67-64-1	16.25	4.8	0.011

TIC Compound Name	CAS	Retention Time (min)	Estimated Concentration (ppbv)	Estimated Concentration (mg/m ³)
Ethanol, 2-butoxy-	111-76-2	32.23	6	0.027

Laboratory identification number 19032303.d
 Analysis date and time 3/23/99 10:10
 Associated Vapor sample VS006-222-S039-2, VS006-232-S056-2, VS006-212-S028-2, VSAMB-201-S017, VSAMB-206-S046, VSAMB-205-S044

Target analyte	CAS	Retention Time	Concentration (ppbv)	Concentration (mg/m ³)
Butanal	123-72-8	20.56	3.6	0.011
1-Butanol	71-36-3	23.5	3.6	0.011
3-Heptanone	106-35-4	31.42	19	0.088

TIC Compound Name	CAS	Retention Time (min)	Estimated Concentration (ppbv)	Estimated Concentration (mg/m ³)
Pyridine	110-86-1	26.6	8.6	0.0279
4-Heptanone	123-19-3	30.97	9.2	0.0431
3-Heptanol	589-82-2	31.7	12	0.0583
Ethanol, 2-butoxy-	111-76-2	32.23	5.8	0.0279
Unknown		35.34	15	0.0760
1-Hexanol, 2-ethyl-	104-76-7	35.78	46	0.246
Tridecane	629-50-5	42.4	5.0	0.0380

Laboratory identification number 19032403.D.d
 Analysis date and time 3/24/99 9:45
 Associated Vapor sample VSAMB-207-S065, VSAMB-211-S067, VSAMB-212-S098, VS006-202-S011, VS702-202-S058, VS702-204-S079

Target analyte	CAS	Retention Time	Concentration (ppbv)	Concentration (mg/m ³)
3-Heptanone	106-35-4	31.43	4.9	0.023

TIC Compound Name	CAS	Retention Time (min)	Estimated Concentration (ppbv)	Estimated Concentration (mg/m ³)
Unknown		35.34	15	0.076
1-Hexanol, 2-ethyl-	104-76-7	35.78	46	0.25

Notes:

TIC estimation based on chlorobenzene-d5 internal standard

Target compounds are reported above 2.5 ppbv (0.5 of the VPRQL of 5 ppbv) except for acetone, methylene chloride, and 2-butanone (12.5 ppbv or 5 times VPRQL)

TICs are reported above 5 ppbv (the VPRQL of the target compounds)

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Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19032201.D
 Acq On : 22 Mar 99 10:04 am
 Sample : NP-CCVS @ 42 PPBV
 Misc : 50 TORR

Vial: 1
 Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Last Update : Mon Mar 22 09:40:09 1999
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	FLUOROBENZENE	1.000	1.000	0.0	114	0.02
2	FREON 12	2.095	1.955	6.7	105	-0.16
3	METHYL CHLORIDE	0.762	0.710	6.9	104	-0.14
4	N-BUTANE	1.415	1.281	9.4	102	-0.12
5	ETHYL CHLORIDE	0.404	0.382	5.4	103	-0.11
6	FREON 11	1.779	1.694	4.8	103	-0.10
7	N-PENTANE	0.117	0.112	4.7	104	-0.11
8	DICHLOROMETHANE	0.894	0.843	5.8	107	-0.10
9	2-METHYL-PENTANE	1.581	1.558	1.4	111	-0.10
10	1-HEXENE	0.583	0.564	3.3	109	-0.10
11	N-HEXANE	0.807	0.757	6.2	106	-0.11
12	CHLOROFORM	1.061	1.009	4.9	108	-0.10
13	BENZENE	1.947	2.096	-7.7	202#	-0.11
14	CARBON TETRACHLORIDE	1.165	1.234	-5.9	155#	-0.12
15	3-METHYL-HEXANE	1.459	1.392	4.6	113	-0.12
16	N-HEPTANE	0.681	0.639	6.1	108	-0.11
17	TOLUENE	2.896	2.770	4.3	106	-0.10
18	N-OCTANE	0.721	0.674	6.5	106	-0.10
19	TETRACHLOROETHYLENE	1.381	1.338	3.1	106	-0.11
20	CHLOROBENZENE-D5	1.000	1.000	0.0	107	-0.10
21	CHLOROBENZENE	3.306	3.258	1.4	106	-0.10
22	ETHYLBENZENE	4.480	4.376	2.3	105	-0.10
23	M,P-XYLENE	3.399	3.274	3.7	106	-0.10
24	STYRENE	2.991	2.953	1.3	105	-0.11
25	N-NONANE	2.882	2.556	11.3	105	-0.10
26	1,1,2,2-TETRACHLOROETHANE	1.172	1.344	-14.7	111	-0.11
27	O-XYLENE	3.657	3.567	2.5	105	-0.11
28	N-DECANE	2.950	2.914	1.2	107	-0.10
29	1,2,4-TRIMETHYLBENZENE	4.473	4.434	0.9	107	-0.11

(#) = Out of Range
 19032005.D VAP_NP8.M

SPCC's out = 0 CCC's out = 0
 Mon Mar 22 11:03:23 1999

HNF-4440 Rev. 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19032202.D
 Acq On : 22 Mar 99 11:14 am
 Sample : P-CCVS @ 42 PPBV
 Misc : 50 TORR

Vial: 1
 Operator: M. STAUFFER
 Inst : 5972 - MS
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	FLUOROBENZENE	1.000	1.000	0.0	100	0.03
2	ETHANOL	0.332	0.325	2.1	100	-0.39
3	ACETONITRILE	0.348	0.416	-19.4	95	-0.25
4	ACETONE	0.405	0.412	-1.6	107	-0.26
5	FURAN	0.712	0.806	-13.3	105	-0.21
6	2-PROPANOL	1.330	1.456	-9.5	107	-0.34
7	1-PROPANOL	1.133	1.249	-10.3	109	-0.29
8	PROPANENITRILE	0.450	0.480	-6.7	105	-0.23
9	BUTANAL	0.189	0.185	2.3	106	-0.21
10	2-BUTANONE	0.278	0.275	1.0	100	-0.21
11	TETRAHYDROFURAN	0.327	0.336	-2.7	99	-0.20
12	1-BUTANOL	0.634	0.637	-0.5	99	-0.23
13	BUTANENITRILE	1.550	1.524	1.7	98	-0.19
14	2-PENTANONE	2.852	2.913	-2.1	99	-0.19
15	1,4-DIOXANE	0.639	0.657	-2.9	101	-0.19
16	4-METHYL-2-PENTANONE	0.353	0.335	5.3	93	-0.19
17	CHLOROBENZENE-D5	1.000	1.000	0.0	98	-0.13
18	2-HEXANONE	1.829	1.886	-3.1	95	-0.18
19	3-HEPTANONE	0.643	0.618	3.9	89	-0.16
20	2-HEPTANONE	3.541	3.470	2.0	91	-0.16
21	CYCLOHEXANONE	1.151	1.214	-5.5	97	-0.16
22	2-OCTANONE	5.100	5.197	-1.9	92	-0.15

(#) = Out of Range
 19031905.D VAP_P8.M

SPCC's out = 0 CCC's out = 0
 Mon Mar 22 12:08:47 1999

HNF-4440 Rev. 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19032301.D
 Acq On : 23 Mar 99 7:58 am
 Sample : P-CCVS @ 42 PPBV
 Misc : 50 TORR

Vial: 1
 Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	FLUOROBENZENE	1.000	1.000	0.0	120	0.04
2	ETHANOL	0.332	0.363	-9.5	135	-0.38
3	ACETONITRILE	0.348	0.451	-29.5	124	-0.24
4	ACETONE	0.405	0.435	-7.3	135	-0.25
5	FURAN	0.712	0.855	-20.1	134	-0.19
6	2-PROPANOL	1.330	1.521	-14.3	135	-0.32
7	1-PROPANOL	1.133	1.389	-22.6	146	-0.27
8	PROPANENITRILE	0.450	0.542	-20.5	143	-0.21
9	BUTANAL	0.189	0.205	-8.6	142	-0.19
10	2-BUTANONE	0.278	0.299	-7.8	131	-0.20
11	TETRAHYDROFURAN	0.327	0.230	29.9	81	-0.19
12	1-BUTANOL	0.634	0.733	-15.7	136	-0.21
13	BUTANENITRILE	1.550	1.624	-4.8	125	-0.18
14	2-PENTANONE	2.852	3.096	-8.6	126	-0.17
15	1,4-DIOXANE	0.639	0.657	-2.8	121	-0.17
16	4-METHYL-2-PENTANONE	0.353	0.312	11.8	103	-0.17
17	CHLOROBENZENE-D5	1.000	1.000	0.0	111	-0.12
18	2-HEXANONE	1.829	2.227	-21.8	127	-0.16
19	3-HEPTANONE	0.643	0.644	-0.1	105	-0.15
20	2-HEPTANONE	3.541	4.332	-22.3	129	-0.15
21	CYCLOHEXANONE	1.151	1.257	-9.2	114	-0.14
22	2-OCTANONE	5.100	6.160	-20.8	124	-0.14

(#) = Out of Range
 19031905.D VAP_P8.M

SPCC's out = 0 CCC's out = 0
 Tue Mar 23 08:55:42 1999

HNF-4440 Rev. 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19032302.D
 Acq On : 23 Mar 99 9:07 am
 Sample : NP-CCVS @ 42 PPBV
 Misc : 50 TORR

Vial: 1
 Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Last Update : Mon Mar 22 09:40:09 1999
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	FLUOROBENZENE	1.000	1.000	0.0	127	0.04
2	FREON 12	2.095	1.937	7.5	116	-0.10
3	METHYL CHLORIDE	0.762	0.818	-7.4	134	-0.13
4	N-BUTANE	1.415	1.536	-8.5	136	-0.10
5	ETHYL CHLORIDE	0.404	0.433	-7.0	130	-0.09
6	FREON 11	1.779	1.575	11.5	106	-0.09
7	N-PENTANE	0.117	0.126	-7.0	130	-0.09
8	DICHLOROMETHANE	0.894	0.947	-5.9	134	-0.08
9	2-METHYL-PENTANE	1.581	1.710	-8.2	135	-0.08
10	1-HEXENE	0.583	0.636	-9.2	137	-0.08
11	N-HEXANE	0.807	0.872	-8.0	136	-0.09
12	CHLOROFORM	1.061	1.002	5.6	119	-0.09
13	BENZENE	1.947	2.310	-18.7	248#	-0.10
14	CARBON TETRACHLORIDE	1.165	1.112	4.6	156#	-0.10
15	3-METHYL-HEXANE	1.459	1.581	-8.4	143	-0.10
16	N-HEPTANE	0.681	0.750	-10.2	142	-0.09
17	TOLUENE	2.896	2.872	0.8	123	-0.09
18	N-OCTANE	0.721	0.763	-5.9	134	-0.08
19	TETRACHLOROETHYLENE	1.381	1.290	6.5	114	-0.09
20	CHLOROBENZENE-D5	1.000	1.000	0.0	108	-0.08
21	CHLOROBENZENE	3.306	3.537	-7.0	116	-0.09
22	ETHYLBENZENE	4.480	4.925	-9.9	119	-0.08
23	M,P-XYLENE	3.399	3.637	-7.0	118	-0.09
24	STYRENE	2.991	3.231	-8.0	116	-0.09
25	N-NONANE	2.882	2.983	-3.5	124	-0.09
26	1,1,2,2-TETRACHLOROETHANE	1.172	1.849	-57.7#	154#	-0.09
27	O-XYLENE	3.657	4.006	-9.6	119	-0.09
28	N-DECANE	2.950	3.315	-12.4	123	-0.08
29	1,2,4-TRIMETHYLBENZENE	4.473	4.616	-3.2	112	-0.09

(#) = Out of Range
 19032005.D VAP_NP8.M

SPCC's out = 0 CCC's out = 0
 Tue Mar 23 10:01:01 1999

HNF-4440 Rev. 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19032401.D
 Acq On : 24 Mar 99 7:42 am
 Sample : P-CCVS @ 42 PPBV
 Misc : 50 TORR

Vial: 1
 Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	FLUOROBENZENE	1.000	1.000	0.0	111	0.05
2	ETHANOL	0.332	0.317	4.4	109	-0.36
3	ACETONITRILE	0.348	0.403	-15.7	102	-0.22
4	ACETONE	0.405	0.394	2.7	114	-0.24
5	FURAN	0.712	0.762	-7.1	110	-0.18
6	2-PROPANOL	1.330	1.415	-6.4	116	-0.30
7	1-PROPANOL	1.133	1.231	-8.7	120	-0.26
8	PROPANENITRILE	0.450	0.474	-5.3	115	-0.20
9	BUTANAL	0.189	0.183	3.3	117	-0.18
10	2-BUTANONE	0.278	0.272	1.9	110	-0.19
11	TETRAHYDROFURAN	0.327	0.205	37.4#	67	-0.18
12	1-BUTANOL	0.634	0.687	-8.5	118	-0.20
13	BUTANENITRILE	1.550	1.512	2.4	108	-0.16
14	2-PENTANONE	2.852	3.073	-7.7	116	-0.17
15	1,4-DIOXANE	0.639	0.673	-5.3	115	-0.16
16	4-METHYL-2-PENTANONE	0.353	0.334	5.4	103	-0.15
17	CHLOROBENZENE-D5	1.000	1.000	0.0	108	-0.10
18	2-HEXANONE	1.829	2.232	-22.0	123	-0.15
19	3-HEPTANONE	0.643	0.723	-12.4	114	-0.13
20	2-HEPTANONE	3.541	4.318	-21.9	124	-0.13
21	CYCLOHEXANONE	1.151	1.391	-20.9	123	-0.13
22	2-OCTANONE	5.100	5.705	-11.9	111	-0.13

(#) = Out of Range
 19031905.D VAP_P8.M

SPCC's out = 0 CCC's out = 0
 Wed Mar 24 08:32:09 1999

HNF-4440 Rev. 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19032402.D
 Acq On : 24 Mar 99 8:42 am
 Sample : NP-CCVS @ 42 PPBV
 Misc : 50 TORR

Vial: 1
 Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Last Update : Mon Mar 22 09:40:09 1999
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	FLUOROBENZENE	1.000	1.000	0.0	111	0.05
2	FREON 12	2.095	2.149	-2.6	113	-0.12
3	METHYL CHLORIDE	0.762	0.842	-10.5	120	-0.10
4	N-BUTANE	1.415	1.577	-11.5	122	-0.08
5	ETHYL CHLORIDE	0.404	0.437	-8.1	115	-0.07
6	FREON 11	1.779	1.781	-0.1	105	-0.07
7	N-PENTANE	0.117	0.127	-8.1	115	-0.08
8	DICHLOROMETHANE	0.894	0.916	-2.4	113	-0.07
9	2-METHYL-PENTANE	1.581	1.645	-4.1	114	-0.07
10	1-HEXENE	0.583	0.608	-4.3	115	-0.08
11	N-HEXANE	0.807	0.831	-2.9	113	-0.08
12	CHLOROFORM	1.061	1.041	1.9	108	-0.08
13	BENZENE	1.947	2.232	-14.7	209#	-0.09
14	CARBON TETRACHLORIDE	1.165	1.189	-2.1	146	-0.09
15	3-METHYL-HEXANE	1.459	1.528	-4.8	121	-0.09
16	N-HEPTANE	0.681	0.721	-5.9	119	-0.08
17	TOLUENE	2.896	2.970	-2.6	111	-0.08
18	N-OCTANE	0.721	0.760	-5.4	116	-0.08
19	TETRACHLOROETHYLENE	1.381	1.373	0.6	106	-0.08
20	CHLOROBENZENE-D5	1.000	1.000	0.0	96	-0.07
21	CHLOROBENZENE	3.306	3.743	-13.2	110	-0.08
22	ETHYLBENZENE	4.480	5.124	-14.4	111	-0.08
23	M,P-XYLENE	3.399	3.784	-11.3	109	-0.08
24	STYRENE	2.991	3.404	-13.8	108	-0.08
25	N-NONANE	2.882	2.980	-3.4	110	-0.08
26	1,1,2,2-TETRACHLOROETHANE	1.172	2.260	-92.8#	168#	-0.08
27	O-XYLENE	3.657	4.176	-14.2	110	-0.08
28	N-DECANE	2.950	3.326	-12.7	110	-0.07
29	1,2,4-TRIMETHYLBENZENE	4.473	4.987	-11.5	108	-0.08

(#) = Out of Range
 19032005.D VAP_NP8.M

SPCC's out = 0 CCC's out = 0
 Wed Mar 24 09:37:06 1999

HNF-4440 Rev. 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19040802.D

Vial: 1

Acq On : 8 Apr 99 8:00 am

Operator: G. FIES

Sample : Nonpolar C CVS @ 21 PPBV

Inst : 5972 - MS

Misc : 50 TORR

Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M

Title : NONPOLAR VAPOR STANDARD CALIBRATION

Last Update : Mon Mar 22 09:40:09 1999

Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	FLUOROBENZENE	1.000	1.000	0.0	145	0.04
2	FREON 12	2.095	1.827	12.8	129	-0.15
3	METHYL CHLORIDE	0.762	0.723	5.1	142	-0.12
4	N-BUTANE	1.415	1.390	1.8	147	-0.09
5	ETHYL CHLORIDE	0.404	0.387	4.4	142	-0.08
6	FREON 11	1.779	1.577	11.4	122	-0.08
7	N-PENTANE	0.117	0.115	2.1	141	-0.09
8	DICHLOROMETHANE	0.894	0.873	2.3	145	-0.07
9	2-METHYL-PENTANE	1.581	1.686	-6.7	154#	-0.08
10	1-HEXENE	0.583	0.608	-4.4	152#	-0.08
11	N-HEXANE	0.807	0.842	-4.3	153#	-0.09
12	CHLOROFORM	1.061	0.949	10.5	130	-0.08
13	BENZENE	1.947	2.265	-16.3	154#	-0.09
14	CARBON TETRACHLORIDE	1.165	1.135	2.5	126	-0.09
15	3-METHYL-HEXANE	1.459	1.554	-6.5	153#	-0.09
16	N-HEPTANE	0.681	0.706	-3.8	151#	-0.09
17	TOLUENE	2.896	2.763	4.6	134	-0.08
18	N-OCTANE	0.721	0.718	0.4	146	-0.08
19	TETRACHLOROETHYLENE	1.381	1.261	8.7	127	-0.09
20	CHLOROBENZENE-D5	1.000	1.000	0.0	134	-0.07
21	CHLOROBENZENE	3.306	3.402	-2.9	129	-0.08
22	ETHYLBENZENE	4.480	4.765	-6.4	133	-0.08
23	M, P-XYLENE	3.399	3.710	-9.1	132	-0.09
24	STYRENE	2.991	3.207	-7.2	129	-0.09
25	N-NONANE	2.882	3.141	-9.0	143	-0.09
26	1,1,2,2-TETRACHLOROETHANE	1.172	1.920	-63.8#	214#	-0.09
27	O-XYLENE	3.657	3.885	-6.3	131	-0.09
28	N-DECANE	2.950	3.342	-13.3	143	-0.08
29	1,2,4-TRIMETHYLBENZENE	4.473	4.626	-3.4	129	-0.09

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

19032004.D VAP_NP8.M

Thu Apr 08 08:52:53 1999

HNF-4440 Rev. 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\19040803.D
 Acq On : 8 Apr 99 9:22 am
 Sample : Polar CCVS @ 84 PPBV
 Misc : 50 TORR

Vial: 1
 Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	FLUOROBENZENE	1.000	1.000	0.0	135	0.05
2	ETHANOL	0.332	0.334	-0.6	135	-0.34
3	ACETONITRILE	0.348	0.427	-22.7	134	-0.20
4	ACETONE	0.405	0.413	-1.9	143	-0.22
5	FURAN	0.712	0.761	-6.9	135	-0.18
6	2-PROPANOL	1.330	1.399	-5.1	138	-0.27
7	1-PROPANOL	1.133	1.312	-15.9	153#	-0.22
8	PROPANENITRILE	0.450	0.491	-9.1	146	-0.18
9	BUTANAL	0.189	0.195	-3.4	149	-0.18
10	2-BUTANONE	0.278	0.279	-0.5	152#	-0.18
11	TETRAHYDROFURAN	0.327	0.336	-2.8	144	-0.17
12	1-BUTANOL	0.634	0.785	-23.9	163#	-0.17
13	BUTANENITRILE	1.550	1.658	-7.0	149	-0.15
14	2-PENTANONE	2.852	3.064	-7.4	150#	-0.16
15	1,4-DIOXANE	0.639	0.693	-8.5	146	-0.16
16	4-METHYL-2-PENTANONE	0.353	0.351	0.7	138	-0.15
17	CHLOROBENZENE-D5	1.000	1.000	0.0	134	-0.11
18	2-HEXANONE	1.829	1.963	-7.3	150	-0.15
19	3-HEPTANONE	0.643	0.647	-0.5	144	-0.12
20	2-HEPTANONE	3.541	3.284	7.2	144	-0.12
21	CYCLOHEXANONE	1.151	1.174	-2.0	140	-0.11
22	2-OCTANONE	5.100	3.830	24.9	127	-0.12

(#) = Out of Range
 19031906.D VAP_P8.M

SPCC's out = 0 CCC's out = 0
 Thu Apr 08 10:16:31 1999

IS

Internal Standards Area Counts Table

Operator: M. Stauffer M. Stauffer
 Sample: CCVS VS006-237-S071
 Method: VAP_NP8.M VAP_NP8.M
 Instrument: GC-MS #1 GC-MS #1

Internal Standard	Q ion (amu)	Retention Time (min)	Area	Area	Recovery ² %	Area	Recovery ² %
Fluorobenzene	96	23.95	6840756	7551101	110	7565391	111
Chlorobenzene-d5 ¹	117	30.32	6245535	5607118	90	5663448	91

[illegible]

Notes:

1) Internal standards used to calculate Relative Response Factors for target compounds

2) Recovery relative to the CCVS (CCVS = 100 %)

IS

Internal Standards Area Counts Table

File: 19032303.D
 Operator: M. Stauffer
 Sample: CCVS
 Method: VAP_NP8.M
 Instrument: GC-MS #1

19032304.D
 M. Stauffer
 VS006-222-S039
 VAP_NP8.M
 GC-MS #1

19032306.D
 M. Stauffer
 VS006-212-S028
 VAP_NP8.M
 GC-MS #1

19032307.D
 M. Stauffer
 VSAMB-201-S017
 VAP_NP8.M
 GC-MS #1

19032308.D
 M. Stauffer
 VSAMB-205-S044
 VAP_NP8.M
 GC-MS #1

19032309.D
 M. Stauffer
 VSAMB-206-S046
 VAP_NP8.M
 GC-MS #1

Internal Standard	Q ion (amu)	Retention Time (min)	Area	Area	Recovery ² %	Area	Area	Recovery ² %	Area	Area	Recovery ² %
Fluorobenzene	96	23.96	7723214	7704812	100	7765364	7433766	96	7398476	7182630	93
Chlorobenzene-d5 ¹	117	30.35	6236398	6357530	102	6357580	5608381	90	6062583	5938063	95

Laboratory Control Sample Results

Laboratory name	Special Analytical Support
Instrument identification number	GC-MS # 1
Operator	M. Stauffer
Laboratory control sample analysis date and time	3/20/99 10:48
Associated Vapor sample	Calibration

Analyte	Certified Concentration (ppbv)	Diluted Concentration (ppbv)	Measured Concentration (ppbv)	Recovery %	Measured Concentration (ppbv)	Recovery %	RPD %
Chloromethane	1009 +/- 50	42	35	83	35	83	0
Tetrahydrofuran	1009 +/- 50	42	43	102	27	64	46
n-Pentane	1096 +/- 55	46	42	92	42	92	0
4-Methyl-2-pentanone	1020 +/- 51	43	44	104	47	111	7
Chlorobenzene	1055 +/- 53	44	54	123	52	118	4
1,2,4-Trimethylbenzene	605 +/- 61	25	54	214	52	206	4

2.2.4 Supporting Data

This section contains relevant information used for the tuning and calibration of the instrument, and the analysis and quantitation of the organic compounds. The following are included:

- Instrument tune reports and tune checks
- Response Factor Reports with relative standard deviations (%RSD) for the target compounds
- For each SUMMA sample received, the following information is included:
 - Chromatogram using the total ion chromatogram from the mass spectral analysis
 - The Quantitation Reports for both polar and nonpolar target compounds
 - Area Counts Table from the integrated total ion chromatogram
 - A printout of the mass spectral library search using the NIST 98 or Wiley 138 database
 - Mass spectra for each listed tentatively identified compound (TIC).

Instrument: 5972 - MS-IRD
Fri Mar 19 08:57:45 1999

HNF-4440 Rev. 0

11. Vranke
3/19/99
C:\HPCHEM\1\5972\ATUNE.U

EMVolts	2565	AmuGain	482
Xray	25.7	AmuOffs	70
Emission	50.0	Wid219	-0.054
MS Temp	169	TTI	OFF
Vacuum	49	DC Pol	NEG

Samples	8	Repeller	27.05
Averages	3	IonFocus	90.0
StepSize	0.10	EntLens	14.05
MassGain	163	EntOffs	19.07
MassOffs	5	Filament	1

PFTBA OPEN

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
144 peaks Base: 69.00 Abundance: 984896

Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	984896	100.00	70.00	10828	1.10
218.95	435840	44.25	219.95	18632	4.27
501.95	31800	3.23	502.95	3090	9.72

Instrument: 5972 - MS-IRD
Sat Mar 20 15:43:29 1999

HNF-4440 Rev. 0

03/20/99
C:\HPCHEM\1\5972\ATUNE.U

EMVolts	2565	AmuGain	482
Xray	25.7	AmuOffs	70
Emission	50.0	Wid219	-0.054
MS Temp	158	TTI	OFF
Vacuum	49	DC Pol	NEG

Samples	8	Repeller	27.05
Averages	3	IonFocus	90.0
StepSize	0.10	EntLens	14.05
MassGain	163	EntOffs	19.07
MassOffs	5	Filament	1

PFTBA OPEN

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10

179 peaks Base: 69.00 Abundance: 1431552

Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	1431552	100.00	70.00	16254	1.14
218.95	730624	51.04	219.95	32184	4.41
502.05	62728	4.38	503.05	6306	10.05

Instrument: 5972 - MS-IRD
Mon Mar 22 09:44:41 1999

HNF-4440 Rev. 0

C:\HPCHEM\1\5972\ATUNE.U

11.000000
3/22/99

EMVolts	2565	AmuGain	482
Xray	25.7	AmuOffs	70
Emission	50.0	Wid219	-0.054
MS Temp	172	TTI	OFF
Vacuum	49	DC Pol	NEG

Samples	8	Repeller	27.05
Averages	3	IonFocus	90.0
StepSize	0.10	EntLens	14.05
MassGain	163	EntOffs	19.07
MassOffs	5	Filament	1

PFTBA OPEN

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10

161 peaks Base: 69.00 Abundance: 1268224

Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	1268224	100.00	70.00	14242	1.12
218.95	643392	50.73	219.95	28880	4.49
501.95	48392	3.82	502.95	4998	10.33

Instrument: 5972 - MS-IRD
Tue Mar 23 07:41:03 1999

HNF-4440 Rev. 0

03/23/99
C:\HPCHEM\1\5972\ATUNE.U

EMVolts	2565	AmuGain	482
Xray	25.7	AmuOffs	70
Emission	50.0	Wid219	-0.054
MS Temp	173	TTI	OFF
Vacuum	48	DC Pol	NEG

Samples	8	Repeller	27.05
Averages	3	IonFocus	90.0
StepSize	0.10	EntLens	14.05
MassGain	163	EntOffs	19.07
MassOffs	5	Filament	1

PFTBA OPEN

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
184 peaks Base: 69.00 Abundance: 1577472

Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	1577472	100.00	70.00	18104	1.15
218.95	704576	44.66	219.95	30880	4.38
501.95	53624	3.40	502.95	5508	10.27

Instrument: 5972 - MS-IRD
Wed Mar 24 07:35:03 1999

HNF-4440 Rev. 0

C:\HPCHEM\1\5972\ATUNE.U

03/24/99

EMVolts	2565	AmuGain	482
Xray	25.7	AmuOffs	70
Emission	50.0	Wid219	-0.054
MS Temp	173	TTI	OFF
Vacuum	48	DC Pol	NEG

Samples	8	Repeller	27.05
Averages	3	IonFocus	90.0
StepSize	0.10	EntLens	14.05
MassGain	163	EntOffs	19.07
MassOffs	5	Filament	1

PFTBA OPEN

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10

183 peaks Base: 69.00 Abundance: 1466368

Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	1466368	100.00	70.00	16688	1.14
218.95	688320	46.94	219.95	29984	4.36
501.95	52592	3.59	502.95	5465	10.39

Instrument: 5972 - MS-IRD
Thu Apr 08 06:36:01 1999

HNF-4440 Rev. 0

04/08/99
275
C:\HPCHEM\1\5972\ATUNE.U

EMVolts	2565	AmuGain	482
Xray	25.7	AmuOffs	70
Emission	50.0	Wid219	-0.054
MS Temp	174	TTI	OFF
Vacuum	48	DC Pol	NEG

Samples	8	Repeller	27.05
Averages	3	IonFocus	90.0
StepSize	0.10	EntLens	14.05
MassGain	163	EntOffs	19.07
MassOffs	5	Filament	1

PFTBA OPEN

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
197 peaks Base: 69.00 Abundance: 2283520

Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	2283520	100.00	70.00	26088	1.14
218.95	1044992	45.76	219.95	46824	4.48
501.95	80736	3.54	502.95	8247	10.21

HNF-4440 Rev. 0

BFB

Data File : C:\HPCHEM\1\DATA\19031901.D
Acq On : 19 Mar 99 9:15 am
Sample : METHOD BLANK: SUMMA #89 W/BFB
Misc : 50 TORR

Vial: 1
Operator: M. STAUFFER
Inst : 5972 - MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\WIPP_7.M
Title : TARGET COMPOUNDS FOR WIPP HEADSPACE ANALYSES

Scan Number 4011

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.1	75463	PASS
75	95	30	60	37.7	157083	PASS
95	95	100	100	100.0	416766	PASS
96	95	5	9	6.7	27817	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	81.4	339435	PASS
175	174	5	9	7.6	25899	PASS
176	174	95	101	95.6	324526	PASS
177	176	5	9	6.5	21074	PASS

19031901.D WIPP_7.M

Fri Mar 19 10:27:43 1999

HNF-4440 Rev. 0

BFB

Data File : C:\HPCHEM\1\DATA\19032001.D
Acq On : 20 Mar 99 3:58 pm
Sample : METHOD BLANK SUMMA #089
Misc : 50 TORR

Vial: 1
Operator: G. FIES
Inst : 5972 - MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_NP7.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION

Scan Number 3854

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.2	145152	PASS
75	95	30	60	37.1	313152	PASS
95	95	100	100	100.0	843392	PASS
96	95	5	9	6.7	56200	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	81.7	689216	PASS
175	174	5	9	7.9	54208	PASS
176	174	95	101	95.8	660544	PASS
177	176	5	9	6.6	43864	PASS

19032001.D VAP_NP7.M

Sat Mar 20 16:54:07 1999

HNF-4440 Rev. 0

BFB

Data File : C:\HPCHEM\1\DATA\19032203.D
Acq On : 22 Mar 99 12:21 pm
Sample : METHOD BLANK SUMMA #89 W/ BFB
Misc : 50 TORR

Vial: 1
Operator: M. STAUFFER
Inst : 5972 - MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES

Scan Number 3844

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.7	144320	PASS
75	95	30	60	37.2	302976	PASS
95	95	100	100	100.0	814144	PASS
96	95	5	9	6.7	54680	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	80.2	652928	PASS
175	174	5	9	7.8	50768	PASS
176	174	95	101	95.1	620736	PASS
177	176	5	9	6.7	41368	PASS

19032203.D VAP_P8.M

Mon Mar 22 13:27:38 1999

HNF-4440 Rev. 0

BFB

Data File : C:\HPCHEM\1\DATA\19032403.D
Acq On : 24 Mar 99 9:45 am
Sample : METHOD BLANK SUMMA #061 W/BFB
Misc : 50 TORR

Vial: 1
Operator: G. FIES
Inst : 5972 - MS
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION

Scan Number 3852

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.2	150976	PASS
75	95	30	60	37.0	324864	PASS
95	95	100	100	100.0	877760	PASS
96	95	5	9	6.6	58240	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	80.3	704960	PASS
175	174	5	9	7.7	54096	PASS
176	174	95	101	95.3	671808	PASS
177	176	5	9	6.6	44320	PASS

19032403.D VAP_NP8.M

Wed Mar 24 10:39:24 1999

HNF-4440 Rev. 0

Response Factor Report 5972 - MS

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Last Update : Mon Mar 22 09:40:09 1999
 Response via : Initial Calibration

Calibration Files

1 =19032002.D 2 =19032003.D 3 =19032004.D
 4 =19032005.D 5 =19032006.D 6 =19032007.D

Compound	1	2	3	4	5	6	Avg	%RSD
1) FLUOROBENZENE	-----ISTD-----							
2) FREON 12	2.068	2.037	2.047	2.112	2.091	2.215	2.095	3.11
3) METHYL CHLORIDE	0.689	0.687	0.736	0.776	0.803	0.882	0.762	9.79
4) N-BUTANE	1.354	1.363	1.370	1.430	1.437	1.535	1.415	4.84
5) ETHYL CHLORIDE	0.374	0.370	0.394	0.422	0.418	0.448	0.404	7.49
6) FREON 11	1.780	1.798	1.876	1.877	1.660	1.683	1.779	5.19
7) N-PENTANE	0.114	0.112	0.118	0.122	0.116	0.121	0.117	3.54
8) DICHLOROMETHANE	0.915	0.879	0.874	0.897	0.872	0.928	0.894	2.62
9) 2-METHYL-PENTANE	1.605	1.579	1.583	1.601	1.531	1.586	1.581	1.67
10) 1-HEXENE	0.573	0.576	0.578	0.587	0.579	0.601	0.583	1.78
11) N-HEXANE	0.814	0.803	0.796	0.812	0.787	0.832	0.807	1.93
12) CHLOROFORM	1.050	1.070	1.057	1.067	1.033	1.090	1.061	1.84
13) BENZENE	2.268	2.261	2.128	1.182	1.968	1.871	1.947	20.88
14) CARBON TETRACHLORIDE	1.327	1.348	1.305	0.904	1.113	0.991	1.165	16.31
15) 3-METHYL-HEXANE	1.647	1.597	1.471	1.399	1.322	1.316	1.459	9.57
16) N-HEPTANE	0.726	0.729	0.676	0.670	0.632	0.649	0.681	5.83
17) TOLUENE	2.997	2.965	2.977	2.964	2.703	2.770	2.896	4.35
18) N-OCTANE	0.774	0.777	0.711	0.723	0.662	0.680	0.721	6.58
19) TETRACHLOROETHYLENE	1.483	1.451	1.442	1.442	1.264	1.202	1.381	8.47
20) CHLOROBENZENE-D5	-----ISTD-----							
21) CHLOROBENZENE	3.799	3.706	3.524	3.279	2.899	2.627	3.306	14.05
22) ETHYLBENZENE	5.099	5.065	4.789	4.446	3.908	3.570	4.480	14.04
23) M,P-XYLENE	4.154	4.083	3.766	3.320	2.718	2.355	3.399	21.75
24) STYRENE	3.497	3.520	3.317	3.014	2.494	2.104	2.991	19.36
25) N-NONANE	3.486	3.433	2.935	2.599	1.959		2.882	21.97
26) 1,1,2,2-TETRACHLORO	0.733	1.336	1.199	1.291	1.150	1.324	1.172	19.40
27) O-XYLENE	4.217	4.155	3.956	3.631	3.162	2.819	3.657	15.47
28) N-DECANE	3.649	3.483	3.133	2.911	2.451	2.075	2.950	20.47
29) 1,2,4-TRIMETHYLBENZ	5.277	5.244	4.792	4.447	3.813	3.264	4.473	18.00

(#) = Out of Range

VAP_NP8.M

Mon Mar 22 09:40:32 1999

HNF-4440 Rev. 0

Response Factor Report 5972 - MS

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Initial Calibration

Calibration Files

1 =19031902.D 2 =19031903.D 3 =19031904.D
 4 =19031905.D 5 =19031906.D 6 =19031907.D

Compound	1	2	3	4	5	6	Avg	%RSD
1) FLUOROBENZENE	-----ISTD-----							
2) ETHANOL	0.347	0.328	0.338	0.325	0.333	0.321	0.332	2.83
3) ACETONITRILE	0.279	0.250	0.292	0.438	0.431	0.399	0.348	24.09
4) ACETONE	0.480	0.390	0.440	0.386	0.390	0.347	0.405	11.56
5) FURAN	0.654	0.579	0.774	0.769	0.761	0.734	0.712	11.05
6) 2-PROPANOL	1.155	1.334	1.425	1.359	1.370	1.338	1.330	6.90
7) 1-PROPANOL	1.099	1.111	1.159	1.146	1.158	1.123	1.133	2.24
8) PROPANENITRILE	0.431	0.438	0.450	0.457	0.453	0.470	0.450	3.10
9) BUTANAL	0.189	0.173	0.188	0.174	0.177	0.232	0.189	11.71
10) 2-BUTANONE	0.293	0.252	0.261	0.276	0.248	0.336	0.278	11.89
11) TETRAHYDROFURAN	0.334	0.326	0.329	0.340	0.315	0.320	0.327	2.81
12) 1-BUTANOL		0.598	0.651	0.647	0.650	0.622	0.634	3.70
13) BUTANENITRILE	1.634	1.581	1.612	1.560	1.503	1.409	1.550	5.32
14) 2-PENTANONE	2.888	3.012	3.093	2.950	2.751	2.418	2.852	8.49
15) 1,4-DIOXANE	0.645	0.638	0.675	0.652	0.640	0.584	0.639	4.71
16) 4-METHYL-2-PENTANON	0.401	0.351	0.372	0.363	0.344	0.291	0.353	10.34
17) CHLOROBENZENE-D5	-----ISTD-----							
18) 2-HEXANONE	1.814	1.945	2.028	1.954	1.752	1.485	1.829	10.75
19) 3-HEPTANONE	0.608	0.691	0.805	0.684	0.601	0.470	0.643	17.50
20) 2-HEPTANONE	3.480	4.201	4.250	3.753	3.040	2.520	3.541	19.08
21) CYCLOHEXANONE	1.047	1.228	1.314	1.226	1.117	0.974	1.151	11.09
22) 2-OCTANONE	5.470		6.684	5.549	4.037	3.762	5.100	23.54

(#) = Out of Range

VAP_P8.M

Mon Mar 22 09:53:37 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\19032407.D
 Operator : M STAUFFER
 Acquired : 24 Mar 99 2:19 pm using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VS006-202-S011
 Misc Info : 50 TORR
 Vial Number: 1

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032407.D
Acq On : 24 Mar 99 2:19 pm
Sample : VS006-202-S011
Misc : 50 TORR
Quant Time: Apr 8 8:14 1999

Vial: 1
Operator: M STAUFFER
Inst : 5972 - MS
Multiplr: 1.00

DF = 2

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
Last Update : Mon Mar 22 09:53:20 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	6552727	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.36	117	5443744	189.50	NG	-0.10

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	14.76	45	475599	69.45	PPB	m 100
3) ACETONITRILE	16.03	40	128337	18.62	PPB	m 1
4) ACETONE	16.11	58	231085	30.18	PPB	m 1
5) FURAN	16.41	68	2087	0.13	PPB	# 1
6) 2-PROPANOL	16.94	45	135	0.00	PPB	# 1
7) 1-PROPANOL	19.35	31	376170	15.73	PPB	m 94
8) PROPANENITRILE	19.95	54	65698	6.72	PPB	m 94
9) BUTANAL	20.54	72	58793	13.18	PPB	m 92
10) 2-BUTANONE	20.73	72	44363	6.90	PPB	m 88
11) TETRAHYDROFURAN	22.09	72	46636	6.91	PPB	# 1
12) 1-BUTANOL	23.55	56	578121	43.41	PPB	m 90
13) BUTANENITRILE	23.77	41	247378	8.10	PPB	m 100
14) 2-PENTANONE	24.37	43	170798	3.16	PPB	100
15) 1,4-DIOXANE	0.00	88		Not Detected		
16) 4-METHYL-2-PENTANONE	26.38	100	2674	0.41	PPB	95
18) 2-HEXANONE	28.13	58	69033	3.00	PPB	92
19) 3-HEPTANONE	31.43	114	213235	28.11	PPB	m 1
20) 2-HEPTANONE	31.56	58	99286	2.48	PPB	m 85
21) CYCLOHEXANONE	31.90	98	5917	0.40	PPB	m 1
22) 2-OCTANONE	34.70	58	4182	0.07	PPB	# 1

(#) = qualifier out of range (m) = manual integration
19032407.D VAP_P8.M Thu Apr 08 08:14:54 1999

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032407.D

Acq On : 24 Mar 99 2:19 pm

Sample : VS006-202-S011

Misc : 50 TORR

Quant Time: Apr 8 8:17 1999

Vial: 1

Operator: M STAUFFER

Inst : 5972 - MS

Multiplr: 1.00

DF = 2

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M

Title : NONPOLAR VAPOR STANDARD CALIBRATION

Last Update : Mon Mar 22 09:40:09 1999

Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	6552727	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.36	117	5443744	189.50	NG	-0.07

System Monitoring Compounds

%Recovery

Target Compounds

Qvalue

2) FREON 12	7.86	85	21483	0.23	PPB	m	61
3) METHYL CHLORIDE	9.44	50	9000	0.25	PPB	m	41
4) N-BUTANE	11.51	43	1287107	20.41	PPB	m	92
5) ETHYL CHLORIDE	13.78	64	61	0.00	PPB		100
6) FREON 11	15.66	101	141550	1.98	PPB		100
7) N-PENTANE	16.36	72	51235	10.13	PPB	#	100
8) DICHLOROMETHANE	18.04	49	1209	0.03	PPB		94
9) 2-METHYL-PENTANE	19.48	43	47120	0.71	PPB	m	62
10) 1-HEXENE	20.48	56	64921	2.59	PPB	m	83
11) N-HEXANE	20.85	57	2588546	75.15	PPB	#	55
12) CHLOROFORM	21.66	83	3817	0.08	PPB		97
13) BENZENE	23.48	78	32170	0.41	PPB		100
14) CARBON TETRACHLORIDE	23.53	117	2796	0.06	PPB		97
15) 3-METHYL-HEXANE	23.96	43	22538	0.40	PPB	m	22
16) N-HEPTANE	24.89	57	175384	6.44	PPB		85
17) TOLUENE	27.54	91	42162	0.36	PPB		96
18) N-OCTANE	28.56	57	76628	2.68	PPB	m	99
19) TETRACHLOROETHYLENE	29.15	166	4046	0.08	PPB		86
21) CHLOROBENZENE	30.43	112	774	0.01	PPB	#	6
22) ETHYLBENZENE	30.89	91	6275	0.06	PPB		93
23) M, P-XYLENE	31.15	91	18879	0.26	PPB	#	82
24) STYRENE	31.88	104	707	0.01	PPB	#	31
25) N-NONANE	31.90	43	152626	2.48	PPB	#	77
26) 1,1,2,2-TETRACHLOROETHANE	32.72	83	1487	0.04	PPB	#	25
27) O-XYLENE	31.98	91	6111	0.07	PPB		97
28) N-DECANE	34.97	43	815362	12.55	PPB	m	79
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	5068	0.05	PPB		98

(#)=qualifier out of range (m)=manual integration

19032407.D VAP_NP8.M

Thu Apr 08 08:18:24 1999

Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\19032407.D Vial: 1
 Acq On : 24 Mar 99 2:19 pm Operator: M STAUFFER
 Sample : VS006-202-S011 Inst : 5972 - MS
 Misc : 50 TORR Multiplr: 1.00
 Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Library : NIST98.L

DF = 2

 Peak Number 1 Rank in Relative Concentration 7

R.T.	Conc	Area	Relative to ISTD	R.T.
7.13	21.40 PPB	1818028	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Propene	42	108457	000115-07-1	83
2	Cyclopropane		108993	000075-19-4	43
3	2-Propenenitrile, 2-methyl-		1565	000126-98-7	9

 Peak Number 2 Rank in Relative Concentration 43

R.T.	Conc	Area	Relative to ISTD	R.T.
7.66	2.19 PPB	186342	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Acetaldehyde	Spike	108064	000075-07-0	4
2	Ethylene oxide		107992	000075-21-8	3
3	Propane		108018	000074-98-6	2

 Peak Number 3 Rank in Relative Concentration 13

R.T.	Conc	Area	Relative to ISTD	R.T.
8.91	11.08 PPB	941675	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Methyl nitrite	61	697	000624-91-9	9
2	Formaldehyde		108026	000050-00-0	4
3	Ethylenediamine		667	000107-15-3	4

 Peak Number 4 Rank in Relative Concentration 27

R.T.	Conc	Area	Relative to ISTD	R.T.
9.14	4.03 PPB	342324	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Cyclopropane	42	108993	000075-19-4	90
2	Propene		108457	000115-07-1	83

3 Propane 108018 000074-98-6 1

Peak Number 5 Rank in Relative Concentration 45

R.T.	Conc	Area	Relative to ISTD	R.T.
9.83	1.76 PPB	149664	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	58	109242	000075-28-5	9
2	Propane, 1-chloro-2-methyl-		109245	000513-36-0	4
3	Propane, 2-nitro-		109217	000079-46-9	2

Peak Number 6 Rank in Relative Concentration 44

R.T.	Conc	Area	Relative to ISTD	R.T.
11.01	1.96 PPB	166561	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Acetaldehyde	44	108064	000075-07-0	90
2	Ethylene oxide		107992	000075-21-8	7
3	Propane		108018	000074-98-6	5

Peak Number 7 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
11.22	25.30 PPB	2149825	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	1-Propene, 2-methyl-		108669	000115-11-7	90
2	1-Butene	56	108671	000106-98-9	87
3	2-Butene, (E)-		108664	000624-64-6	80

Peak Number 8 Rank in Relative Concentration 38

R.T.	Conc	Area	Relative to ISTD	R.T.
11.65	3.03 PPB	257495 1,198,686	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Methyl Alcohol	42	108316	000067-56-1	2
2	Hydrazine		108367	000302-01-2	1
3	2-Amino-5-chloropyrimidine		1040	005428-89-7	1

Peak Number 9 Rank in Relative Concentration 39

R.T.	Conc	Area	Relative to ISTD	R.T.
------	------	------	------------------	------

12.61	2.99 PPB	254445	FLUOROBENZENE	23.98	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	2-Butene, (Z)-	56	2189	000590-18-1	86
2	1-Propene, 2-methyl-		108669	000115-11-7	74
3	1-Butene		108671	000106-98-9	72

 Peak Number 10 Rank in Relative Concentration 29

R.T.	Conc	Area	Relative to ISTD		R.T.
13.19	3.81 PPB	323990	FLUOROBENZENE		23.98
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Methylamine	Unknown	108154	000074-89-5	5
2	Ethylamine		108211	000075-04-7	4
3	Ethylenediamine		108160	000107-15-3	4

 Peak Number 11 Rank in Relative Concentration 9

R.T.	Conc	Area	Relative to ISTD	R.T.	
14.75	16.09 PPB	1366725	FLUOROBENZENE	23.98	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Ethanol	Target	1076	000064-17-5	90
2	Acetic acid, hydroxy-		1047	000079-14-1	2
3	Formic acid, propyl ester		108322	000110-74-7	2

 Peak Number 12 Rank in Relative Concentration 16

R.T.	Conc	Area	Relative to ISTD	R.T.	
15.95	6.51 PPB	552852	FLUOROBENZENE	23.98	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Cyclopropane, ethyl-		3424	001191-96-4	91
2	1-Pentene	7a	3426	000109-67-1	91
3	Cyclobutane, methyl-		108997	000598-61-8	58

 Peak Number 13 Rank in Relative Concentration 11

R.T.	Conc	Area	Relative to ISTD	R.T.	
16.11	12.88 PPB	1094583	FLUOROBENZENE	23.98	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Acetone	Target	109708	000067-64-1	72
2	Hydrogen azide		3862	007782-79-8	5

3 Propanal

108093 000123-38-6 4

 Peak Number 14 Rank in Relative Concentration 12

R.T.	Conc	Area	Relative to ISTD	R.T.
17.85	11.68 PPB	991989	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Ethane, 1,1,2-trichloro-1,2,2-trifl	186	118736	000076-13-1	91
2	Trichloromonofluoromethane		118725	000075-69-4	38
3	Ethane, 1,1,1-trichloro-2,2,2-trifl		123640	000354-58-5	32

 Peak Number 15 Rank in Relative Concentration 19

R.T.	Conc	Area	Relative to ISTD	R.T.
18.26	5.96 PPB	506624	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Methyl nitrate	Unknown	12190	000598-58-3	40
2	Nitroglycerin		110985	000055-63-0	9
3	Nitric acid, ethyl ester		110980	000625-58-1	9

 Peak Number 16 Rank in Relative Concentration 28

R.T.	Conc	Area	Relative to ISTD	R.T.
19.35	4.02 PPB	341364	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	1-Propanol	Target	108295	000071-23-8	86
2	Acetaldehyde, hydroxy-		1056	000141-46-8	7
3	Oxirane, (ethoxymethyl)-		1096	004016-11-9	4

 Peak Number 17 Rank in Relative Concentration 25

R.T.	Conc	Area	Relative to ISTD	R.T.
20.10	5.17 PPB	439382	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Pentane, 3-methyl-	86	112492	000096-14-0	91
2	1-Butanol, 2-methyl-		16829	000137-32-6	78
3	Butane, 2,2,3-trimethyl-		112300	000464-06-2	78

 Peak Number 18 Rank in Relative Concentration 42

R.T.	Conc	Area	Relative to ISTD	R.T.
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20.53	2.30 PPB	195371	FLUOROBENZENE	23.98
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Ethene, ethoxy-		10684 000109-92-2	80
2	Butanal <i>Target</i>		110540 000123-72-8	78
3	Propanal, 2-methyl-		109228 000078-84-2	9

Peak Number 19 Rank in Relative Concentration 30

R.T.	Conc	Area	Relative to ISTD	R.T.
20.73	3.79 PPB	322360	FLUOROBENZENE	23.98
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	2-Butanone <i>Target</i>		109956 000078-93-3	72
2	Propanal, 2-methyl-		109228 000078-84-2	59
3	Formic acid, chloro-, (3,4,4-trimet		5764 107323-92-2	9

Peak Number 20 Rank in Relative Concentration 46

R.T.	Conc	Area	Relative to ISTD	R.T.
21.12	1.76 PPB	149151	FLUOROBENZENE	23.98
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Ethylene oxide <i>Spike</i>		108063 000075-21-8	4
2	Acetaldehyde		108065 000075-07-0	3
3	Propane		108018 000074-98-6	2

Peak Number 21 Rank in Relative Concentration 26

R.T.	Conc	Area	Relative to ISTD	R.T.
22.01	5.06 PPB	429777	FLUOROBENZENE	23.98
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Nitric acid, ethyl ester <i>91</i>		110980 000625-58-1	72
2	Methanamine, N-methoxy-		12230 001117-97-1	39
3	Nitric acid, propyl ester		12186 000627-13-4	38

Peak Number 22 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
22.09	23.32 PPB	1981713	FLUOROBENZENE	23.98
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Cyclopentane, methyl- <i>84</i>		111864 000096-37-7	81
2	1-Pentene, 2-methyl-		14979 000763-29-1	64

3 Cyclobutane, ethyl-

14969 004806-61-5 50

 Peak Number 23 Rank in Relative Concentration 34

R.T.	Conc	Area	Relative to ISTD	R.T.
23.77	3.34 PPB	283360	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Butanenitrile	<i>Target</i>	108435	000109-74-0	59
2	3-Butenenitrile		108727	000109-75-1	30
3	2-Propenenitrile, 2-methyl-		1565	000126-98-7	22

 Peak Number 24 Rank in Relative Concentration 37

R.T.	Conc	Area	Relative to ISTD	R.T.
24.37	3.06 PPB	259873	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	2-Pentanone	<i>Target</i>	7171	000107-87-9	86
2	2-Butanone, 3-methyl-		109139	000563-80-4	64
3	2,3-Butanedione		110094	000431-03-8	53

 Peak Number 25 Rank in Relative Concentration 31

R.T.	Conc	Area	Relative to ISTD	R.T.
24.56	3.77 PPB	319909	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	1-Heptene	<i>98</i>	2183	000592-76-7	94
2	2-Heptene		108687	000592-77-8	68
3	1-Hexene, 3-methyl-		13211	003404-61-3	64

 Peak Number 26 Rank in Relative Concentration 47

R.T.	Conc	Area	Relative to ISTD	R.T.
24.73	1.71 PPB	145618	FLUOROBENZENE	23.98

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Butanenitrile, 2-methylene-	<i>81</i>	12684	001647-11-6	96
2	2-Pentenitrile		12695	013284-42-9	83
3	3-Pentenitrile		12688	004635-87-4	58

 Peak Number 27 Rank in Relative Concentration 20

R.T.	Conc	Area	Relative to ISTD	R.T.
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25.04	5.76 PPB	489259	FLUOROBENZENE	23.98	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	3-Heptene, 2	98	108688	000592-78-9	95
2	2-Heptene		108605	000592-77-8	93
3	(Z)-3-Heptene		108691	007642-10-6	91

Peak Number 28 Rank in Relative Concentration 10

R.T.	Conc	Area	Relative to ISTD	R.T.	
25.16	13.17 PPB	1118621	FLUOROBENZENE	23.98	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, (E) -	98	13656	014686-13-6	97
2	2-Heptene		108687	000592-77-8	94
3	3-Heptene		108688	000592-78-9	87

Peak Number 29 Rank in Relative Concentration 14

R.T.	Conc	Area	Relative to ISTD	R.T.	
25.50	8.86 PPB	753115	FLUOROBENZENE	23.98	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, 2	98	108687	000592-77-8	97
2	2-Heptene, (E)-		13656	014686-13-6	95
3	3-Heptene		108688	000592-78-9	91

Peak Number 30 Rank in Relative Concentration 8

R.T.	Conc	Area	Relative to ISTD	R.T.	
25.74	18.31 PPB	1555865	FLUOROBENZENE	23.98	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	1,5-Pentanediol, dinitrate		12244	003457-92-9	45
2	1,4-Butanediol, dinitrate		12243	003457-91-8	40
3	Nitric acid, propyl ester	145	110983	000627-13-4	40

Peak Number 31 Rank in Relative Concentration 40

R.T.	Conc	Area	Relative to ISTD	R.T.	
27.04	2.87 PPB	243429	FLUOROBENZENE	23.98	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Cyclohexene, 1-methyl-		116137	000591-49-1	72
2	1,3-Pentadiene, 2,4-dimethyl-		116204	001000-86-8	68

3 1,4-Hexadiene, 5-methyl- 31461 000763-88-2 68

Hexadiene, methyl-, isomer 96

Peak Number 32 Rank in Relative Concentration 15

R.T.	Conc	Area	Relative to ISTD	R.T.
27.63	6.66 PPB	530589	CHLOROBENZENE-D5	30.36
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methyl- 114	109689	000589-81-1	49
2	Hexane, 3-ethyl-	110067	000619-99-8	43
3	Hexane, 2,3,3-trimethyl-	110050	016747-28-7	40

Peak Number 33 Rank in Relative Concentration 33

R.T.	Conc	Area	Relative to ISTD	R.T.
27.79	3.48 PPB	277625	CHLOROBENZENE-D5	30.36
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	2-Heptyne 96	116025	001119-65-9	98
2	Cyclopropane, trimethylmethylene-	116046	034462-28-7	90
3	2-Pentyne, 4,4-dimethyl-	31797	000999-78-0	90

Peak Number 34 Rank in Relative Concentration 36

R.T.	Conc	Area	Relative to ISTD	R.T.
28.13	3.06 PPB	244081	CHLOROBENZENE-D5	30.36
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	2-Hexanone Target	109712	000591-78-6	91
2	2-Hexanone, 4-hydroxy-5-methyl-3-pr	5762	061141-74-0	83
3	Oxirane, 2-methyl-2-(1-methylethyl)	5754	072221-03-5	64

Peak Number 35 Rank in Relative Concentration 24

R.T.	Conc	Area	Relative to ISTD	R.T.
29.34	5.25 PPB	418862	CHLOROBENZENE-D5	30.36
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	Nitric acid, butyl ester	109147	000928-45-0	32
2	Isobutyl nitrite	4136	000542-56-3	27
3	Guanidine, methyl-	108192	000471-29-4	23

Unknown

Peak Number 36 Rank in Relative Concentration 17

R.T.	Conc	Area	Relative to ISTD	R.T.
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30.99	6.35 PPB	505901	CHLOROBENZENE-D5	30.36
Hit# of 3	Tentative ID		Ref# CAS#	Qual
1	4-Heptanone	NY	109874 000123-19-3	91
2	Pentane, 3-bromo-		109890 001809-10-5	64
3	3-Hexanone, 2-methyl-		6315 007379-12-6	64

Peak Number 37 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
31.43	47.61 PPB	3795688	CHLOROBENZENE-D5	30.36
Hit# of 3	Tentative ID		Ref# CAS#	Qual
1	3-Heptanone	Target	15594 000106-35-4	91
2	3,5-Octanedione, 2,2,4,7-tetramethyl-		17329 1000161-72-3	83
3	3-Hexanone, 5-methyl-		17303 000623-56-3	64

Peak Number 38 Rank in Relative Concentration 23

R.T.	Conc	Area	Relative to ISTD	R.T.
31.56	5.39 PPB	429424	CHLOROBENZENE-D5	30.36
Hit# of 3	Tentative ID		Ref# CAS#	Qual
1	2-Heptanone	Target	5736 000110-43-0	80
2	2-Hexanone, 4-methyl-		109725 000105-42-0	72
3	2-Hexanone, 5-methyl-		109705 000110-12-3	50

Peak Number 39 Rank in Relative Concentration 32

R.T.	Conc	Area	Relative to ISTD	R.T.
33.06	3.70 PPB	294830	CHLOROBENZENE-D5	30.36
Hit# of 3	Tentative ID		Ref# CAS#	Qual
1	2,2'-Bioxepane		43236 074793-02-5	78
2	3,5-Diamino-1,2,4-triazole		118543 001455-77-2	59
3	1,3,2-Dioxaborolane, 2,4-diethyl-		43307 057633-63-3	53
	1,3-Diethyl-1,4-epoxybutane, isomer		128	

Peak Number 40 Rank in Relative Concentration 22

R.T.	Conc	Area	Relative to ISTD	R.T.
33.19	5.54 PPB	441748	CHLOROBENZENE-D5	30.36
Hit# of 3	Tentative ID		Ref# CAS#	Qual
1	2,2'-Bioxepane		43236 074793-02-5	78
2	1-Hydroxycyclohexanecarboxylic acid		43242 001123-28-0	64
	1,3-Diethyl-1,4-epoxybutane, isomer		128	

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3 Glycocyanidine

43063 000503-86-6 64

 Peak Number 41 Rank in Relative Concentration 41

R.T.	Conc	Area	Relative to ISTD	R.T.
33.32	2.67 PPB	212868	CHLOROBENZENE-D5	30.36

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	4-Hexen-2-one, 3,4-dimethyl-		13565	053252-21-4	59
2	3-Ethyl-4-methyl-2-pentene		111625	019780-68-8	59
3	3-Hexene, 2,3-dimethyl-		111655	007145-23-5	59

Unknown

 Peak Number 42 Rank in Relative Concentration 21

R.T.	Conc	Area	Relative to ISTD	R.T.
33.62	5.57 PPB	444011	CHLOROBENZENE-D5	30.36

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	2,4,4-Trimethylbut-2-enolide		8061	004182-41-6	36
2	1,3,2-Dioxaborolane-4,5-dimethanol,		8055	074841-61-5	33
3	3-Octen-2-one, (E)-		5082	018402-82-9	32

Unknown

 Peak Number 43 Rank in Relative Concentration 35

R.T.	Conc	Area	Relative to ISTD	R.T.
35.59	3.07 PPB	245123	CHLOROBENZENE-D5	30.36

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Acetaldehyde	<i>Spike</i>	108065	000075-07-0	4
2	Ethylene oxide		107992	000075-21-8	4
3	Propane		108018	000074-98-6	2

 Peak Number 44 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
37.82	163.91 PPB	13067116	CHLOROBENZENE-D5	30.36

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Undecane	<i>156</i>	109663	001120-21-4	95
2	Decane		109556	000124-18-5	83
3	Heptadecane		112321	000629-78-7	83

 Peak Number 45 Rank in Relative Concentration 18

R.T.	Conc	Area	Relative to ISTD	R.T.
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 38.87 6.27 PPB 499937 CHLOROBENZENE-D5 30.36

Hit# of 3 Tentative ID Ref# CAS# Qual

 1 Benzoic acid, 2-[(trimethylsilyl)ox 27665 003789-85-3 45
 2 Benzeneethanamine, N-[(pentafluorop 115266 055429-85-1 38
 3 Benzeneacetic acid, 3-methoxy-4-[(t 27189 015964-84-8 25

Unknown

 Peak Number 46 Rank in Relative Concentration 2

R.T. Conc Area Relative to ISTD R.T.

 40.46 116.42 PPB 9280937 CHLOROBENZENE-D5 30.36

Hit# of 3 Tentative ID Ref# CAS# Qual

 1 Dodecane *170* 109555 000112-40-3 97
 2 Tridecane 16403 000629-50-5 90
 3 Hexadecane 112408 000544-76-3 86

 Peak Number 47 Rank in Relative Concentration 3

R.T. Conc Area Relative to ISTD R.T.

 42.41 55.06 PPB 4389110 CHLOROBENZENE-D5 30.36

Hit# of 3 Tentative ID Ref# CAS# Qual

 1 Tridecane *184* 112239 000629-50-5 96
 2 Undecane 112395 001120-21-4 90
 3 Dodecane 112317 000112-40-3 90

 19032407.D VAP_NP8.M Thu Apr 08 08:28:42 1999

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TIC: 19032407.D

VS006-202-S011

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	7.133	rBB	0.328	1818028	7.066	7.394
2	7.655	rBB	0.020	186342	7.648	7.668
3	8.914	rBB	0.188	941674	8.854	9.041
4	9.135	rBB	0.181	342324	9.061	9.242
5	11.010	rBB	0.134	166561	10.977	11.111
6	11.225	rBB	0.221	2149825	11.111	11.332
7	11.506	rBB	0.201	2443833	11.405	11.606
8	11.646	rBB	0.087	257495	11.613	11.700
9	12.611	rBB	0.161	254445	12.537	12.698
10	13.187	rBB	0.174	323990	13.120	13.294
11	14.754	rBB	0.295	1366724	14.707	15.002
12	15.665	rBB	0.141	356258	15.598	15.738
13	15.953	rBB	0.114	552852	15.886	15.999
14	16.113	rBB	0.100	1094582	16.066	16.167
15	16.354	rBB	0.181	1813006	16.261	16.441
16	17.854	rBB	0.127	991988	17.794	17.921
17	18.256	rBB	0.147	506623	18.189	18.337
18	19.348	rBB	0.107	341363	19.294	19.401
19	19.448	rBB	0.141	458959	19.401	19.542
20	20.105	rBB	0.154	439381	20.038	20.192
21	20.486	rBB	0.067	190256	20.439	20.506
22	20.533	rBB	0.080	195370	20.506	20.587
23	20.727	rBB	0.107	322360	20.674	20.781
24	20.855	rBB	0.188	11735301	20.781	20.968
25	22.007	rBB	0.074	429777	21.966	22.040
26	22.094	rBB	0.121	1981713	22.040	22.161
27	23.547	rBB	0.288	2774244	23.440	23.728
28	23.774	rBB	0.134	283360	23.728	23.862
29	23.982	rBB	0.214	13212102	23.895	24.109
30	24.371	rBB	0.127	259872	24.304	24.431
31	24.558	rBB	0.127	319908	24.491	24.618
32	24.893	rBB	0.167	2487305	24.819	24.987
33	25.040	rBB	0.121	489259	24.987	25.107
34	25.161	rBB	0.114	1118620	25.107	25.221
35	25.496	rBB	0.134	753115	25.435	25.569
36	25.743	rBB	0.221	1555864	25.676	25.897
37	27.036	rBB	0.154	243428	26.949	27.103
38	27.632	rBB	0.114	530589	27.578	27.692
39	27.793	rBB	0.141	277625	27.699	27.840
40	28.134	rBB	0.080	244080	28.087	28.168
41	28.556	rBB	0.194	868644	28.496	28.690
42	29.340	rBB	0.167	418862	29.273	29.440
43	30.358	rBB	0.208	15106815	30.250	30.458
44	30.987	rBB	0.127	505900	30.933	31.061
45	31.429	rBB	0.141	3795688	31.362	31.503
46	31.556	rBB	0.100	429424	31.503	31.603
47	31.898	rBB	0.121	570221	31.844	31.965
48	32.715	rBB	0.188	312783	32.608	32.795
49	33.056	rBB	0.127	294830	32.989	33.117
50	33.190	rBB	0.141	441748	33.130	33.271
51	33.324	rBB	0.141	212868	33.271	33.411
52	33.619	rBB	0.194	444011	33.559	33.753
53	34.972	rBB	0.114	3220453	34.911	35.025
54	35.588	rBB	0.020	245123	35.581	35.601
55	37.818	rBB	0.167	13067116	37.744	37.912
56	38.869	rBB	0.147	499936	38.796	38.943

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57	40.456	rBB	0.174	9280936	40.390	40.564
58	42.412	rBB	0.127	4389109	42.358	42.486

Library Searched : C:\DATABASE\NIST98.L
Quality : 70
ID : Cyclopentane, methyl-

Library Searched : C:\DATABASE\WILEY138.L
Quality : 33
ID : Nitric acid, propyl ester

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Library Searched : C:\DATABASE\NIST98.L
 Quality : 58
 ID : 2,3-Hexadiene, 2-methyl-

Library Searched : C:\DATABASE\WILEY138.L
Quality : 38
ID : Nitric acid, butyl ester

HNF-4440 Rev. 0

File : D:\C106_2\19032306.D
 Operator : G. FIES
 Acquired : 23 Mar 99 1:19 pm using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VS006-212-S028-2
 Misc Info : 50 TORR; 500 ML TO 12,000 ML
 Vial Number: 1

HNF-4440 Rev. 0
Quantitation Report

Data File : D:\C106_2\19032306.D
Acq Time : 23 Mar 99 1:19 pm
Sample : VS006-212-S028-2
Misc : 50 TORR; 500 ML TO 12,000 ML
Quant Time: Apr 20 13:49 1999

Operator: G. FIES
Inst : 5972 - MS
Multiplr: 1.00

DF = 48

Method : D:\METHODS\VAP_P8.M
Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
Last Update : Mon Mar 22 09:53:20 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.97	96	7765364	155.50	NG	0.04
17) CHLOROBENZENE-D5	30.35	117	6357580	189.50	NG	-0.11

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	14.95	45	116956	14.41	PPB	m 100
3) ACETONITRILE	16.05	40	58	4.05	PPB	m 1
4) ACETONE	16.11	58	189480	20.88	PPB	m 1
5) FURAN	16.42	68	32	0.00	PPB	# 1
6) 2-PROPANOL	16.89	45	89	0.00	PPB	# 1
7) 1-PROPANOL	19.36	31	65201	2.30	PPB	m 72
8) PROPANENITRILE	19.96	54	31991	2.76	PPB	m 94
9) BUTANAL	20.53	72	44062	8.34	PPB	m 81
10) 2-BUTANONE	20.73	72	35870	4.70	PPB	93
11) TETRAHYDROFURAN	22.09	72	3171	0.40	PPB	# 10
12) 1-BUTANOL	23.51	56	144547	9.16	PPB	m 96
13) BUTANENITRILE	23.78	41	146284	4.04	PPB	m 100
14) 2-PENTANONE	24.36	43	180267	2.82	PPB	99
15) 1,4-DIOXANE	25.22	88	313	0.02	PPB	# 13
16) 4-METHYL-2-PENTANONE	26.37	100	2799	0.36	PPB	# 1
18) 2-HEXANONE	28.13	58	196532	7.31	PPB	m 87
19) 3-HEPTANONE	31.45	114	1420134	160.31	PPB	m 1 E
20) 2-HEPTANONE	31.56	58	1685714	36.05	PPB	90
21) CYCLOHEXANONE	32.13	98	3625	0.21	PPB	77
22) 2-OCTANONE	34.96	58	76690	1.14	PPB	# 1

(#) = qualifier out of range (m) = manual integration
19032306.D VAP_P8.M Tue Apr 20 13:49:48 1999

HNF-4440 Rev. 0
Quantitation Report

Data File : D:\C106_2\19032306.D
Acq Time : 23 Mar 99 1:19 pm
Sample : VS006-212-S028-2
Misc : 50 TORR; 500 ML TO 12,000 ML
Quant Time: Apr 20 13:53 1999

Operator: G. FIES
Inst : 5972 - MS
Multiplr: 1.00

BF = 48

Method : D:\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.97	96	7765364	155.50	NG	0.04
20) CHLOROBENZENE-D5	30.35	117	6357580	189.50	NG	-0.08

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.81	85	11903	0.11	PPB m	45
3) METHYL CHLORIDE	9.41	50	1319	0.03	PPB m	41
4) N-BUTANE	11.49	43	1896903	25.38	PPB	95
5) ETHYL CHLORIDE	0.00	64		Not Detected		
6) FREON 11	15.66	101	9699	0.11	PPB	94
7) N-PENTANE	16.35	72	70251	11.72	PPB #	100
8) DICHLOROMETHANE	18.04	49	21763	0.48	PPB m	96
9) 2-METHYL-PENTANE	19.47	43	146511	1.87	PPB m	69
10) 1-HEXENE	20.48	56	746306	25.17	PPB #	47
11) N-HEXANE	20.83	57	584310	14.31	PPB #	63
12) CHLOROFORM	21.67	83	4	0.00	PPB #	16
13) BENZENE	23.47	78	40898	0.44	PPB	99
14) CARBON TETRACHLORIDE	23.51	117	214	0.00	PPB #	34
15) 3-METHYL-HEXANE	23.94	43	55300	0.83	PPB #	22
16) N-HEPTANE	24.88	57	2162436	66.96	PPB	80
17) TOLUENE	27.54	91	290551	2.10	PPB m	98
18) N-OCTANE	28.55	57	421357	12.43	PPB m	98
19) TETRACHLOROETHYLENE	29.14	166	2640	0.04	PPB #	39
21) CHLOROBENZENE	30.42	112	5184	0.06	PPB #	6
22) ETHYLBENZENE	30.89	91	19086	0.15	PPB m	95
23) M, P-XYLENE	31.13	91	28986	0.34	PPB m	97
24) STYRENE	31.86	104	1698	0.02	PPB #	62
25) N-NONANE	31.89	43	946645	13.19	PPB #	80
26) 1,1,2,2-TETRACHLOROETHANE	32.49	83	3395	0.08	PPB #	1
27) O-XYLENE	31.98	91	14097	0.14	PPB m	91
28) N-DECANE	34.96	43	1995630	26.30	PPB m	82
29) 1,2,4-TRIMETHYLBENZENE	35.14	105	19305	0.16	PPB m	95

(#) = qualifier out of range (m) = manual integration
19032306.D VAP_NP8.M Tue Apr 20 13:53:42 1999

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Library Search Compound Report

Data File : D:\C106_2\19032306.D
 Acq Time : 23 Mar 99 1:19 pm Operator: G. FIES
 Sample : VS006-212-S028-2 Inst : 5972 - MS
 Misc : 50 TORR; 500 ML TO 12,000 ML Multiplr: 1.00
 Method : D:\METHODS\VAP_NP8.M *OF = 48*
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Library : NIST98.L

 Peak Number 1 Rank in Relative Concentration 19

R.T.	Conc	Area	Relative to ISTD	R.T.
11.22	42.82 PPB	4390147	FLUOROBENZENE	23.97

Hit# of 15	Tentative ID	Ref#	CAS#	Qual
1	1-Propene, 2-methyl-	108669	000115-11-7	90
2	1-Propene, 2-methyl-	108463	000115-11-7	90
3	1-Butene <i>56</i>	108673	000106-98-9	87
4	1-Butene	108672	000106-98-9	87
5	1-Butene	108671	000106-98-9	87

 Peak Number 2 Rank in Relative Concentration 11

R.T.	Conc	Area	Relative to ISTD	R.T.
25.04	126.09 PPB	12928459	FLUOROBENZENE	23.97

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	3-Heptene, <i>2</i>	108688	000592-78-9	97
2	3-Heptene, (E)- <i>98</i>	2212	014686-14-7	90
3	3-Heptene	2209	000592-78-9	90
4	3-Heptene, (E)-	108697	014686-14-7	87
5	2-Heptene	108687	000592-77-8	87

 Peak Number 3 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
25.16	247.56 PPB	25382087	FLUOROBENZENE	23.97

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, (E)- <i>98</i>	13656	014686-13-6	97
2	2-Heptene, (E)-	111908	014686-13-6	96
3	2-Heptene	108687	000592-77-8	94
4	2-Heptene	108605	000592-77-8	91
5	3-Heptene	2209	000592-78-9	86

 Peak Number 4 Rank in Relative Concentration 7

R.T.	Conc	Area	Relative to ISTD	R.T.
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25.49 177.49 PPB 18198330 FLUOROBENZENE 23.97

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, 2 98	108687	000592-77-8	95
2	2-Heptene, (E)-	13656	014686-13-6	95
3	2-Heptene, (E)-	111908	014686-13-6	95
4	2-Heptene	108605	000592-77-8	91
5	3-Heptene	108688	000592-78-9	91

 Peak Number 5 Rank in Relative Concentration 17

R.T.	Conc	Area	Relative to ISTD	R.T.
27.03	53.37 PPB	5471596	FLUOROBENZENE	23.97
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Cyclopenten-1-one, 3-methyl-	118261	002758-18-1	72
2	2-Butenal, 2-ethenyl-	108753	020521-42-0	62
3	3,4-Heptadiene	31430	002454-31-1	62
4	2,3-Hexadiene, 2-methyl- 96	2762	029212-09-7	58
5	Cyclohexene, 4-methyl-	31569	000591-47-9	58

 Peak Number 6 Rank in Relative Concentration 10

R.T.	Conc	Area	Relative to ISTD	R.T.
27.63	133.77 PPB	12514392	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methyl- 114	109689	000589-81-1	91
2	Heptane, 3-methyl-	5681	000589-81-1	90
3	Heptane, 3,4,5-trimethyl-	7053	020278-89-1	86
4	Hexane, 2-methyl-	109353	000591-76-4	72
5	Hexane, 2-methyl-	109390	000591-76-4	64

 Peak Number 7 Rank in Relative Concentration 9

R.T.	Conc	Area	Relative to ISTD	R.T.
28.19	137.53 PPB	12866161	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methylene- 112	114416	001632-16-2	94
2	Heptane, 3-methylene-	114415	001632-16-2	87
3	Hexane, 2-methyl-4-methylene-	114420	003404-80-6	86
4	2-Heptene, 3-methyl-	23868	003404-75-9	72
5	Cyclopentane, 1,2,4-trimethyl-, (1.	23853	016883-48-0	64

 Peak Number 8 Rank in Relative Concentration 12

R.T.	Conc	Area	Relative to ISTD	R.T.
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30.98	78.99 PPB	7389.679	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1 4-Heptanone	<i>117</i>	109855	000123-19-3	90
2 4-Heptanone		6294	000123-19-3	86
3 4-Heptanone		109874	000123-19-3	80
4 3-Hexanone, 2-methyl-		109857	007379-12-6	72
5 4-Heptanone		114577	000123-19-3	72

Peak Number 9 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
31.44	260.86 PPB	24403898	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1 3-Heptanone	<i>Target</i>	112074	000106-35-4	91
2 3-Heptanone		112010	000106-35-4	91
3 3-Heptanone		15594	000106-35-4	90
4 3-Heptanone		112009	000106-35-4	86
5 3-Heptanone		112011	000106-35-4	64

Peak Number 10 Rank in Relative Concentration 14

R.T.	Conc	Area	Relative to ISTD	R.T.
31.56	66.50 PPB	6220945	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1 2-Heptanone	<i>Target</i>	5736	000110-43-0	91
2 2-Heptanone		109709	000110-43-0	91
3 2-Heptanone		109740	000110-43-0	91
4 2-Heptanone		109741	000110-43-0	80
5 2-Hexanone, 4-methyl-		109736	000105-42-0	72

Peak Number 11 Rank in Relative Concentration 16

R.T.	Conc	Area	Relative to ISTD	R.T.
33.04	53.59 PPB	5013705	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1 2,2'-Bioxepane		43236	074793-02-5	78
2 3,5-Diamino-1,2,4-triazole		43045	001455-77-2	53
3 Hexanoic acid, anhydride		118546	002051-49-2	45
4 Glycocyanidine		43063	000503-86-6	45
5 Hexanoic acid, anhydride		43066	002051-49-2	42

1,3-diethyl-1,4-epoxybutane, isomer 128

Peak Number 12 Rank in Relative Concentration 15

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R.T.	Conc	Area	Relative to ISTD	R.T.
33.18	61.35 PPB	5739375	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2,2'-Bioxepane	43236	074793-02-5	78
2	Glycocyanidine	43063	000503-86-6	64
3	3,5-Diamino-1,2,4-triazole	43045	001455-77-2	53
4	1-Hydroxycyclohexanecarboxylic acid	43242	001123-28-0	50
5	Furan, 2,5-diethyltetrahydro-	32025	041239-48-9	50
	<i>1,3-Diethyl-4-oxobutane, isomer</i>		<i>128</i>	

 Peak Number 13 Rank in Relative Concentration 18

R.T.	Conc	Area	Relative to ISTD	R.T.
33.32	48.34 PPB	4522044	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclopropane, 1,1,2,2-tetramethyl-	111640	004127-47-3	59
2	3,3-Diethoxy-1-propyne	32833	010160-87-9	58
3	3-Penten-2-one, 4-methyl-	33008	000141-79-7	53
4	2-Pentene, 4,4-dimethyl-, (Z)-	116391	000762-63-0	42
5	Cyclopropane, 1,1,2,2-tetramethyl-	111639	004127-47-3	42
	<i>Unknown</i>		<i>128</i>	

 Peak Number 14 Rank in Relative Concentration 20

R.T.	Conc	Area	Relative to ISTD	R.T.
33.60	39.71 PPB	3715097	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tetradecane, 1-chloro-	5488	002425-54-9	38
2	3-Octen-2-one, (E)-	5082	018402-82-9	33
3	1,3,2-Dioxaborolane-4,5-dimethanol,	8055	074841-61-5	33
4	2,4,4-Trimethylbut-2-enolide	8061	004182-41-6	33
5	Trifluoroacetic acid, n-heptadecyl	4324	1000216-79-2	32
	<i>Unknown</i>		<i>126</i>	

 Peak Number 15 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
34.47	245.97 PPB	23010684	CHLOROBENZENE-D5	30.35
Hit# of 11	Tentative ID	Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	<i>296</i> 128142	000556-67-2	90
2	Cyclotetrasiloxane, octamethyl-	128141	000556-67-2	80
3	Cyclotetrasiloxane, octamethyl-	97367	000556-67-2	78
4	Benzoic acid, 3-methyl-2-trimethyls	97299	1000153-57-1	59
5	2,4-Diamino-N,N,5-trimethyl-6-quino	97291	1000227-25-1	53

 Peak Number 16 Rank in Relative Concentration 13

R.T.	Conc	Area	Relative to ISTD	R.T.
35.31	73.08 PPB	6836664	CHLOROBENZENE-D5	30.35
Hit# of 8	Tentative ID	Ref#	CAS#	Qual
1	Hexanenitrile	108570	000628-73-9	42
2	Hexane-2,6-dicarbonitrile, 1-(formy	12747	1000159-54-2	38
3	1,8-Nonadiene	2340	004900-30-5	36
4	2-Oxazolidinone, 3-ethenyl-5-methyl	12662	003395-98-0	33
5	1,7-Octadiene	108571	003710-30-3	33
Unknown 140				

 Peak Number 17 Rank in Relative Concentration 8

R.T.	Conc	Area	Relative to ISTD	R.T.
37.81	148.63 PPB	13904080	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Undecane	109663	001120-21-4	97
2	Undecane	112281	001120-21-4	94
3	Undecane	112395	001120-21-4	91
4	Undecane	16533	001120-21-4	90
5	Decane	109556	000124-18-5	90
156				

 Peak Number 18 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
38.87	198.21 PPB	18542281	CHLOROBENZENE-D5	30.35
Hit# of 8	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox	27665	003789-85-3	59
2	Tetrasiloxane, 1,1,3,3,5,5,7,7-octa	27274	001000-05-1	40
3	Benzoic acid, 2-[(trimethylsilyl)ox	115268	003789-85-3	39
4	Benzoic acid, 4-[(trimethylsilyl)ox	115270	002078-13-9	38
5	Benzeneethanamine, N-[(pentafluorop	115266	055429-85-1	37
Unknown				

 Peak Number 19 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
40.46	260.70 PPB	24388539	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Dodecane	109555	000112-40-3	97
2	Dodecane	112317	000112-40-3	96
3	Dodecane	112318	000112-40-3	96
4	Dodecane	16262	000112-40-3	95
5	Tridecane	112309	000629-50-5	90
170				

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Peak Number 20 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
42.41	195.83 PPB	18320406	CHLOROBENZENE-D5	30.35

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tridecane	112239	000629-50-5	97
2	Tridecane	112308	000629-50-5	96
3	Tridecane	16403	000629-50-5	94
4	Tridecane	112309	000629-50-5	94
5	Dodecane	16262	000112-40-3	90

 19032306.D VAP_NP8.M Tue Apr 20 13:54:24 1999

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TIC: 19032306.D

VS006-212-S028-2

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	11.217	rBB	0.261	4390147	11.096	11.357
2	11.491	rBB	0.188	3643005	11.417	11.605
3	12.154	rBB	0.121	281454	12.094	12.214
4	12.610	rBB	0.194	272160	12.522	12.717
5	12.871	rBB	0.181	518414	12.764	12.944
6	15.951	rBB	0.174	1391870	15.844	16.018
7	16.112	rBB	0.188	1152978	16.058	16.246
8	16.353	rBB	0.208	2672025	16.246	16.454
9	16.855	rBB	0.127	296542	16.788	16.916
10	17.766	rBB	0.094	265887	17.719	17.813
11	18.998	rBB	0.194	276739	18.891	19.085
12	19.474	rBB	0.147	528759	19.400	19.548
13	20.478	rBB	0.254	4854774	20.378	20.632
14	20.726	rBB	0.114	265535	20.659	20.773
15	20.833	rBB	0.127	2539566	20.773	20.900
16	23.505	rBB	0.121	512601	23.432	23.552
17	23.807	rBB	0.134	799132	23.726	23.860
18	23.967	rBB	0.268	15943545	23.860	24.128
19	24.543	rBB	0.147	3838964	24.483	24.630
20	24.731	rBB	0.181	791563	24.630	24.811
21	24.898	rBB	0.161	35187942	24.811	24.972
22	25.039	rBB	0.121	12928459	24.979	25.099
23	25.160	rBB	0.127	25382087	25.099	25.226
24	25.494	rBB	0.141	18198330	25.427	25.568
25	25.742	rBB	0.208	2876737	25.668	25.876
26	26.311	rBB	0.181	294368	26.251	26.432
27	26.660	rBB	0.121	369592	26.606	26.727
28	26.780	rBB	0.087	313097	26.733	26.820
29	27.028	rBB	0.228	5471596	26.914	27.142
30	27.329	rBB	0.141	442141	27.229	27.369
31	27.524	rBB	0.107	3154656	27.463	27.570
32	27.631	rBB	0.114	12514392	27.570	27.684
33	27.731	rBB	0.054	969246	27.698	27.751
34	27.785	rBB	0.074	2596326	27.751	27.825
35	28.126	rBB	0.054	260988	28.086	28.140
36	28.193	rBB	0.127	12866161	28.140	28.267
37	28.434	rBB	0.121	513860	28.354	28.474
38	28.541	rBB	0.221	10407101	28.474	28.695
39	28.756	rBB	0.107	816798	28.695	28.803
40	28.903	rBB	0.121	2956810	28.843	28.963
41	29.030	rBB	0.060	391488	28.990	29.050
42	29.077	rBB	0.074	429368	29.050	29.124
43	30.350	rBB	0.228	17727800	30.229	30.457
44	30.738	rBB	0.134	301845	30.684	30.818
45	30.892	rBB	0.087	294336	30.838	30.926
46	30.979	rBB	0.134	7389679	30.926	31.059
47	31.153	rBB	0.114	383917	31.093	31.207
48	31.301	rBB	0.154	1774621	31.207	31.361
49	31.441	rBB	0.141	24403898	31.361	31.501
50	31.555	rBB	0.094	6220945	31.501	31.595
51	31.615	rBB	0.060	406470	31.595	31.656
52	31.702	rBB	0.087	684127	31.662	31.749
53	31.890	rBB	0.174	3601217	31.836	32.010
54	32.258	rBB	0.134	353557	32.178	32.312
55	32.707	rBB	0.174	1961970	32.600	32.774
56	32.814	rBB	0.094	334496	32.774	32.868

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57	33.042	rBB	0.234	5013705	32.868	33.102
58	33.176	rBB	0.154	5739375	33.102	33.256
59	33.316	rBB	0.134	4522044	33.256	33.390
60	33.504	rBB	0.020	274996	33.497	33.517
61	33.604	rBB	0.114	3715097	33.531	33.644
62	33.906	rBB	0.094	529695	33.865	33.959
63	34.153	rBB	0.167	1466628	34.086	34.254
64	34.354	rBB	0.127	1052025	34.267	34.395
65	34.475	rBB	0.134	23010684	34.401	34.535
66	34.716	rBB	0.114	991490	34.636	34.749
67	34.790	rBB	0.080	353061	34.756	34.837
68	34.964	rBB	0.134	7695830	34.910	35.044
69	35.111	rBB	0.167	565502	35.051	35.218
70	35.312	rBB	0.241	6836664	35.218	35.459
71	35.654	rBB	0.121	2008295	35.587	35.707
72	35.787	rBB	0.181	3679809	35.707	35.888
73	36.156	rBB	0.100	262355	36.109	36.209
74	36.276	rBB	0.121	628791	36.209	36.330
75	36.404	rBB	0.100	677682	36.357	36.457
76	36.819	rBB	0.147	758502	36.759	36.906
77	37.026	rBB	0.100	309620	36.966	37.067
78	37.341	rBB	0.208	1776860	37.234	37.442
79	37.589	rBB	0.154	1207065	37.522	37.676
80	37.810	rBB	0.147	13904080	37.750	37.897
81	38.111	rBB	0.134	1284213	38.031	38.165
82	38.593	rBB	0.141	718477	38.506	38.647
83	38.727	rBB	0.141	682051	38.647	38.788
84	38.868	rBB	0.208	18542281	38.788	38.995
85	39.149	rBB	0.134	1215342	39.089	39.223
86	39.350	rBB	0.100	801597	39.297	39.397
87	39.524	rBB	0.114	823128	39.471	39.585
88	40.100	rBB	0.087	283278	40.053	40.140
89	40.248	rBB	0.154	1079499	40.147	40.301
90	40.455	rBB	0.181	24388539	40.375	40.556
91	40.790	rBB	0.181	2443571	40.723	40.904
92	41.373	rBB	0.141	458771	41.312	41.453
93	41.507	rBB	0.087	436569	41.460	41.547
94	41.627	rBB	0.074	325919	41.594	41.667
95	41.708	rBB	0.094	265381	41.667	41.761
96	41.962	rBB	0.174	1714370	41.895	42.069
97	42.277	rBB	0.107	860884	42.203	42.310
98	42.411	rBB	0.100	18320406	42.357	42.458
99	42.598	rBB	0.127	3352435	42.558	42.685
100	43.790	rBB	0.087	828192	43.750	43.837

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File : C:\OLDCHEM\1\DATA\19032304.D
 Operator : G. FIES
 Acquired : 23 Mar 1999 11:18 am using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VS006-222-S039-2
 Misc Info : 50 TORR; 500 ML TO 12,000
 Vial Number: 1

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Quantitation Report

(QT Reviewed)

Data File : C:\OLDCHEM\1\DATA\19032304.D

Acq On : 23 Mar 1999 11:18 am

Sample : VS006-222-S039-2

Misc : 50 TORR; 500 ML TO 12,000

MS Integration Params: rteint.p

Quant Time: Apr 19 11:49 1999

Vial: 1

Operator: G. FIES

Inst : 5972 - MS

Multiplr: 1.00

DF=48

Quant Results File: VAP_NP8.RES

Quant Method : C:\OLDCHEM\1\METHODS\VAP_NP8.M (RTE Integrator)

Title : NONPOLAR VAPOR STANDARD CALIBRATION

Last Update : Mon Mar 22 09:40:09 1999

Response via : Initial Calibration

DataAcq Meth : VAP_NP8

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.97	96	7704812	155.50	NG	0.04
20) CHLOROBENZENE-D5	30.35	117	6357530	189.50	NG	-0.08

System Monitoring Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.82	85	3927	0.04	PPB	# 64
3) METHYL CHLORIDE	9.41	50	1866	0.04	PPB	# 41
4) N-BUTANE	11.49	43	7420907	100.07	PPB	95
5) ETHYL CHLORIDE	0.00	64	0	N.D.		
6) FREON 11	15.66	101	13084	0.16	PPB	94
7) N-PENTANE	16.35	72	217802	36.64	PPB	# 100
8) DICHLOROMETHANE	18.03	49	4177	0.09	PPB	96
9) 2-METHYL-PENTANE	19.47	43	431238	5.54	PPB	# 69
10) 1-HEXENE	20.48	56	2021244	68.71	PPB	# 50
11) N-HEXANE	20.84	57	1608343	39.71	PPB	# 59
12) CHLOROFORM	21.66	83	545	0.01	PPB	# 66
13) BENZENE	23.47	78	128898	1.40	PPB	99
14) CARBON TETRACHLORIDE	23.51	117	391	0.01	PPB	87
15) 3-METHYL-HEXANE	24.00	43	12514	0.19	PPB	# 22
16) N-HEPTANE	24.91	57	4732914m	147.70	PPB	# 97
17) TOLUENE	27.54	91	727029	5.30	PPB	97
18) N-OCTANE	28.56	57	1207071	35.90	PPB	94
19) TETRACHLOROETHYLENE	29.14	166	2901	0.05	PPB	# 81
21) CHLOROBENZENE	30.60	112	8978	0.10	PPB	# 6
22) ETHYLBENZENE	30.89	91	46376	0.37	PPB	98
23) M,P-XYLENE	31.13	91	55080	0.64	PPB	88
24) STYRENE	31.88	104	4971	0.06	PPB	92
25) N-NONANE	31.90	43	3029768	42.21	PPB	# 80
26) 1,1,2,2-TETRACHLOROETHANE	32.14	83	8201	0.19	PPB	86
27) O-XYLENE	31.98	91	23264m	0.23	PPB	
28) N-DECANE	34.97	43	4852615m	63.94	PPB	
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	29273	0.25	PPB	100

(#)=qualifier out of range (m)=manual integration

19032304.D VAP_NP8.M Mon Apr 19 11:49:50 1999

HNF-4440 Rev. 0

Quantitation Report

(QT Reviewed)

Data File : C:\OLDCHEM\1\DATA\19032304.D

Acq On : 23 Mar 1999 11:18 am

Sample : VS006-222-S039-2

Misc : 50 TORR; 500 ML TO 12,000

MS Integration Params: rteint.p

Quant Time: Apr 19 12:04 1999

Vial: 1

Operator: G. FIES

Inst : 5972 - MS

Multiplr: 1.00

DF = 48

Quant Results File: VAP_P8.RES

Quant Method : C:\OLDCHEM\1\METHODS\VAP_P8.M (RTE Integrator)

Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES

Last Update : Mon Mar 22 09:53:20 1999

Response via : Initial Calibration.

DataAcq Meth : VAP_NP8

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.97	96	7683245	155.50	NG	0.04
17) CHLOROBENZENE-D5	30.35	117	6306672	189.50	NG	-0.11

System Monitoring Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	14.89	45	161765m	10.07	PPB	
3) ACETONITRILE	16.07	40	18138m	2.90	PPB	
4) ACETONE	16.10	58	276510m	15.40	PPB	
5) FURAN	16.39	68	1736	0.05	PPB	# 1
6) 2-PROPANOL	16.89	45	142	0.00	PPB	# 57
7) 1-PROPANOL	19.36	31	70509m	1.26	PPB	
8) PROPANENITRILE	19.94	54	86634m	3.78	PPB	
9) BUTANAL	20.53	72	66165m	6.33	PPB	
10) 2-BUTANONE	20.71	72	59843	3.97	PPB	92
11) TETRAHYDROFURAN	22.08	72	5086	0.32	PPB	# 1
12) 1-BUTANOL	23.51	56	306175m	9.80	PPB	
13) BUTANENITRILE	23.76	41	461061m	6.43	PPB	
14) 2-PENTANONE	24.36	43	358838m	2.83	PPB	
15) 1,4-DIOXANE	25.21	88	61	0.00	PPB	# 13
16) 4-METHYL-2-PENTANONE	26.37	100	6274	0.41	PPB	# 26
18) 2-HEXANONE	28.13	58	626812m	11.75	PPB	
19) 3-HEPTANONE	31.50	114	2991325m	170.20	PPB	E /
20) 2-HEPTANONE	31.58	58	5363404m	57.82	PPB	
21) CYCLOHEXANONE	32.14	98	12068	0.35	PPB	99
22) 2-OCTANONE	34.68	58	427331m	3.20	PPB	

(#) = qualifier out of range (m) = manual integration

19032304.D VAP_P8.M

Mon Apr 19 12:05:26 1999

Library Search Compound Report

Data File : C:\OLDCHEM\1\DATA\19032304.D Vial: 1
 Acq On : 23 Mar 1999 11:18 am Operator: G. FIES
 Sample : VS006-222-S039-2 Inst : 5972 - MS
 Misc : 50 TORR; 500 ML TO 12,000 Multiplr: 1.00
 MS Integration Params: VAP NP.P DF= 48
 Quant Method : C:\OLDCHEM\1\METHODS\VAP NP8.M (RTE Integrator)
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Library : C:\DATABASE\NIST98.L

 Peak Number 1 1-Propene, 2-methyl- Concentration Rank 16

R.T.	EstConc	Area	Relative to ISTD	R.T.	
11.21	173.53 NG	18730000	FLUOROBENZENE	23.97	
Hit# of	3	Tentative ID	MW MolForm	CAS#	Qual
1		1-Propene, 2-methyl-	56 C4H8	000115-11-7	90
2		1-Butene	56 C4H8	000106-98-9	87
3		2-Butene, (Z) -	56 C4H8	000590-18-1	80

 Peak Number 2 (Z)-3-Heptene Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.	
25.06	284.36 NG	30691600	FLUOROBENZENE	23.97	
Hit# of	3	Tentative ID	MW MolForm	CAS#	Qual
1		(Z)-3-Heptene	98 C7H14	007642-10-6	97
2		3-Heptene	98 C7H14	000592-78-9	95
3		2-Heptene	98 C7H14	000592-77-8	91

 Peak Number 3 2-Heptene, (E)- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.	
25.19	472.47 NG	50995400	FLUOROBENZENE	23.97	
Hit# of	3	Tentative ID	MW MolForm	CAS#	Qual
1		2-Heptene, (E) -	98 C7H14	014686-13-6	97
2		2-Heptene	98 C7H14	000592-77-8	95
3		3-Heptene	98 C7H14	000592-78-9	87

 Peak Number 4 2-Heptene, (E)- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.	
25.51	375.84 NG	40565700	FLUOROBENZENE	23.97	
Hit# of	3	Tentative ID	MW MolForm	CAS#	Qual
1	2-Heptene, (E)-		98 C7H14	014686-13-6	97

2 2-Heptene, 7	98 C7H14	000592-77-8 95
3 3-Heptene	98 C7H14	000592-78-9 94

 Peak Number 5 2-Cyclopenten-1-one, 3-methyl- Concentration Rank 19

R.T.	EstConc	Area	Relative to ISTD	R.T.
27.03	158.54 NG	17112100	FLUOROBENZENE	23.97

Hit#	of	3	Tentative ID	MW	MolForm	CAS#	Qual
1			2-Cyclopenten-1-one, 3-methyl-	96	C6H8O	002758-18-1	72
2			2-Butenal, 2-ethenyl-	96	C6H8O	020521-42-0	62
3			3,4-Heptadiene	96	C7H12	002454-31-1	62
			2,3-Heptadiene, 2-methyl-	96		29212-09-7	

 Peak Number 6 Heptane, 3-methyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
27.64	367.53 NG	34171100	CHLOROBENZENE-D5	30.35

Hit#	of	3	Tentative ID	MW	MolForm	CAS#	Qual
1			Heptane, 3-methyl-	114	C8H18	000589-81-1	87
2			Hexane, 2,4-dimethyl-	114	C8H18	000589-43-5	64
3			Hexane, 2-methyl-	100	C7H16	000591-76-4	59

 Peak Number 7. Heptane, 3-methylene- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
28.21	330.28 NG	30707700	CHLOROBENZENE-D5	30.35

Hit#	of	3	Tentative ID	MW	MolForm	CAS#	Qual
1			Heptane, 3-methylene-	112	C8H16	001632-16-2	94
2			Hexane, 2-methyl-4-methylene-	112	C8H16	003404-80-6	87
3			Cyclopentane, 1,2,3-trimethyl-, (1.	112	C8H16	015890-40-1	64

 Peak Number 8 4-Heptanone Concentration Rank 11

R.T.	EstConc	Area	Relative to ISTD	R.T.
30.99	259.65 NG	24141500	CHLOROBENZENE-D5	30.35

Hit#	of	3	Tentative ID	MW	MolForm	CAS#	Qual
1			4-Heptanone	114	C7H14O	000123-19-3	90
2			3-Pentanone, 2,4-dimethyl-	114	C7H14O	000565-80-0	72
3			3-Hexanone, 2-methyl-	114	C7H14O	007379-12-6	72

 Peak Number 9 3-Heptanone Concentration Rank 1

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R.T.	EstConc	Area	Relative to ISTD	R.T.	
31.49	612.40 NG	56938600	CHLOROBENZENE-D5	30.35	
Hit# of 3	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Heptanone <i>Target</i>	114	C7H14O	000106-35-4	91
2	2-Propen-1-ol, 2-methyl-	72	C4H8O	000513-42-8	49
3	4-Methyl-5-nonanone	156	C10H20O	035900-26-6	42

 Peak Number 10 2-Heptanone Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.	
31.58	265.57 NG	24691400	CHLOROBENZENE-D5	30.35	
Hit# of 3	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Heptanone <i>Target</i>	114	C7H14O	000110-43-0	91
2	2-Hexanone, 4-methyl-	114	C7H14O	000105-42-0	72
3	2-Hexanone, 5-methyl-	114	C7H14O	000110-12-3	59

 Peak Number 11 2,2'-Bioxepane Concentration Rank 18

R.T.	EstConc	Area	Relative to ISTD	R.T.	
33.05	158.96 NG	14,779,000	CHLOROBENZENE-D5	30.35	
Hit# of 3	Tentative ID	MW	MolForm	CAS#	Qual
1	2,2'-Bioxepane	198	C12H22O2	074793-02-5	78
2	1,3,2-Dioxaborolane, 2,4-diethyl-	128	C6H13BO2	057633-63-3	64
3	Hexanoic acid, anhydride	214	C12H22O3	002051-49-2	53
	1,3-Diethyl-1,4-epoxybutane, isomer	128			

 Peak Number 12 3,5-Diamino-1,2,4-triazole Concentration Rank 14

R.T.	EstConc	Area	Relative to ISTD	R.T.	
33.18	181.55 NG	16879900	CHLOROBENZENE-D5	30.35	
Hit# of 3	Tentative ID	MW	MolForm	CAS#	Qual
1	3,5-Diamino-1,2,4-triazole	99	C2H5N5	000503-88-8	50
2	2,2'-Bioxepane	198	C12H22O2	074793-02-5	50
3	1-Hydroxycyclohexanecarboxylic acid	144	C7H12O3	001123-28-0	50
	1,3-Diethyl-1,4-epoxybutane, isomer			128	

 Peak Number 13 Cyclopropane, 1,1,2,2-tetramet Concentration Rank 17

R.T.	EstConc	Area	Relative to ISTD	R.T.	
33.32	171.00 NG	15899100	CHLOROBENZENE-D5	30.35	
Hit# of 3	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclopropane, 1,1,2,2-tetramethyl-	98	C7H14	004127-47-3	53

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2 3,3-Diethoxy-1-propyne	128 C7H12O2	010160-87-9 45
3 4-Hexen-2-one, 3,4-dimethyl-	126 C8H14O	053252-21-4 42

 Peak Number 14 3-Octen-2-one, (E)- Concentration Rank 20

R.T.	EstConc	Area	Relative to ISTD	R.T.
33.62	142.70 NG	13267700	CHLOROBENZENE-D5	30.35

Hit# of	3	Tentative ID	MW	MolForm	CAS#	Qual
1		3-Octen-2-one, (E)-	126	C8H14O	018402-82-9	33
2		2-Propenal, (1,1-dimethylethyl)meth	126	C8H14O	072101-22-5	23
3		3-Hepten-2-one, 4-methyl-	126	C8H14O	022319-25-1	22

Unknown

 Peak Number 15 Cyclotetrasiloxane, octamethyl Concentration Rank 12

R.T.	EstConc	Area	Relative to ISTD	R.T.
34.48	231.47 NG	21520800	CHLOROBENZENE-D5	30.35

Hit# of	3	Tentative ID	MW	MolForm	CAS#	Qual
1		Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	91
2		Ethanethioic acid, S-[8-(diethylpho	324	C14H29O4PS	129065-11-8	76
3		Benzoic acid, 3-methyl-2-trimethyls	296	C14H24O3Si2	1000153-57-1	59

 Peak Number 16 2-Propenoic acid, 2-methyl-, 3 Concentration Rank 13

R.T.	EstConc	Area	Relative to ISTD	R.T.
35.33	209.53 NG	19480900	CHLOROBENZENE-D5	30.35

Hit# of	3	Tentative ID	MW	MolForm	CAS#	Qual
1		2-Propenoic acid, 2-methyl-, 3-bute	140	C8H12O2	079964-12-8	59
2		Hexanenitrile	97	C6H11N	000628-73-9	42
3		1,2-Nonadiene	124	C9H16	022433-33-6	33

Unknown

 Peak Number 17 Undecane Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
37.82	262.23 NG	24380700	CHLOROBENZENE-D5	30.35

Hit# of	3	Tentative ID	MW	MolForm	CAS#	Qual
1		Undecane	156	C11H24	001120-21-4	95
2		Decane	142	C10H22	000124-18-5	83
3		Decane, 2,3,6-trimethyl-	184	C13H28	062238-12-4	83

 Peak Number 18 Benzoic acid, 2-[(trimethylsil Concentration Rank 15

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R.T.	EstConc	Area	Relative to ISTD	R.T.
38.86	177.70 NG	16522100	CHLOROBENZENE-D5	30.35

Hit# of	3	Tentative ID	MW	MolForm	CAS#	Qual
1		Benzoic acid, 2-[(trimethylsilyl)ox	282	C13H22O3Si2	003789-85-3	59
2		Benzoic acid, 4-[(trimethylsilyl)ox	282	C13H22O3Si2	002078-13-9	38
3		Benzenethanamine, N-[(pentafluorop	475	C21H26F5NO2Si2	055429-85-1	37

Unknown

 Peak Number 19 Dodecane Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
40.46	385.73 NG	35863500	CHLOROBENZENE-D5	30.35

Hit# of	3	Tentative ID	MW	MolForm	CAS#	Qual
1		Dodecane	170	C12H26	000112-40-3	96
2		Undecane	156	C11H24	001120-21-4	90
3		Tridecane	184	C13H28	000629-50-5	90

 Peak Number 20 Tridecane Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
42.41	269.71 NG	25076800	CHLOROBENZENE-D5	30.35

Hit# of	3	Tentative ID	MW	MolForm	CAS#	Qual
1		Tridecane	184	C13H28	000629-50-5	96
2		Tetradecane	198	C14H30	000629-59-4	90
3		Dodecane	170	C12H26	000112-40-3	90

19032304.D VAP_NP8.M Mon Apr 19 12:42:04 1999

Library Searched : C:\DATABASE\WILEY138.L
Quality : 74
ID : 2,3-Hexadiene, 2-methyl-

Library Searched : C:\DATABASE\NIST98.L
Quality : 78
ID : Cyclotetrasiloxane, octamethyl-

HNF-4440 Rev. 0

TIC: 19032304.D

VS006-222-S039-2

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	7.112	rVB	0.683	13468429	7.065	7.748
2	11.210	rVV	0.308	18912640	11.090	11.398
3	11.492	rVB	0.308	14443011	11.398	11.706
4	12.864	rVB	0.254	2622867	12.771	13.025
5	15.945	rBV	0.228	5358713	15.798	16.025
6	16.347	rVB	0.321	9001650	16.226	16.548
7	20.479	rVB	0.268	12840670	20.372	20.640
8	20.841	rBV	0.134	7145979	20.767	20.901
9	23.807	rVV	0.127	2653787	23.727	23.854
10	23.968	rVB	0.268	17128831	23.854	24.122
11	24.551	rVB	0.147	11538731	24.484	24.631
12	24.725	rBV	0.188	2814717	24.631	24.818
13	24.926	rVV	0.174	71199761	24.818	24.993
14	25.060	rVV	0.121	33755489	24.993	25.113
15	25.187	rVB	0.208	54556554	25.113	25.321
16	25.508	rBV	0.268	42713296	25.321	25.589
17	25.756	rBV	0.221	8774883	25.669	25.890
18	27.028	rBV	0.228	17305048	26.921	27.149
19	27.524	rBV	0.107	11139928	27.464	27.571
20	27.645	rVV	0.127	36909079	27.571	27.698
21	27.738	rVV	0.060	9483209	27.698	27.758
22	27.785	rVB	0.087	13399422	27.758	27.845
23	28.207	rBV	0.295	50996462	28.060	28.354
24	28.441	rVV	0.127	2380622	28.354	28.482
25	28.555	rVV	0.221	34035115	28.482	28.703
26	28.756	rVB	0.141	3536320	28.703	28.843
27	28.910	rBV	0.127	10023897	28.843	28.971
28	29.031	rBV	0.087	3655451	28.971	29.058
29	29.071	rVB	0.194	2967741	29.058	29.252
30	30.350	rVV	0.288	18644361	30.209	30.497 (S
31	30.993	rVV	0.188	25524871	30.926	31.114
32	31.301	rVV	0.121	5482070	31.241	31.361
33	31.489	rVV	0.174	60291440	31.361	31.535
34	31.582	rVV	0.134	29704430	31.535	31.669
35	31.710	rVV	0.087	6895885	31.669	31.756
36	31.897	rVB	0.188	12501590	31.837	32.024
37	32.714	rBV	0.181	5926866	32.594	32.774
38	33.049	rVV	0.234	15855147	32.875	33.109
39	33.183	rVV	0.147	18097109	33.109	33.257
40	33.324	rVV	0.154	16612040	33.257	33.411
41	33.618	rBV	0.214	20920082	33.518	33.732
42	34.161	rVB	0.181	5059256	34.087	34.268
43	34.362	rBV	0.134	3728587	34.268	34.402
44	34.475	rVV	0.134	24299205	34.402	34.536
45	34.716	rVV	0.161	6573066	34.596	34.757
46	34.790	rVV	0.094	2544525	34.757	34.850
47	34.971	rVB	0.154	20519120	34.911	35.065
48	35.326	rVB	0.241	19809177	35.219	35.460
49	35.661	rBV	0.121	6046544	35.587	35.708
50	35.788	rVB	0.174	12998011	35.708	35.882
51	36.819	rVB	0.147	3091609	36.759	36.906
52	37.342	rBV	0.248	5638830	37.188	37.435
53	37.589	rBV	0.154	3848345	37.522	37.677
54	37.817	rVV	0.147	27486787	37.750	37.898
55	38.112	rBV	0.141	5156863	38.025	38.165
56	38.728	rBV	0.141	2404645	38.648	38.788

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57	38.862	rVB	0.208	16766483	38.788	38.996
58	39.150	rVB	0.127	2634894	39.096	39.223
59	40.248	rBV	0.161	3550269	40.141	40.302
60	40.462	rVV	0.268	38948831	40.375	40.643
61	40.791	rVB	0.194	5620755	40.717	40.911
62	41.963	rVB	0.167	3210862	41.889	42.056
63	42.411	rBV	0.100	25570692	42.358	42.458

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\19032209.D
 Operator : M. STAUFFER
 Acquired : 22 Mar 99 8:19 pm using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VS006-232-S056-2
 Misc Info : 50 TORR; 500 ML TO 12000 ML
 Vial Number: 1

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032209.D
Acq On : 22 Mar 99 8:19 pm
Sample : VS006-232-S056-2
Misc : 50 TORR; 500 ML TO 12000 ML
Quant Time: Mar 23 11:50 1999

Vial: 1
Operator: M. STAUFFER
Inst : 5972 - MS
Multiplr: 1.00
BF = 48

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7565391	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.36	117	5663448	189.50	NG	-0.07

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue	
2) FREON 12	7.81	85	3883	0.04	PPB	m	93
3) METHYL CHLORIDE	9.42	50	1706	0.04	PPB	m	41
4) N-BUTANE	11.49	43	9256296	127.13	PPB		96 <i>E</i>
5) ETHYL CHLORIDE	0.00	64		Not Detected			
6) FREON 11	15.67	101	12063	0.15	PPB		95
7) N-PENTANE	16.36	72	317015	54.31	PPB	#	100
8) DICHLOROMETHANE	18.04	49	4130	0.09	PPB		99
9) 2-METHYL-PENTANE	19.48	43	660651	8.64	PPB	#	69
10) 1-HEXENE	20.49	56	3146896	108.95	PPB	#	53
11) N-HEXANE	20.85	57	2593694	65.22	PPB	#	65
12) CHLOROFORM	21.80	83	523	0.01	PPB	#	1
13) BENZENE	23.48	78	202939	2.25	PPB		99
14) CARBON TETRACHLORIDE	23.52	117	327	0.01	PPB		95
15) 3-METHYL-HEXANE	23.76	43	2121	0.03	PPB	m	22
16) N-HEPTANE	24.95	57	6714046	213.38	PPB	m	1 <i>E</i>
17) TOLUENE	27.55	91	1070135	7.94	PPB		97 <i>10, 120</i>
18) N-OCTANE	28.58	57	1848260	55.98	PPB	m	94
19) TETRACHLOROETHYLENE	29.17	166	2080	0.03	PPB		86
21) CHLOROBENZENE	30.43	112	7935	0.10	PPB	#	73
22) ETHYLBENZENE	30.89	91	64613	0.58	PPB	m	98
23) M,P-XYLENE	31.15	91	63731	0.83	PPB		87
24) STYRENE	32.00	104	180	0.00	PPB	#	1
25) N-NONANE	31.91	43	4426249	69.22	PPB	m	82
26) 1,1,2,2-TETRACHLOROETHANE	32.52	83	16693	0.44	PPB	#	17
27) O-XYLENE	31.99	91	26297	0.29	PPB	m	98
28) N-DECANE	34.99	43	5852889	86.58	PPB	m	86
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	26319	0.25	PPB	m	97

(#) = qualifier out of range (m) = manual integration
19032209.D VAP_NP8.M Thu Apr 08 13:21:19 1999

Quantitation Report

Data File : D:\C106_2\19032209.D
 Acq Time : 22 Mar 99 8:19 pm
 Sample : VS006-232-S056-2
 Misc : 50 TORR; 500 ML TO 12000 ML
 Quant Time: Apr 22 11:15 1999

Operator: M. STAUFFER
 Inst : 5972 - MS
 Multiplr: 1.00

8F = 48

Method : D:\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7565391	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.36	117	5663448	189.50	NG	-0.10

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	14.92	45	214297	13.55	PPB	m 100
3) ACETONITRILE	16.22	40	11572	2.59	PPB	m 1
4) ACETONE	16.11	58	414790	23.46	PPB	m 1
5) FURAN	16.42	68	2644	0.07	PPB	# 1
6) 2-PROPANOL	16.70	45	29696	0.45	PPB	# 64
7) 1-PROPANOL	19.36	31	141448	2.56	PPB	# 88
8) PROPANENITRILE	19.95	54	128179	5.68	PPB	m 96
9) BUTANAL	20.53	72	117934	11.45	PPB	m 90
10) 2-BUTANONE	20.72	72	85170	5.73	PPB	m 87
11) TETRAHYDROFURAN	22.09	72	12210	0.78	PPB	# 1
12) 1-BUTANOL	23.52	56	517874	16.84	PPB	m 92
13) BUTANENITRILE	23.78	41	694297	9.84	PPB	m 100
14) 2-PENTANONE	24.37	43	508594	4.08	PPB	m 99
15) 1,4-DIOXANE	25.24	88	127	0.00	PPB	# 13
16) 4-METHYL-2-PENTANONE	26.37	100	8578	0.56	PPB	m 1
18) 2-HEXANONE	28.15	58	916816	19.14	PPB	m 73
19) 3-HEPTANONE	31.47	114	3374774	213.83	PPB	m 1 E
20) 2-HEPTANONE	31.61	58	7236289	86.87	PPB	m 81
21) CYCLOHEXANONE	31.99	98	2272	0.07	PPB	m 89
22) 2-OCTANONE	34.69	58	578100	4.82	PPB	m 32

(#) = qualifier out of range (m) = manual integration
 19032209.D VAP_P8.M Thu Apr 22 11:21:04 1999

Library Search Compound Report

Data File : D:\C106_2\19032209.D

Acq Time : 22 Mar 99 8:19 pm

Sample : VS006-232-S056-2

Misc : 50 TORR; 500 ML TO 12000 ML

Method : D:\METHODS\VAP_P8.M

Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES

Library : NIST98.L

Operator: M. STAUFFER

Inst : 5972 - MS

Multiplr: 1.00

0.7 = 48

 Peak Number 1 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
24.96	857.14 PPB	97524584	FLUOROBENZENE	23.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclopentane, 1,2-dimethyl-	15223	002452-99-5	59
2	(Z)-3-Heptene	108691	007642-10-6	58
3	1-Heptene	2183	000592-76-7	58
4	3-Heptene	108688	000592-78-9	58
5	3-Heptene, (E)-	108689	014686-14-7	58

Heptane: Target

 Peak Number 2 Rank in Relative Concentration 8

R.T.	Conc	Area	Relative to ISTD	R.T.
25.09	367.87 PPB	41855974	FLUOROBENZENE	23.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	(Z)-3-Heptene 98	2213	007642-10-6	97
2	3-Heptene	108688	000592-78-9	97
3	3-Heptene	2209	000592-78-9	95
4	3-Heptene, (E)-	2212	014686-14-7	94
5	2-Heptene	108687	000592-77-8	91

 Peak Number 3 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
25.54	487.56 PPB	55473834	FLUOROBENZENE	23.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, (E)-	13656	014686-13-6	97
2	2-Heptene, (E)-	111908	014686-13-6	96
3	2-Heptene, 2 98	2208	000592-77-8	96
4	2-Heptene	108687	000592-77-8	95
5	3-Heptene	108688	000592-78-9	91

 Peak Number 4 Rank in Relative Concentration 18

R.T.	Conc	Area	Relative to ISTD	R.T.
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27.05 222.01 PPB 25260088 FLUOROBENZENE 23.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2,3-Hexadiene, 2-methyl- 96	2762	029212-09-7	87
2	3,4-Heptadiene	31430	002454-31-1	76
3	2-Cyclopenten-1-one, 2-methyl-	21588	001120-73-6	58
4	2-Cyclopenten-1-one, 2-methyl-	113921	001120-73-6	58
5	1,4-Hexadiene, 5-methyl-	31461	000763-88-2	52

 Peak Number 5 Rank in Relative Concentration 20

R.T.	Conc	Area	Relative to ISTD	R.T.
27.55	198.79 PPB	15342139	CHLOROBENZENE-D5	30.36

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclooctane	111839	000292-64-8	81
2	4-Octene, (Z)-	1988	007642-15-1	81
3	2-Octene, (Z)-	111246	007642-04-8	76
4	2-Octene, (E)-	12956	013389-42-9	76
5	3-Octene, (E)-	108600	014919-01-8	70

 Peak Number 6 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
27.67	602.01 PPB	46461374	CHLOROBENZENE-D5	30.36

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methyl- 114	5681	000589-81-1	91
2	Heptane, 3-methyl-	109689	000589-81-1	90
3	Heptane, 3,4,5-trimethyl-	110075	020278-89-1	59
4	Hexane, 2,4-dimethyl-	109686	000589-43-5	53
5	Hexane, 1-(hexyloxy)-2-methyl-	7097	074421-17-3	53

 Peak Number 7 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
28.23	529.16 PPB	40839357	CHLOROBENZENE-D5	30.36

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methylene- 112	114416	001632-16-2	94
2	Cyclopentane, 1,2,4-trimethyl-, (1.	23853	016883-48-0	80
3	Heptane, 3-methylene-	114415	001632-16-2	80
4	Cyclopentane, 1,2,4-trimethyl-, (1.	23858	004850-28-6	72
5	Heptane, 3-methylene-	108635	001632-16-2	64

 Peak Number 8 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
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28.58	606.41 PPB	46801243	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1 Octane	<i>Target</i>	109559	000111-65-9	52
2 Cyclohexane, 1,2-dimethyl-, cis-		14486	002207-01-4	49
3 2-Octene, (E)-		111293	013389-42-9	49
4 2-Octene, (Z)-		111303	007642-04-8	46
5 Cyclooctane		111471	000292-64-8	46

 Peak Number 9 Rank in Relative Concentration 7

R.T.	Conc	Area	Relative to ISTD	R.T.
31.01	424.87 PPB	32790484	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1 4-Heptanone	<i>114</i>	109855	000123-19-3	90
2 4-Heptanone		109874	000123-19-3	90
3 4-Heptanone		114577	000123-19-3	87
4 4-Heptanone		6294	000123-19-3	87
5 3-Pentanone, 2,4-dimethyl-		6290	000565-80-0	80

 Peak Number 10 Rank in Relative Concentration 19

R.T.	Conc	Area	Relative to ISTD	R.T.
31.91	204.91 PPB	15814034	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1 Nonane	<i>Target</i>	5495	000111-84-2	93
2 Nonane		109595	000111-84-2	91
3 Nonane		109596	000111-84-2	91
4 Nonane		109597	000111-84-2	72
5 Heptane, 4-ethyl-		112262	002216-32-2	64

 Peak Number 11 Rank in Relative Concentration 16

R.T.	Conc	Area	Relative to ISTD	R.T.
33.06	252.31 PPB	19472570	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1 2,2'-Bioxepane		43236	074793-02-5	78
2 Hexanoic acid, anhydride		118546	002051-49-2	53
3 Hexanoic acid, anhydride		43066	002051-49-2	53
4 3,5-Diamino-1,2,4-triazole		43045	001455-77-2	53
5 1,3,2-Dioxaborolane, 2,4-diethyl-		43307	057633-63-3	45
	<i>1,3-diethyl-4,4-epoxybutane, isomer</i>			

 Peak Number 12 Rank in Relative Concentration 13

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R.T.	Conc	Area	Relative to ISTD	R.T.
33.20	288.38 PPB	22256272	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2,2'-Bioxepane	43236	074793-02-5	64
2	2-Pyrrolidinone, 1-methyl-	118550	000872-50-4	59
3	Hexanoic acid, anhydride	43066	002051-49-2	59
4	3,5-Diamino-1,2,4-triazole	43045	001455-77-2	53
5	Furan, 2,5-diethyltetrahydro-	32025	041239-48-9	50
	1,3-Diethyl-4-oxobutane, isomer			

 Peak Number 13 Rank in Relative Concentration 15

R.T.	Conc	Area	Relative to ISTD	R.T.
33.34	261.46 PPB	20178762	CHLOROBENZENE-D5	30.36
Hit# of 19	Tentative ID	Ref#	CAS#	Qual
1	Cyclopropane, 1,1,2,2-tetramethyl-	111640	004127-47-3	53
2	3-Penten-2-one, 4-methyl-	33008	000141-79-7	45
3	3,3-Diethoxy-1-propyne	111617	010160-87-9	45
4	3,3-Diethoxy-1-propyne	32833	010160-87-9	45
5	4-Hexen-2-one, 3,4-dimethyl-	13565	053252-21-4	42
	Unknown			

 Peak Number 14 Rank in Relative Concentration 17

R.T.	Conc	Area	Relative to ISTD	R.T.
34.48	235.87 PPB	18203670	CHLOROBENZENE-D5	30.36
Hit# of 8	Tentative ID	Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	296 128142	000556-67-2	91
2	Cyclotetrasiloxane, octamethyl-	97367	000556-67-2	86
3	7H-Dibenzo[b,g]carbazole, 7-methyl-	97365	003557-49-1	64
4	Benzoic acid, 3-methyl-2-trimethyls	97299	1000153-57-1	53
5	2,4-Diamino-N,N,5-trimethyl-6-quino	97291	1000227-25-1	53

 Peak Number 15 Rank in Relative Concentration 12

R.T.	Conc	Area	Relative to ISTD	R.T.
34.99	288.96 PPB	22300782	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Decane	5445	000124-18-5	97
2	Decane	109556	000124-18-5	95
3	Decane	112241	000124-18-5	93
4	Nonane	5495	000111-84-2	90
5	Hexadecane	112408	000544-76-3	80
	Target			

 Peak Number 16 Rank in Relative Concentration 10

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R.T.	Conc	Area	Relative to ISTD	R.T.
35.34	335.74 PPB	25911675	CHLOROBENZENE-D5	30.36
Hit# of 9	Tentative ID	Ref#	CAS#	Qual
1	Hexanenitrile	108570	000628-73-9	42
2	5-Hexen-1-ol	111145	000821-41-0	40
3	1,8-Nonadiene	2340	004900-30-5	36
4	1,2-Nonadiene	12691	022433-33-6	33
5	Nonanenitrile	2778	002243-27-8	7

Peak Number 17 Rank in Relative Concentration 11

R.T.	Conc	Area	Relative to ISTD	R.T.
35.80	319.24 PPB	24637829	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Hexanol, 2-ethyl-	112165	000104-76-7	80
2	2-Propyl-1-pentanol	15895	058175-57-8	59
3	1-Hexanol, 2-ethyl-	15889	000104-76-7	50
4	1-Hexanol, 2-ethyl-	112637	000104-76-7	47
5	1-Hexanol, 2-ethyl-	112146	000104-76-7	47

Peak Number 18 Rank in Relative Concentration 9

R.T.	Conc	Area	Relative to ISTD	R.T.
37.83	337.83 PPB	26072852	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Undecane	112395	001120-21-4	94
2	Undecane	16533	001120-21-4	94
3	Undecane	109663	001120-21-4	90
4	Decane	109556	000124-18-5	90
5	Nonacosane	109621	000630-03-5	83

Peak Number 19 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
40.47	457.95 PPB	35343537	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Dodecane	109555	000112-40-3	97
2	Dodecane	16262	000112-40-3	96
3	Dodecane	112318	000112-40-3	94
4	Dodecane	112317	000112-40-3	90
5	Dodecane	112316	000112-40-3	90

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Peak Number 20

Rank in Relative Concentration 14

R.T.	Conc	Area	Relative to ISTD	R.T.
42.41	266.27 PPB	20549897	CHLOROBENZENE-D5	30.36

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tridecane	112308	000629-50-5	96
2	Tridecane	112239	000629-50-5	94
3	Tridecane	16403	000629-50-5	94
4	Tridecane	112309	000629-50-5	94
5	Tetradecane	112357	000629-59-4	90

 19032209.D VAP_P8.M Thu Apr 22 10:43:07 1999

HNF-4440 Rev. 0

TIC: 19032209.D

VS006-232-S056-2

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	11.212	rBB	0.301	21965093	11.092	11.393
2	11.493	rBB	0.368	17717076	11.393	11.761
3	16.355	rBB	0.254	12576953	16.242	16.496
4	20.487	rBB	0.254	19627801	20.387	20.641
5	20.849	rBB	0.134	11131694	20.782	20.916
6	23.983	rBB	0.254	17692592	23.876	24.130
7	24.572	rBB	0.141	17879393	24.506	24.646
8	24.961	rBB	0.181	97524584	24.840	25.021
9	25.088	rBB	0.121	41855974	25.021	25.142
10	25.215	rBB	0.141	68367800	25.142	25.282
11	25.537	rBB	0.147	55473834	25.456	25.604
12	25.778	rBB	0.221	13469521	25.691	25.912
13	27.050	rBB	0.228	25260088	26.936	27.164
14	27.546	rBB	0.107	15342139	27.486	27.593
15	27.666	rBB	0.127	46461374	27.593	27.720
16	28.229	rBB	0.134	40839357	28.169	28.303
17	28.577	rBB	0.228	46801243	28.497	28.725
18	28.925	rBB	0.121	14986682	28.865	28.986
19	30.359	rBB	0.114	14625050	30.298	30.412
20	31.008	rBB	0.127	32790484	30.941	31.068
21	31.510	rBB	0.174	71442970	31.383	31.557
22	31.611	rBB	0.127	32862455	31.557	31.685
23	31.912	rBB	0.181	15814034	31.852	32.033
24	33.064	rBB	0.234	19472570	32.890	33.124
25	33.198	rBB	0.147	22256272	33.124	33.272
26	33.339	rBB	0.127	20178762	33.272	33.399
27	33.627	rBB	0.107	14131158	33.560	33.667
28	34.484	rBB	0.127	18203670	34.417	34.544
29	34.986	rBB	0.154	22300782	34.926	35.080
30	35.341	rBB	0.248	25911675	35.227	35.475
31	35.803	rBB	0.167	24637829	35.723	35.890
32	37.826	rBB	0.134	26072852	37.759	37.893
33	38.870	rBB	0.208	14336028	38.797	39.004
34	40.471	rBB	0.268	35343537	40.377	40.645
35	42.413	rBB	0.094	20549897	42.366	42.460

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HNF-4440 Rev. 0
Quantitation Report

(QT Reviewed)

Data File : C:\OLDCHEM\1\DATA\19032305.D
Acq On : 23 Mar 1999 12:16 pm
Sample : VS006-232-S056-2
Misc : 10 TORR; 500 ML TO 12,000
MS Integration Params: rteint.p
Quant Time: May 24 14:22 1999

Vial: 1
Operator: G. FIES
Inst : 5972 - MS
Multiplr: 1.00
 $DF = 5 \times 48 = 240$
Quant Results File: VAP_P8.RES

Quant Method : C:\OLDCHEM\1\METHODS\VAP_P8.M (RTE Integrator)
Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
Last Update : Mon Mar 22 09:53:20 1999
Response via : Initial Calibration
DataAcq Meth : VAP_NP8

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.96	96	7819135	155.50	NG	0.03
17) CHLOROBENZENE-D5	30.35	117	6292433	189.50	NG	-0.11

System Monitoring Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	15.05	45	44202m	2.70	PPB	
3) ACETONITRILE	0.00	40	0	N.D.	d	
4) ACETONE	16.15	58	53737m	2.94	PPB	
5) FURAN	16.42	68	46	N.D.		
6) 2-PROPANOL	16.92	45	54	N.D.		
7) 1-PROPANOL	19.37	31	30193	0.53	PPB	# 76
8) PROPANENITRILE	19.97	54	22640m	0.97	PPB	
9) BUTANAL	20.54	72	24771m	2.33	PPB	
10) 2-BUTANONE	20.73	72	18001	1.17	PPB	90
11) TETRAHYDROFURAN	22.10	72	1423	N.D.		
12) 1-BUTANOL	23.51	56	126385m	3.98	PPB	
13) BUTANENITRILE	23.94	41	14063	N.D.		
14) 2-PENTANONE	24.36	43	139199m	1.08	PPB	
15) 1,4-DIOXANE	0.00	88	0	N.D.		
16) 4-METHYL-2-PENTANONE	26.37	100	2912	N.D.		
18) 2-HEXANONE	28.13	58	333618m	6.27	PPB	
19) 3-HEPTANONE	31.47	114	2408197m	137.33	PPB	- E
20) 2-HEPTANONE	31.57	58	3830584m	41.39	PPB	
21) CYCLOHEXANONE	32.07	98	745	N.D.		
22) 2-OCTANONE	34.68	58	284087m	2.13	PPB	

(#) = qualifier out of range. (m) = manual integration
19032305.D WIPP_A.M Mon May 24 14:23:30 1999

HNF-4440 Rev. 0
Quantitation Report (QT Reviewed)

Data File : C:\OLDCHEM\1\DATA\19032305.D
Acq On : 23 Mar 1999 12:16 pm
Sample : VS006-232-S056-2
Misc : 10 TORR; 500 ML TO 12,000
MS Integration Params: RTE MID.P
Quant Time: May 24 14:27 1999

Vial: 1
Operator: G. FIES
Inst : 5972 - MS
Multiplr: 1.00
 $DF = 5 \times 48 = 240$
Quant Results File: VAP_NP8.RES

Quant Method : C:\OLDCHEM\1\METHODS\VAP_NP8.M (RTE Integrator)
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Initial Calibration
DataAcq Meth : VAP_NP8

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) FLUOROBENZENE	23.96	96	7819135	155.50	NG	0.03
20) CHLOROBENZENE-D5	30.35	117	6292433	189.50	NG	-0.08

System Monitoring Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	0.00	85	0	N.D.		
3) METHYL CHLORIDE	0.00	50	0	N.D.		
4) N-BUTANE	11.49	43	1991312m	26.46	PPB	6300 ppbv
5) ETHYL CHLORIDE	0.00	64	0	N.D.		
6) FREON 11	15.67	101	98	N.D.		
7) N-PENTANE	16.35	72	64207	10.64	PPB	# 100
8) DICHLOROMETHANE	18.04	49	539	N.D.		
9) 2-METHYL-PENTANE	19.48	43	132892	1.68	PPB	# 69
10) 1-HEXENE	20.48	56	720476	24.13	PPB	# 51
11) N-HEXANE	20.84	57	560878	13.65	PPB	# 64
12) CHLOROFORM	21.94	83	66	N.D.		
13) BENZENE	23.46	78	41911	N.D.		
14) CARBON TETRACHLORIDE	0.00	117	0	N.D.		
15) 3-METHYL-HEXANE	23.94	43	61125	0.92	PPB	# 22
16) N-HEPTANE	24.88	57	2376962	73.09	PPB	18,000 ppbv 82
17) TOLUENE	27.53	91	236268m	1.70	PPB	
18) N-OCTANE	28.55	57	487544m	14.29	PPB	
19) TETRACHLOROETHYLENE	29.13	166	527	N.D.		
21) CHLOROBENZENE	30.52	112	61	N.D.		
22) ETHYLBENZENE	30.88	91	15049	N.D.		
23) M,P-XYLENE	31.13	91	16605	N.D.		
24) STYRENE	31.87	104	1769	N.D.		
25) N-NONANE	31.89	43	935535	13.17	PPB	# 79
26) 1,1,2,2-TETRACHLOROETHANE	32.50	83	8088	N.D.		
27) O-XYLENE	31.98	91	7018	N.D.		
28) N-DECANE	34.96	43	1547980m	20.61	PPB	
29) 1,2,4-TRIMETHYLBENZENE	35.14	105	7892	N.D.		

(#) = qualifier out of range (m) = manual integration
19032305.D VAP_NP8.M Mon May 24 14:27:22 1999

HNF-4440 Rev. 0

TIC: 19032305.D

VS006-232-S056-2

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	11.214	rBB	0.221	4593514	11.100	11.321
2	11.489	rBB	0.201	3744061	11.395	11.596
3	15.949	rBB	0.147	1436690	15.882	16.029
4	16.350	rBB	0.234	2550573	16.237	16.471
5	20.476	rBB	0.241	4552464	20.375	20.616
6	20.837	rBB	0.121	2431487	20.777	20.898
7	23.804	rBB	0.121	826001	23.730	23.851
8	23.965	rBB	0.268	15923951	23.851	24.119
9	24.541	rBB	0.141	3904137	24.481	24.621
10	24.728	rBB	0.181	897201	24.628	24.809
11	24.896	rBB	0.161	37075456	24.809	24.969
12	25.036	rBB	0.121	13079640	24.976	25.097
13	25.157	rBB	0.127	25935269	25.097	25.224
14	25.492	rBB	0.154	18296985	25.418	25.572
15	25.746	rBB	0.201	2812802	25.659	25.860
16	27.025	rBB	0.221	5782569	26.918	27.139
17	27.521	rBB	0.100	3322922	27.467	27.568
18	27.628	rBB	0.114	14642685	27.568	27.682
19	27.729	rBB	0.054	1090361	27.695	27.749
20	27.782	rBB	0.074	2580748	27.749	27.822
21	28.191	rBB	0.127	13232469	28.144	28.271
22	28.539	rBB	0.228	11359328	28.472	28.700
23	28.753	rBB	0.141	914761	28.700	28.840
24	28.900	rBB	0.121	3212978	28.847	28.967
25	30.347	rBB	0.208	17499269	30.240	30.447
26	30.983	rBB	0.134	15214594	30.923	31.057
27	31.171	rBB	0.127	783337	31.104	31.231
28	31.298	rBB	0.127	2065279	31.231	31.358
29	31.465	rBB	0.154	43747039	31.365	31.519
30	31.573	rBB	0.141	16178363	31.519	31.660
31	31.700	rBB	0.094	3499608	31.660	31.753
32	31.894	rBB	0.167	3470479	31.840	32.008
33	32.711	rBB	0.181	2448079	32.590	32.771
34	32.818	rBB	0.100	734512	32.771	32.872
35	33.046	rBB	0.228	7429871	32.878	33.106
36	33.180	rBB	0.147	9167012	33.106	33.253
37	33.320	rBB	0.161	9420597	33.253	33.414
38	33.608	rBB	0.121	8046992	33.535	33.655
39	34.158	rBB	0.174	2054226	34.084	34.258
40	34.358	rBB	0.134	2462405	34.265	34.399
41	34.459	rBB	0.114	9258443	34.405	34.519
42	34.707	rBB	0.114	1293427	34.640	34.754
43	34.961	rBB	0.134	5866121	34.908	35.042
44	35.115	rBB	0.161	710177	35.055	35.216
45	35.316	rBB	0.241	13426102	35.216	35.457
46	35.651	rBB	0.121	1415050	35.591	35.711
47	35.785	rBB	0.188	10441513	35.711	35.899
48	37.339	rBB	0.228	2896280	37.198	37.426
49	37.586	rBB	0.147	1158465	37.526	37.673
50	37.807	rBB	0.147	8763558	37.747	37.894
51	38.109	rBB	0.174	2710646	38.022	38.196
52	38.725	rBB	0.141	1579017	38.644	38.785
53	38.859	rBB	0.208	11048265	38.785	38.993
54	40.245	rBB	0.228	1234125	40.145	40.372
55	40.453	rBB	0.261	17158460	40.372	40.633
56	40.794	rBB	0.181	1395061	40.721	40.901

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57	41.966	rBB	0.181	1118668	41.892	42.073
58	42.408	rBB	0.094	13008067	42.361	42.455
59	42.602	rBB	0.127	1357713	42.555	42.683
60	43.788	rBB	0.074	837264	43.754	43.828

HNF-4440 Rev. 0

Library Search Compound Report

Data File : D:\C106_2\19032305.D
 Acq Time : 23 Mar 99 12:16 pm Operator: G. FIES
 Sample : VS006-232-S056-2 Inst : 5972 - MS
 Misc : 10 TORR; 500 ML TO 12,000 Multiplr: 1.00
 Method : D:\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Library : NIST98.L

 Peak Number 1 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
24.90	724.10 PPB	37075456	FLUOROBENZENE	23.96

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	3-Heptene	108688	000592-78-9	64
2	2-Heptene	108687	000592-77-8	62
3	3-Heptene, (E)-	2212	014686-14-7	58
4	(Z)-3-Heptene	108691	007642-10-6	52
5	1-Heptene	2183	000592-76-7	50

 Peak Number 2 Rank in Relative Concentration 10

R.T.	Conc	Area	Relative to ISTD	R.T.
25.04	255.45 PPB	13079640	FLUOROBENZENE	23.96

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	3-Heptene	108688	000592-78-9	97
2	2-Heptene	108687	000592-77-8	91
3	3-Heptene, (E)-	108697	014686-14-7	90
4	(Z)-3-Heptene	2213	007642-10-6	90
5	3-Heptene, (E)-	2212	014686-14-7	90

 Peak Number 3 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
25.16	506.52 PPB	25935269	FLUOROBENZENE	23.96

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, (E)-	13656	014686-13-6	97
2	2-Heptene, (E)-	111908	014686-13-6	96
3	2-Heptene	108687	000592-77-8	94
4	2-Heptene	108605	000592-77-8	91
5	2-Heptene	2208	000592-77-8	86

 Peak Number 4 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
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25.49 357.35 PPB 18296985 FLUOROBENZENE 23.96

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene	108687	000592-77-8	95
2	2-Heptene, (E)-	13656	014686-13-6	95
3	2-Heptene, (E)-	111908	014686-13-6	95
4	2-Heptene	108605	000592-77-8	91
5	3-Heptene	108688	000592-78-9	91

Peak Number 5 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
27.63	317.13 PPB	14642685	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methyl-	109689	000589-81-1	91
2	Heptane, 3-methyl-	5681	000589-81-1	90
3	Hexane, 2-methyl-	109353	000591-76-4	72
4	Hexane, 2-methyl-	109390	000591-76-4	64
5	Hexane, 1-(hexyloxy)-2-methyl-	7097	074421-17-3	64

Peak Number 6 Rank in Relative Concentration 8

R.T.	Conc	Area	Relative to ISTD	R.T.
28.19	286.59 PPB	13232469	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methylene-	114416	001632-16-2	94
2	Cyclopentane, 1,2,4-trimethyl-, (1.	23858	004850-28-6	72
3	Heptane, 3-methylene-	108635	001632-16-2	72
4	2-Azetidinone, 3,4,4-trimethyl-	23879	022607-01-8	64
5	Octane, 3-methyl-6-methylene-	23865	074630-07-2	56

Peak Number 7 Rank in Relative Concentration 11

R.T.	Conc	Area	Relative to ISTD	R.T.
28.54	246.02 PPB	11359328	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclohexane, 1,2-dimethyl-, cis-	14486	002207-01-4	68
2	Cyclohexane, 1,2-dimethyl-, cis-	111705	002207-01-4	68
3	4-Octene, (E)-	111301	014850-23-8	64
4	2-Octene, (E)-	111294	013389-42-9	52
5	3-Octene, (E)-	108601	014919-01-8	49

Peak Number 8 Rank in Relative Concentration 5

30.98	329.52 PPB	15214594	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	4-Heptanone	109855	000123-19-3	91
2	4-Heptanone	109874	000123-19-3	91
3	4-Heptanone	6294	000123-19-3	91
4	4-Heptanone	114577	000123-19-3	91
5	3-Hexanone, 2-methyl-	6315	007379-12-6	78

 Peak Number 9 Rank in Relative Concentration 19

R.T.	Conc	Area	Relative to ISTD	R.T.
33.05	160.92 PPB	7429871	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2,2'-Bioxepane	43236	074793-02-5	78
2	Hexanoic acid, anhydride	43066	002051-49-2	53
3	3,5-Diamino-1,2,4-triazole	43045	001455-77-2	53
4	Hexanoic acid, anhydride	118546	002051-49-2	45
5	1,3,2-Dioxaborolane, 2,4-diethyl-	43307	057633-63-3	45

 Peak Number 10 Rank in Relative Concentration 16

R.T.	Conc	Area	Relative to ISTD	R.T.
33.18	198.54 PPB	9167012	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2,2'-Bioxepane	43236	074793-02-5	64
2	Hexanoic acid, anhydride	118546	002051-49-2	59
3	Hexanoic acid, anhydride	43066	002051-49-2	59
4	Furan, 2,5-diethyltetrahydro-	32025	041239-48-9	56
5	2-Pyrrolidinone, 1-methyl-	118550	000872-50-4	53

 Peak Number 11 Rank in Relative Concentration 14

R.T.	Conc	Area	Relative to ISTD	R.T.
33.32	204.03 PPB	9420597	CHLOROBENZENE-D5	30.35
Hit# of 18	Tentative ID	Ref#	CAS#	Qual
1	3,3-Diethoxy-1-propyne	32833	010160-87-9	64
2	3-Penten-2-one, 4-methyl-	33008	000141-79-7	59
3	Cyclopropane, 1,1,2,2-tetramethyl-	111640	004127-47-3	59
4	2-Pentene, 4,4-dimethyl-, (Z)-	116392	000762-63-0	45
5	3,3-Diethoxy-1-propyne	111617	010160-87-9	45

 Peak Number 12 Rank in Relative Concentration 18

R.T.	Conc	Area	Relative to ISTD	R.T.
33.61	174.28 PPB	8046992	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Propenal, (1,1-dimethylethyl)meth	5107	072101-22-5	36
2	Trifluoroacetic acid, n-heptadecyl	4324	1000216-79-2	32
3	Tetradecane, 1-chloro-	5488	002425-54-9	32
4	3-Octen-2-one, (E)-	5082	018402-82-9	23
5	5-Hexen-2-one, 5-methyl-	4421	003240-09-3	12

 Peak Number 13 Rank in Relative Concentration 15

R.T.	Conc	Area	Relative to ISTD	R.T.
34.46	200.52 PPB	9258443	CHLOROBENZENE-D5	30.35
Hit# of 8	Tentative ID	Ref#	CAS#	Qual
1	2,4-Diamino-N,N,5-trimethyl-6-quinol	97291	1000227-25-1	59
2	5H-Naphtho[2,3-c]carbazole, 5-methyl-	97364	100025-44-3	59
3	Benzoic acid, 3-methyl-2-trimethyls	97299	1000153-57-1	45
4	7H-Dibenzo[b,g]carbazole, 7-methyl-	97365	003557-49-1	45
5	Cyclotetrasiloxane, octamethyl-	128142	000556-67-2	43

 Peak Number 14 Rank in Relative Concentration 20

R.T.	Conc	Area	Relative to ISTD	R.T.
34.96	127.05 PPB	5866121	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Decane	5445	000124-18-5	97
2	Decane	109556	000124-18-5	95
3	Decane	112241	000124-18-5	93
4	Undecane	109663	001120-21-4	90
5	Pentadecane	112369	000629-62-9	83

 Peak Number 15 Rank in Relative Concentration 7

R.T.	Conc	Area	Relative to ISTD	R.T.
35.32	290.78 PPB	13426102	CHLOROBENZENE-D5	30.35
Hit# of 5	Tentative ID	Ref#	CAS#	Qual
1	Hexanenitrile	108570	000628-73-9	42
2	Hexane-2,6-dicarbonitrile, 1-(formyl)	12747	1000159-54-2	38
3	5-Hexen-1-ol	111145	000821-41-0	38
4	1,8-Nonadiene	2340	004900-30-5	36
5	1,7-Octadiene	108571	003710-30-3	33

R.T.	Conc	Area	Relative to ISTD	R.T.
35.78	226.14 PPB	10441513	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Hexanol, 2-ethyl-	15889	000104-76-7	86
2	1-Hexanol, 2-ethyl-	112165	000104-76-7	80
3	1-Hexanol, 2-ethyl-	112147	000104-76-7	78
4	2-Propyl-1-pentanol	15895	058175-57-8	59
5	1-Hexanol, 2-ethyl-	112637	000104-76-7	56

 Peak Number 17 Rank in Relative Concentration 17

R.T.	Conc	Area	Relative to ISTD	R.T.
37.81	189.80 PPB	8763558	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Undecane	109663	001120-21-4	97
2	Undecane	112395	001120-21-4	94
3	Undecane	16533	001120-21-4	91
4	Tridecane	16403	000629-50-5	90
5	Decane	109556	000124-18-5	90

 Peak Number 18 Rank in Relative Concentration 12

R.T.	Conc	Area	Relative to ISTD	R.T.
38.86	239.28 PPB	11048265	CHLOROBENZENE-D5	30.35
Hit# of 6	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox	27665	003789-85-3	50
2	Tetrasiloxane, 1,1,3,3,5,5,7,7-octa	27274	001000-05-1	45
3	Benzeneethanamine, N-[(pentafluorop	115266	055429-85-1	40
4	Benzoic acid, 2-[(trimethylsilyl)ox	115268	003789-85-3	36
5	Benzoic acid, 4-[(trimethylsilyl)ox	115270	002078-13-9	33

 Peak Number 19 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
40.45	371.62 PPB	17158460	CHLOROBENZENE-D5	30.35
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Dodecane	109555	000112-40-3	97
2	Dodecane	112317	000112-40-3	96
3	Dodecane	16262	000112-40-3	95
4	Dodecane	112318	000112-40-3	95
5	Tridecane	112309	000629-50-5	90

Peak Number 20

Rank in Relative Concentration 9

R.T.	Conc	Area	Relative to ISTD	R.T.
42.41	281.73 PPB	13008067	CHLOROBENZENE-D5	30.35

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tridecane	112239	000629-50-5	97
2	Tridecane	112308	000629-50-5	96
3	Tridecane	112309	000629-50-5	94
4	Tridecane	16403	000629-50-5	90
5	Undecane	112395	001120-21-4	90

19032305.D VAP_P8.M Tue Apr 20 13:41:44 1999

HNF-4440 Rev. 0

File : D:\C106_2\19032208.D
 Operator : M. STAUFFER
 Acquired : 22 Mar 99 7:01 pm using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VS006-237-S071-2B
 Misc Info : 50 TORR; 500 ML TO 12000 ML
 Vial Number: 1

Quantitation Report

Operator: M. STAUFFER
Inst : 5972 - MS
Multiplr: 48.00

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7551101	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.36	117	5607118	189.50	NG	-0.06

Target Compounds							Qvalue
2)	FREON 12	7.86	85	3624	1.65 PPB	m	40
3)	METHYL CHLORIDE	9.45	50	1654	1.93 PPB	m	62
4)	N-BUTANE	11.52	43	9406588	6212.88 PPB		96
5)	ETHYL CHLORIDE	0.00	64		Not Detected		
6)	FREON 11	15.66	101	12198	7.12 PPB		92
7)	N-PENTANE	16.36	72	334884	2758.95 PPB	#	100
8)	DICHLOROMETHANE	18.04	49	3465	3.77 PPB		96
9)	2-METHYL-PENTANE	19.48	43	676176	425.29 PPB	#	69
10)	1-HEXENE	20.49	56	3296087	5487.67 PPB	#	56
11)	N-HEXANE	20.85	57	2741718	3315.50 PPB	#	65
12)	CHLOROFORM	21.78	83	166	0.15 PPB	#	16
13)	BENZENE	23.48	78	213688	113.82 PPB		99
14)	CARBON TETRACHLORIDE	23.53	117	216	0.21 PPB		90
15)	3-METHYL-HEXANE	23.89	43	3179	2.37 PPB	m	22
16)	N-HEPTANE	24.95	57	7003610	10704.22 PPB	m	
17)	TOLUENE	27.55	91	1067477	381.03 PPB		97
18)	N-OCTANE	28.58	57	1940863	2826.88 PPB	m	93
19)	TETRACHLOROETHYLENE	29.16	166	3767	3.00 PPB	m	79
21)	CHLOROBENZENE	30.43	112	10829	6.35 PPB	#	62
22)	ETHYLBENZENE	30.89	91	72190	31.21 PPB	m	98
23)	M, P-XYLENE	31.15	91	78174	49.64 PPB	m	87
24)	STYRENE	32.00	104	581	0.41 PPB	m	1
25)	N-NONANE	31.91	43	4512460	3421.27 PPB	m	82
26)	1,1,2,2-TETRACHLOROETHANE	32.52	83	16336	20.85 PPB	#	17
27)	O-XYLENE	32.00	91	31237	16.91 PPB		99
28)	N-DECANE	34.98	43	5912450	4240.12 PPB	m	86
29)	1,2,4-TRIMETHYLBENZENE	35.15	105	36884	16.93 PPB		94

2B-126

HNF-4440 Rev. 0

Quantitation Report

Data File : D:\C106_2\19032208.D

Acq Time : 22 Mar 99 7:01 pm

Sample : VS006-237-S071-2B

Misc : 50 TORR; 500 ML TO 12000 ML

Quant Time: Apr 22 12:09 1999

Operator: M. STAUFFER

Inst : 5972 - MS

Multiplr: 48.00

Method : D:\METHODS\VAP_P8.M

Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES

Last Update : Mon Mar 22 09:53:20 1999

Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7551101	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.36	117	5607118	189.50	NG	-0.10

System Monitoring Compounds

%Recovery

Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue		
2) ETHANOL	14.87	45	238300	724.78	PPB	m	100	
3) ACETONITRILE	16.06	40	80990	288.67	PPB	m	1	M
4) ACETONE	16.11	58	429764	1168.98	PPB	m	1	M
5) FURAN	16.41	68	3480	4.62	PPB	#	1	M
6) 2-PROPANOL	16.92	45	252	0.18	PPB	#	1	M
7) 1-PROPANOL	19.36	31	92083	80.19	PPB	m	71	Q
8) PROPANENITRILE	19.95	54	132461	282.12	PPB	m	96	
9) BUTANAL	20.53	72	65490	305.82	PPB	m	93	
10) 2-BUTANONE	20.72	72	74814	242.17	PPB	m	86	
11) TETRAHYDROFURAN	22.17	72	83	0.26	PPB	#	1	M
12) 1-BUTANOL	23.52	56	566542	885.99	PPB	m	87	
13) BUTANENITRILE	23.77	41	713461	486.32	PPB	m	100	
14) 2-PENTANONE	24.37	43	500325	193.02	PPB	m	100	
15) 1,4-DIOXANE	0.00	88		Not Detected				M
16) 4-METHYL-2-PENTANONE	26.52	100	145	0.46	PPB	#	1	M
18) 2-HEXANONE	28.15	58	851786	862.00	PPB	m	72	
19) 3-HEPTANONE	31.47	114	3401240	10448.14	PPB	m	1	E 217
20) 2-HEPTANONE	31.61	58	7345018	4274.97	PPB	m	81	
21) CYCLOHEXANONE	32.15	98	13925	21.76	PPB	m	82	M
22) 2-OCTANONE	34.69	58	704099	284.36	PPB	m	41	

(#)= qualifier out of range (m)= manual integration

19032208.D VAP_P8.M

Thu Apr 22 12:10:00 1999

HNF-4440 Rev. 0

Quantitation Report

Data File : D:\C106_2\19032204.D

Acq Time : 22 Mar 99 1:23 pm

Sample : VS006-237-S071-2; SEC. DILUTION

Misc : 50 TORR

Quant Time: Apr 22 13:32 1999

Operator: G. FIES

Inst : 5972 - MS

Multiplr: 1.00

DF = 240

Method : D:\METHODS\VAP_P8.M

Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES

Last Update : Mon Mar 22 09:53:20 1999

Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.96	96	6412910	155.50	NG	0.03
17) CHLOROBENZENE-D5	30.34	117	5661517	189.50	NG	-0.12

System Monitoring Compounds

%Recovery

Target Compounds						Qvalue
2) ETHANOL	15.04	45	49213	3.67	PPB m	100
3) ACETONITRILE	16.07	40	131	2.03	PPB m	1
4) ACETONE	16.13	58	86873	5.80	PPB m	81
5) FURAN	16.39	68	603	0.02	PPB #	1
6) 2-PROPANOL	16.68	45	50968	0.92	PPB m	97
7) 1-PROPANOL	19.36	31	13612	0.29	PPB m	96
8) PROPANENITRILE	19.97	54	14647	0.77	PPB m	58
9) BUTANAL	20.73	72	12183	1.40	PPB m	81
10) 2-BUTANONE	20.73	72	11629	0.92	PPB	92
11) TETRAHYDROFURAN	22.09	72	1632	0.12	PPB #	1
12) 1-BUTANOL	23.50	56	69051	2.65	PPB m	87
13) BUTANENITRILE	23.94	41	13659	0.23	PPB #	100
14) 2-PENTANONE	24.36	43	81914	0.78	PPB m	96
15) 1,4-DIOXANE	25.21	88	1728	0.07	PPB #	13
16) 4-METHYL-2-PENTANONE	26.37	100	2711	0.21	PPB #	37
18) 2-HEXANONE	28.12	58	122761	2.56	PPB m	56
19) 3-HEPTANONE	31.44	114	1169613	74.13	PPB m	1
20) 2-HEPTANONE	31.54	58	1169846	14.05	PPB m	85
21) CYCLOHEXANONE	32.12	98	2256	0.07	PPB	87
22) 2-OCTANONE	34.67	58	100346	0.84	PPB m	1

17,791

(#) = qualifier out of range (m) = manual integration

19032204.D VAP_P8.M

Thu Apr 22 13:34:32 1999

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032204.D
Acq On : 22 Mar 99 1:23 pm
Sample : VS006-237-S071-2; SEC. DILUTION
Misc : 50 TORR
Quant Time: Apr 8 10:12 1999

Vial: 1
Operator: G. FIES
Inst : 5972 - MS
Multiplr: 1.00

DF = 240

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.96	96	6412910	155.50	NG	0.03
20) CHLOROBENZENE-D5	30.34	117	5661518	189.50	NG	-0.08

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.82	85	9415	0.11	PPB m	1
3) METHYL CHLORIDE	9.43	50	939	0.03	PPB m	41
4) N-BUTANE	11.49	43	1363450	22.09	PPB	91 5302
5) ETHYL CHLORIDE	0.00	64		Not Detected		
6) FREON 11	15.64	101	4553	0.07	PPB	96
7) N-PENTANE	16.34	72	48770	9.86	PPB #	100
8) DICHLOROMETHANE	18.03	49	13643	0.36	PPB m	97
9) 2-METHYL-PENTANE	19.47	43	94378	1.46	PPB m	28
10) 1-HEXENE	20.47	56	539596	22.04	PPB #	41 5302
11) N-HEXANE	20.83	57	414571	12.30	PPB #	48
12) CHLOROFORM	21.64	83	768	0.02	PPB #	75
13) BENZENE	23.47	78	35734	0.47	PPB	100
14) CARBON TETRACHLORIDE	23.51	117	484	0.01	PPB	93
15) 3-METHYL-HEXANE	23.79	43	3573	0.07	PPB m	86
16) N-HEPTANE	24.89	57	1905457	71.44	PPB	82 17186
17) TOLUENE	27.53	91	209235	1.83	PPB m	97
18) N-OCTANE	28.54	57	370712	13.25	PPB m	94
19) TETRACHLOROETHYLENE	29.13	166	2072	0.04	PPB #	69
21) CHLOROBENZENE	30.59	112	1481	0.02	PPB #	6
22) ETHYLBENZENE	30.87	91	19482	0.17	PPB	99
23) M,P-XYLENE	31.13	91	27741	0.36	PPB m	93
24) STYRENE	31.86	104	7485	0.11	PPB	88
25) N-NONANE	31.88	43	749370	11.72	PPB #	80
26) 1,1,2,2-TETRACHLOROETHANE	32.49	83	1863	0.05	PPB #	17
27) O-XYLENE	31.96	91	12222	0.14	PPB m	87
28) N-DECANE	34.96	43	1160612	17.17	PPB	81
29) 1,2,4-TRIMETHYLBENZENE	35.13	105	17583	0.17	PPB	94

(#) = qualifier out of range (m) = manual integration
19032204.D VAP_NP8.M Thu Apr 08 10:12:30 1999

Library Search Compound Report

Data File : D:\C106_2\19032208.D
 Acq Time : 22 Mar 99 7:01 pm Operator: M. STAUFFER
 Sample : VS006-237-S071-2B Inst : 5972 - MS
 Misc : 50 TORR; 500 ML TO 12000 ML Multiplr: 48.00
 Method : D:\METHODS\VAP_NP8.M
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Library : NIST98.L

 Peak Number 1 Rank in Relative Concentration 20

R.T.	Conc	Area	Relative to ISTD	R.T.	
11.24	9343.91 PPB	22349163	FLUOROBENZENE	23.98	
Hit# of 15	Tentative ID		Ref#	CAS#	Qual
1	1-Propene, 2-methyl-		108669	000115-11-7	87
2	1-Propene, 2-methyl-		108463	000115-11-7	87
3	1-Butene		108673	000106-98-9	83
4	1-Butene		108672	000106-98-9	83
5	1-Butene		108671	000106-98-9	83

 Peak Number 2 Rank in Relative Concentration 10

R.T.	Conc	Area	Relative to ISTD	R.T.	
25.09	18125.43 PPB	43353191	FLUOROBENZENE	23.98	
Hit# of 20	Tentative ID		Ref#	CAS#	Qual
1	3-Heptene		108688	000592-78-9	97
2	(Z)-3-Heptene		2213	007642-10-6	97
3	3-Heptene		2209	000592-78-9	95
4	3-Heptene, (E)-		2212	014686-14-7	94
5	2-Heptene		108687	000592-77-8	91

 Peak Number 3 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.	
25.22	29747.86 PPB	71152238	FLUOROBENZENE	23.98	
Hit# of 20	Tentative ID		Ref#	CAS#	Qual
1	2-Heptene		2208	000592-77-8	97
2	2-Heptene, (E)-		13656	014686-13-6	97
3	2-Heptene		108605	000592-77-8	96
4	2-Heptene		108687	000592-77-8	95
5	2-Heptene, (E)-		111908	014686-13-6	94

 Peak Number 4 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
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25.54 24249.19 PPB 58000261 FLUOROBENZENE 23.98

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, (E)-	13656	014686-13-6	97
2	2-Heptene, (E)-	111908	014686-13-6	96
3	2-Heptene	2208	000592-77-8	96
4	2-Heptene	108687	000592-77-8	95
5	3-Heptene	108688	000592-78-9	91

Peak Number 5 Rank in Relative Concentration 18

R.T.	Conc	Area	Relative to ISTD	R.T.
27.05	11491.99 PPB	27487053	FLUOROBENZENE	23.98
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2,3-Hexadiene, 2-methyl-	2762	029212-09-7	83
2	3,4-Heptadiene	31430	002454-31-1	76
3	2-Cyclopenten-1-one, 2-methyl-	21588	001120-73-6	58
4	2-Cyclopenten-1-one, 3-methyl-	118261	002758-18-1	52
5	2-Cyclopenten-1-one, 2-methyl-	113921	001120-73-6	52

Peak Number 6 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
27.66	27190.70 PPB	48370852	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methyl-	5681	000589-81-1	91
2	Heptane, 3-methyl-	109689	000589-81-1	90
3	Hexane, 2,4-dimethyl-	109686	000589-43-5	72
4	Heptane, 3,4,5-trimethyl-	110075	020278-89-1	59
5	Hexane, 2-methyl-	109353	000591-76-4	53

Peak Number 7 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
28.23	24108.24 PPB	42887303	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methylene-	114416	001632-16-2	94
2	Cyclopentane, 1,2,4-trimethyl-, (1.	23853	016883-48-0	80
3	Heptane, 3-methylene-	114415	001632-16-2	80
4	Cyclopentane, 1,2,4-trimethyl-, (1.	23858	004850-28-6	72
5	Heptane, 3-methylene-	108635	001632-16-2	64

Peak Number 8 Rank in Relative Concentration 9

R.T.	Conc	Area	Relative to ISTD	R.T.
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31.01	18266.26	PPB	32494731	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID		Ref#	CAS#	Qual
1	4-Heptanone		109855	000123-19-3	90
2	4-Heptanone		109874	000123-19-3	90
3	4-Heptanone		114577	000123-19-3	87
4	4-Heptanone		6294	000123-19-3	87
5	3-Pentanone, 2,4-dimethyl-		6290	000565-80-0	80

 Peak Number 9 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD		R.T.
31.51	39763.34	PPB	70736920	CHLOROBENZENE-D5	30.36
Hit# of 13	Tentative ID		Ref#	CAS#	Qual
1	3-Heptanone		112010	000106-35-4	91
2	3-Heptanone		112009	000106-35-4	90
3	3-Heptanone		112011	000106-35-4	72
4	3-Hexanone, 5-methyl-		17303	000623-56-3	59
5	3-Heptanone		15594	000106-35-4	59

 Peak Number 10 Rank in Relative Concentration 8

R.T.	Conc	Area	Relative to ISTD		R.T.
31.61	18950.46	PPB	33711884	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID		Ref#	CAS#	Qual
1	2-Heptanone		5736	000110-43-0	91
2	2-Heptanone		109709	000110-43-0	91
3	2-Heptanone		109741	000110-43-0	86
4	2-Hexanone, 5-methyl-		109729	000110-12-3	78
5	2-Hexanone, 4-methyl-		5737	000105-42-0	72

 Peak Number 11 Rank in Relative Concentration 19

R.T.	Conc	Area	Relative to ISTD		R.T.
33.06	11081.38	PPB	19713198	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID		Ref#	CAS#	Qual
1	2,2'-Bioxepane		43236	074793-02-5	78
2	3,5-Diamino-1,2,4-triazole		43045	001455-77-2	53
3	1,3,2-Dioxaborolane, 2,4-diethyl-		43307	057633-63-3	45
4	Glycocyanidine		43063	000503-86-6	45
5	Hexanoic acid, anhydride		118546	002051-49-2	42

 Peak Number 12 Rank in Relative Concentration 16

R.T.	Conc	Area	Relative to ISTD	R.T.	
33.20	12906.66 PPB	22960285	CHLOROBENZENE-D5	30.36	
Hit# of 20	Tentative ID		Ref#	CAS#	Qual
1	2-Pyrrolidinone, 1-methyl-		118550	000872-50-4	59
2	Hexanoic acid, anhydride		43066	002051-49-2	59
3	Furan, 2,5-diethyltetrahydro-		32025	041239-48-9	56
4	3,5-Diamino-1,2,4-triazole		43045	001455-77-2	53
5	1-Hydroxycyclohexanecarboxylic acid		43242	001123-28-0	50

Peak Number 13 Rank in Relative Concentration 17

R.T.	Conc	Area	Relative to ISTD	R.T.	
33.34	11808.85 PPB	21007340	CHLOROBENZENE-D5	30.36	
Hit# of 18	Tentative ID		Ref#	CAS#	Qual
1	3,3-Diethoxy-1-propyne		32833	010160-87-9	64
2	Cyclopropane, 1,1,2,2-tetramethyl-		111640	004127-47-3	53
3	3-Penten-2-one, 4-methyl-		33008	000141-79-7	45
4	3,3-Diethoxy-1-propyne		111617	010160-87-9	45
5	2-Pentene, 4,4-dimethyl-, (Z)-		116392	000762-63-0	42

Peak Number 14 Rank in Relative Concentration 13

R.T.	Conc	Area	Relative to ISTD	R.T.	
33.63	15384.15 PPB	27367606	CHLOROBENZENE-D5	30.36	
Hit# of 20	Tentative ID		Ref#	CAS#	Qual
1	1,3,2-Dioxaborolane-4,5-dimethanol,		8055	074841-61-5	33
2	3-Octen-2-one		109467	001669-44-9	27
3	3-Hepten-2-one, 4-methyl-		8023	022319-25-1	22
4	3-Buten-2-one, 4-(1-aziridinyl)-		8039	018277-57-1	17
5	5-Hexen-2-one, 5-methyl-		109317	003240-09-3	12

Peak Number 15 Rank in Relative Concentration 15

R.T.	Conc	Area	Relative to ISTD	R.T.	
34.48	13404.53 PPB	23845969	CHLOROBENZENE-D5	30.36	
Hit# of 11	Tentative ID		Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-		128142	000556-67-2	91
2	Benzoic acid, 3-methyl-2-trimethyls		97299	1000153-57-1	59
3	2,4-Diamino-N,N,5-trimethyl-6-quino		97291	1000227-25-1	59
4	7H-Dibenzo[b,g]carbazole, 7-methyl-		97365	003557-49-1	59
5	Benzene, 1-phenyl-4-(2-cyano-2-phen		97311	027869-56-3	59

Peak Number 16 Rank in Relative Concentration 11

R.T.	Conc	Area	Relative to ISTD	R.T.
35.35	16379.43 PPB	29138152	CHLOROBENZENE-D5	30.36
Hit# of 9	Tentative ID	Ref#	CAS#	Qual
1	2-Oxazolidinone, 3-ethenyl-5-methyl	12662	003395-98-0	40
2	5-Hexen-1-ol	111145	000821-41-0	40
3	Hexanenitrile	108570	000628-73-9	36
4	1,2-Nonadiene	12691	022433-33-6	33
5	2,6-Octadiene, 4-methyl-	22156	074498-94-5	10

 Peak Number 17 Rank in Relative Concentration 7

R.T.	Conc	Area	Relative to ISTD	R.T.
35.82	22289.32 PPB	39651542	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Hexanol, 2-ethyl-	112165	000104-76-7	86
2	1-Hexanol, 2-ethyl-	112146	000104-76-7	56
3	2-Propyl-1-pentanol	15895	058175-57-8	53
4	1-Hexanol, 2-ethyl-	112637	000104-76-7	50
5	Octane, 2,3-dimethyl-	112152	007146-60-3	43

 Peak Number 18 Rank in Relative Concentration 12

R.T.	Conc	Area	Relative to ISTD	R.T.
37.83	16183.03 PPB	28788772	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Undecane	112395	001120-21-4	94
2	Undecane	16533	001120-21-4	94
3	Undecane	109663	001120-21-4	90
4	Decane, 2,3,6-trimethyl-	5623	062238-12-4	83
5	Tetradecane	112357	000629-59-4	83

 Peak Number 19 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
40.48	23272.04 PPB	41399756	CHLOROBENZENE-D5	30.36
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Dodecane	109555	000112-40-3	97
2	Dodecane	16262	000112-40-3	95
3	Dodecane	112318	000112-40-3	94
4	Dodecane	112316	000112-40-3	91
5	Decane, 6-ethyl-2-methyl-	16450	062108-21-8	90

Peak Number 20 Rank in Relative Concentration 14

R.T.	Conc	Area	Relative to ISTD	R.T.
42.42	14648.30 PPB	26058575	CHLOROBENZENE-D5	30.36

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tridecane	112308	000629-50-5	97
2	Tridecane	112309	000629-50-5	94
3	Tridecane	16403	000629-50-5	94
4	Dodecane	16262	000112-40-3	90
5	Undecane	112281	001120-21-4	90

19032208.D VAP_NP8.M Tue Apr 20 13:24:22 1999

HNF-4440 Rev. 0

TIC: 19032208.D

VS006-237-S071-2B

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	7.179	rBB	0.435	8383546	7.065	7.500
2	11.237	rBB	0.308	22349163	11.117	11.425
3	11.518	rBB	0.214	17966751	11.425	11.639
4	12.168	rBB	0.147	1598907	12.101	12.248
5	12.885	rBB	0.221	3422606	12.771	12.992
6	15.959	rBB	0.134	7437504	15.885	16.019
7	16.106	rBB	0.181	2428129	16.059	16.240
8	16.360	rBB	0.281	13323084	16.240	16.521
9	16.856	rBB	0.201	1717959	16.769	16.970
10	19.481	rBB	0.134	2001164	19.414	19.548
11	20.486	rBB	0.261	20113388	20.385	20.646
12	20.847	rBB	0.134	11757304	20.780	20.914
13	21.544	rBB	0.181	1852163	21.457	21.638
14	23.519	rBB	0.114	1640521	23.446	23.560
15	23.827	rBB	0.127	3788226	23.747	23.874
16	23.981	rBB	0.254	17852721	23.874	24.129
17	24.571	rBB	0.147	19137719	24.504	24.651
18	24.725	rBB	0.107	1584701	24.658	24.765
19	24.959	rBB	0.181	101741453	24.839	25.019
20	25.086	rBB	0.114	43353191	25.026	25.140
21	25.220	rBB	0.141	71152238	25.140	25.281
22	25.542	rBB	0.147	58000261	25.461	25.609
23	25.776	rBB	0.221	14782391	25.689	25.910
24	26.680	rBB	0.121	2043735	26.620	26.741
25	26.794	rBB	0.087	1860551	26.747	26.834
26	27.049	rBB	0.248	27487053	26.915	27.162
27	27.350	rBB	0.154	28111113	27.243	27.397
28	27.544	rBB	0.107	16071481	27.484	27.591
29	27.665	rBB	0.127	48370852	27.591	27.718
30	27.765	rBB	0.047	3715872	27.725	27.772
31	27.805	rBB	0.074	8385151	27.772	27.846
32	28.140	rBB	0.060	1677678	28.100	28.160
33	28.227	rBB	0.134	42887303	28.167	28.301
34	28.462	rBB	0.114	2901403	28.381	28.495
35	28.575	rBB	0.228	49689003	28.495	28.723
36	28.776	rBB	0.100	4671677	28.723	28.823
37	28.924	rBB	0.121	16245034	28.863	28.984
38	29.051	rBB	0.167	9790277	28.984	29.151
39	29.406	rBB	0.208	2209072	29.265	29.473
40	30.109	rBB	0.154	1631065	30.062	30.216
41	30.357	rBB	0.167	16181313	30.297	30.464
42	30.752	rBB	0.141	1560973	30.698	30.839
43	30.899	rBB	0.094	2210460	30.846	30.940
44	31.006	rBB	0.134	32494731	30.940	31.073
45	31.214	rBB	0.094	1568604	31.160	31.254
46	31.308	rBB	0.121	7445858	31.254	31.375
47	31.509	rBB	0.174	70736920	31.381	31.556
48	31.609	rBB	0.127	33711884	31.556	31.683
49	31.723	rBB	0.087	9329650	31.683	31.770
50	31.911	rBB	0.121	15858951	31.857	31.978
51	32.721	rBB	0.167	8056036	32.620	32.788
52	32.835	rBB	0.100	1749262	32.788	32.888
53	33.062	rBB	0.234	19713198	32.888	33.123
54	33.196	rBB	0.147	22960285	33.123	33.270
55	33.337	rBB	0.154	21007340	33.270	33.424
56	33.632	rBB	0.208	27367606	33.531	33.739

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57	33.920	rBB	0.094	1902045	33.879	33.973
58	34.167	rBB	0.174	6257740	34.100	34.275
59	34.375	rBB	0.134	5852842	34.281	34.415
60	34.482	rBB	0.181	23845969	34.415	34.596
61	34.723	rBB	0.121	4459531	34.650	34.770
62	34.984	rBB	0.154	22905385	34.924	35.078
63	35.346	rBB	0.248	29138152	35.226	35.473
64	35.668	rBB	0.121	5538478	35.601	35.721
65	35.822	rBB	0.254	39651542	35.721	35.976
66	36.290	rBB	0.134	1998374	36.237	36.371
67	36.418	rBB	0.100	2010378	36.371	36.471
68	37.355	rBB	0.188	8414812	37.255	37.442
69	37.603	rBB	0.147	4198072	37.536	37.683
70	37.831	rBB	0.127	28788772	37.764	37.891
71	38.132	rBB	0.154	8897898	38.038	38.192
72	38.741	rBB	0.141	7548577	38.661	38.802
73	38.869	rBB	0.194	14918543	38.802	38.996
74	39.157	rBB	0.114	2205992	39.110	39.224
75	39.358	rBB	0.100	1563869	39.311	39.411
76	39.532	rBB	0.127	1610205	39.465	39.592
77	40.108	rBB	0.100	2933770	40.054	40.154
78	40.315	rBB	0.114	6581000	40.262	40.375
79	40.476	rBB	0.261	41399756	40.382	40.643
80	40.797	rBB	0.181	4194190	40.730	40.911
81	42.016	rBB	0.067	2215370	41.989	42.056
82	42.251	rBB	0.074	1616364	42.210	42.284
83	42.418	rBB	0.094	26058575	42.371	42.465
84	43.791	rBB	0.147	2690775	43.751	43.898

Library Searched : C:\DATABASE\NIST98.L
Quality : 95
ID : 1-Pentyne

Library Searched : C:\DATABASE\NIST98.L
Quality : 74
ID : Acetaldehyde

File : D:\C106_2\19032208.D
Operator : M. STAUFFER
Acquired : 22 Mar 99 7:01 pm using AcqMethod VAP_NP8
Instrument : 5972 - MS
Sample Name: VS006-237-S071-2B
Misc Info : 50 TORR; 500 ML TO 12000 ML
Vial Number: 1

Library Searched : C:\DATABASE\NIST98.L
Quality : 91
ID : 1-Butene, 3-methyl-

Library Searched : C:\DATABASE\NIST98.L
 Quality : 80
 ID : 1-Butene

HNF-4440 Rev. 0

File : D:\C106_2\19032307.D
Operator : G. FIES
Acquired : 23 Mar 99 2:22 pm using AcqMethod VAP_NP8
Instrument : 5972 - MS
Sample Name: VSAMB-201-S017
Misc Info : 50 TORR
Vial Number: 1

HNF-4440 Rev. 0
Quantitation Report

Data File : D:\C106_2\19032307.D
Acq Time : 23 Mar 99 2:22 pm
Sample : VSAMB-201-S017
Misc : 50 TORR
Quant Time: Apr 21 8:49 1999

Operator: G. FIES
Inst : 5972 - MS
Multiplr: 1.00

DF=2

Method : D:\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7433766	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.35	117	5608381	189.50	NG	-0.08

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.82	85	23855	0.23	PPB	97
3) METHYL CHLORIDE	9.42	50	9703	0.24	PPB #	44
4) N-BUTANE	11.51	43	6943	0.10	PPB #	30
5) ETHYL CHLORIDE	0.00	64		Not Detected		
6) FREON 11	15.66	101	10324	0.13	PPB	98
7) N-PENTANE	0.00	72		Not Detected		
8) DICHLOROMETHANE	0.00	49		Not Detected		
9) 2-METHYL-PENTANE	19.49	43	1919	0.03	PPB #	28
10) 1-HEXENE	20.85	56	395	0.01	PPB #	24
11) N-HEXANE	20.91	57	67	0.00	PPB	87
12) CHLOROFORM	0.00	83		Not Detected		
13) BENZENE	23.47	78	10683	0.12	PPB	98
14) CARBON TETRACHLORIDE	23.52	117	2920	0.06	PPB	93
15) 3-METHYL-HEXANE	23.71	43	9253	0.15	PPB	87
16) N-HEPTANE	24.89	57	10545	0.34	PPB m	93
17) TOLUENE	27.54	91	37420	0.28	PPB m	98
18) N-OCTANE	28.66	57	16	0.00	PPB #	1
19) TETRACHLOROETHYLENE	0.00	166		Not Detected		
21) CHLOROBENZENE	30.43	112	485	0.01	PPB m	6
22) ETHYLBENZENE	30.89	91	3073	0.03	PPB #	84
23) M,P-XYLENE	31.15	91	6202	0.08	PPB	92
24) STYRENE	31.88	104	1055	0.02	PPB #	73
25) N-NONANE	31.90	43	10203	0.16	PPB m	85
26) 1,1,2,2-TETRACHLOROETHANE	0.00	83		Not Detected		
27) O-XYLENE	31.98	91	2945	0.03	PPB	98
28) N-DECANE	34.96	43	13531	0.20	PPB m	82
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	18556	0.18	PPB	96

(#) = qualifier out of range (m) = manual integration
19032307.D VAP_NP8.M Wed Apr 21 08:50:06 1999

L 0.5 = non detect = m

HNF-4440 Rev. 0

Quantitation Report

Data File : D:\C106_2\19032307.D
 Acq Time : 23 Mar 99 2:22 pm
 Sample : VSAMB-201-S017
 Misc : 50 TORR
 Quant Time: Apr 21 8:51 1999

Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

DF=2

Method : D:\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7433766	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.35	117	5608381	189.50	NG	-0.11

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	15.60	45	10241	1.32	PPB	m 100
3) ACETONITRILE	16.11	40	115	4.06	PPB	m 112 1
4) ACETONE	16.43	58	33362	3.84	PPB	m 4/2/98 88
5) FURAN	16.81	68	1092	0.06	PPB	# 33
6) 2-PROPANOL	16.91	45	115	0.00	PPB	# 57
7) 1-PROPANOL	0.00	31			Not Detected	
8) PROPANENITRILE	0.00	54			Not Detected	
9) BUTANAL	20.66	72	2221	0.44	PPB	# 49
10) 2-BUTANONE	20.89	72	2905	0.40	PPB	95
11) TETRAHYDROFURAN	0.00	72			Not Detected	
12) 1-BUTANOL	23.51	56	3314	0.22	PPB	m 100
13) BUTANENITRILE	23.95	41	14610	0.42	PPB	# 100
14) 2-PENTANONE	24.45	43	8279	0.14	PPB	97
15) 1,4-DIOXANE	0.00	88			Not Detected	
16) 4-METHYL-2-PENTANONE	26.42	100	2777	0.37	PPB	94
18) 2-HEXANONE	28.16	58	4454	0.19	PPB	78
19) 3-HEPTANONE	31.44	114	48914	6.26	PPB	68
20) 2-HEPTANONE	31.56	58	63523	1.54	PPB	79
21) CYCLOHEXANONE	31.97	98	65	0.00	PPB	# 19
22) 2-OCTANONE	34.69	58	8718	0.15	PPB	80

(#) = qualifier out of range (m) = manual integration

19032307.D VAP_P8.M

Wed Apr 21 08:52:32 1999

HNF-4440 Rev. 0

Library Search Compound Report

Data File : D:\C106_2\19032307.D
 Acq Time : 23 Mar 99 2:22 pm Operator: G. FIES
 Sample : VSAMB-201-S017 Inst : 5972 - MS
 Misc : 50 TORR Multiplr: 1.00
 Method : D:\METHODS\VAP P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Library : NIST98.L

 Peak Number 1 Rank in Relative Concentration 7

R.T.	Conc	Area	Relative to ISTD	R.T.
11.41	4.99 PPB	240031	FLUOROBENZENE	23.98
Hit# of 0 Tentative ID Ref# CAS# Qual				
1 No Hits From C:\DATABASE\NIST98.L 0 000000-00-0 0				

Spike

 Peak Number 2 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
34.46	15.50 PPB	644526	CHLOROBENZENE-D5	30.35
Hit# of 10 Tentative ID Ref# CAS# Qual				
1 Cyclotetrasiloxane, octamethyl-				
2 2,4-Diamino-N,N,5-trimethyl-6-quino				
3 5H-Naphtho[2,3-c]carbazole, 5-methy				
4 4-Amino-5-(4-acetylphenylazo)benzof				
5 Benzoic acid, 3-methyl-2-trimethyls				

ug NS 4/2/99

MV = 296

 Peak Number 3 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
35.31	7.61 PPB	316382	CHLOROBENZENE-D5	30.35
Hit# of 17 Tentative ID Ref# CAS# Qual				
1 Hexanenitrile				
2 Hexane-2,6-dicarbonitrile, 1-(formy				
3 1,8-Nonadiene				
4 1,2-Nonadiene				
5 1,7-Octadiene				

Unknown

 Peak Number 4 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
35.81	9.96 PPB	414207	CHLOROBENZENE-D5	30.35
Hit# of 20 Tentative ID Ref# CAS# Qual				

HNF-4440 Rev. 0

1	1-Hexanol, 2-ethyl-	HW = 130	15889	000104-76-7	86
2	1-Hexanol, 2-ethyl-		112165	000104-76-7	86
3	1-Hexanol, 2-ethyl-		112146	000104-76-7	64
4	1-Hexanol, 2-ethyl-		112637	000104-76-7	53
5	2-Propyl-1-pentanol		15895	058175-57-8	50

 Peak Number 5 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
38.86	32.41 PPB	1347372	CHLOROBENZENE-D5	30.35

Hit# of 4	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox	27665	003789-85-3	59
2	Benzeneethanamine, N-[(pentafluorop	115266	055429-85-1	45
3	Benzoic acid, 2-[(trimethylsilyl)ox	115267	003789-85-3	38
4	Cyclopropene, 3,3-diphenyl-1-trimet	25532	1000160-85-6	10

Unknown

 Peak Number 6 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
40.45	34.58 PPB	1437588	CHLOROBENZENE-D5	30.35

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Dodecane	109555	000112-40-3	97
2	Dodecane	112317	000112-40-3	95
3	Dodecane	16262	000112-40-3	94
4	Dodecane	112318	000112-40-3	91
5	Dodecane	112316	000112-40-3	91

 Peak Number 7 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
42.40	69.26 PPB	2879147	CHLOROBENZENE-D5	30.35

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tridecane	112308	000629-50-5	97
2	Tridecane	16403	000629-50-5	96
3	Tridecane	112309	000629-50-5	94
4	Tridecane	112239	000629-50-5	93
5	Dodecane	112317	000112-40-3	90

 19032307.D VAP_P8.M Wed Apr 21 08:56:32 1999

HNF-4440 Rev. 0

TIC: 19032307.D

VSAMB-201-S017

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	11.412	rBB	0.027	240031	11.398	11.425
2	23.982	rBB	0.301	14962368	23.895	24.196
3	30.350	rBB	0.321	15754807	30.257	30.578
4	30.987	rBB	0.121	186865	30.940	31.060
5	31.429	rBB	0.134	961080	31.368	31.502
6	31.563	rBB	0.121	266110	31.502	31.623
7	31.737	rBB	0.147	164149	31.670	31.817
8	33.190	rBB	0.134	160155	33.130	33.264
9	34.462	rBB	0.127	644526	34.402	34.529
10	35.313	rBB	0.208	316382	35.239	35.447
11	35.808	rBB	0.161	414207	35.741	35.902
12	37.804	rBB	0.127	205473	37.744	37.871
13	38.855	rBB	0.141	1347372	38.795	38.936
14	40.449	rBB	0.107	1437588	40.389	40.496
15	42.405	rBB	0.100	2879147	42.358	42.458

15

Library Searched : C:\DATABASE\WILEY138.L
Quality : 42
ID : Hexanenitrile

Library Searched : C:\DATABASE\NIST98.L
Quality : 80
ID : Cyclotetrasiloxane, octamethyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\NIST98.L
 Quality : 86
 ID : 1-Hexanol, 2-ethyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 37
 ID : 2-TRIMETHYLSILYLAMINO-1-(4-TRIMETHYLSILYLOXYPHENYL)-
 1-TRIMETHYL-SILYLOXYETHANE

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\NIST98.L
Quality : 97
ID : Tridecane

HNF-4440 Rev. 0

File : D:\C106_2\19032308.D
 Operator : G. FIES
 Acquired : 23 Mar 99 3:25 pm using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VSAMB-205-S044
 Misc Info : 50 TORR
 Vial Number: 1

HNF-4440 Rev. 0

Quantitation Report

Data File : D:\C106_2\19032308.D

Acq Time : 23 Mar 99 3:25 pm

Sample : VSAMB-205-S044

Misc : 50 TORR

Quant Time: Apr 21 9:12 1999

Operator: G. FIES

Inst : 5972 - MS

Multiplr: 1.00

DF=2

Method : D:\METHODS\VAP_NP8.M

Title : NONPOLAR VAPOR STANDARD CALIBRATION

Last Update : Mon Mar 22 09:40:09 1999

Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) FLUOROBENZENE	23.98	96	7398476	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.35	117	6062583	189.50	NG	-0.07

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.81	85	23206	0.22	PPB m	93
3) METHYL CHLORIDE	9.41	50	9153	0.23	PPB m	51
4) N-BUTANE	11.50	43	8145	0.11	PPB #	69
5) ETHYL CHLORIDE	0.00	64		Not Detected		
6) FREON 11	15.66	101	10821	0.13	PPB	99
7) N-PENTANE	0.00	72		Not Detected		
8) DICHLOROMETHANE	0.00	49		Not Detected		
9) 2-METHYL-PENTANE	19.51	43	203	0.00	PPB #	28
10) 1-HEXENE	20.84	56	63	0.00	PPB #	1
11) N-HEXANE	20.94	57	121	0.00	PPB #	60
12) CHLOROFORM	0.00	83		Not Detected		
13) BENZENE	23.47	78	10428	0.12	PPB	98
14) CARBON TETRACHLORIDE	23.52	117	2783	0.06	PPB	98
15) 3-METHYL-HEXANE	23.70	43	7258	0.11	PPB	90
16) N-HEPTANE	24.96	57	39	0.00	PPB #	1
17) TOLUENE	27.54	91	31143	0.24	PPB	99
18) N-OCTANE	28.65	57	54	0.00	PPB #	1
19) TETRACHLOROETHYLENE	0.00	166		Not Detected		
21) CHLOROBENZENE	0.00	112		Not Detected		
22) ETHYLBENZENE	30.90	91	1732	0.01	PPB #	49
23) M,P-XYLENE	31.16	91	3000	0.04	PPB	89
24) STYRENE	31.89	104	137	0.00	PPB #	31
25) N-NONANE	31.94	43	6621	0.10	PPB #	64
26) 1,1,2,2-TETRACHLOROETHANE	0.00	83		Not Detected		
27) O-XYLENE	31.99	91	1390	0.01	PPB	87
28) N-DECANE	34.97	43	3870	0.05	PPB	91
29) 1,2,4-TRIMETHYLBENZENE	35.14	105	4496	0.04	PPB	89

(#)=qualifier out of range (m)=manual integration

19032308.D VAP_NP8.M

Wed Apr 21 09:13:31 1999

HNF-4440 Rev. 0

Quantitation Report

Data File : D:\C106_2\19032308.D
 Acq Time : 23 Mar 99 3:25 pm
 Sample : VSAMB-205-S044
 Misc : 50 TORR
 Quant Time: Apr 21 9:11 1999

Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

DF = 2

Method : D:\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7398476	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.35	117	6062583	189.50	NG	-0.11

System Monitoring Compounds %Recovery

Target Compounds						Qvalue
2) ETHANOL	15.63	45	7548	0.98	PPB m	100
3) ACETONITRILE	16.23	40	165	0.406	PPB MS	4/23/83
4) ACETONE	16.48	58	23828	2.76	PPB m	72
5) FURAN	0.00	68			Not Detected	
6) 2-PROPANOL	16.91	45	246	0.01	PPB #	1
7) 1-PROPANOL	0.00	31			Not Detected	
8) PROPANENITRILE	0.00	54			Not Detected	
9) BUTANAL	20.65	72	1434	0.28	PPB m	31
10) 2-BUTANONE	20.90	72	2629	0.36	PPB	87
11) TETRAHYDROFURAN	0.00	72			Not Detected	
12) 1-BUTANOL	23.60	56	5100	0.34	PPB m	93
13) BUTANENITRILE	23.95	41	11471	0.33	PPB #	100
14) 2-PENTANONE	24.47	43	7765	0.13	PPB	97
15) 1,4-DIOXANE	0.00	88			Not Detected	
16) 4-METHYL-2-PENTANONE	26.44	100	1274	0.17	PPB	85
18) 2-HEXANONE	28.17	58	2707	0.11	PPB #	69
19) 3-HEPTANONE	31.44	114	28439	3.37	PPB	63
20) 2-HEPTANONE	31.57	58	42258	0.95	PPB m	79
21) CYCLOHEXANONE	31.73	98	883	0.05	PPB	76
22) 2-OCTANONE	34.69	58	8513	0.13	PPB	80

(#) = qualifier out of range (m) = manual integration
 19032308.D VAP_P8.M Wed Apr 21 09:12:09 1999

Library Search Compound Report

Data File : D:\C106_2\19032308.D
 Acq Time : 23 Mar 99 3:25 pm
 Sample : VSAMB-205-S044
 Misc : 50 TORR
 Method : D:\METHODS\VAP_NP8.M
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Library : NIST98.L

Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00
 DF = 2

 Peak Number 1 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.	
31.44	6.21 PPB	550913	CHLORO BENZENE-D5	30.35	
Hit# of 20	Tentative ID		Ref#	CAS#	Qual
1	3-Heptanone	Target	112009	000106-35-4	91
2	3-Heptanone		15594	000106-35-4	91
3	3-Heptanone		112010	000106-35-4	91
4	3-Heptanone		112074	000106-35-4	80
5	3-Heptanone		112011	000106-35-4	80

 Peak Number 2 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.	
34.47	2.86 PPB	254093	CHLOROBENZENE-D5	30.35	
Hit# of 9	Tentative ID		Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-		MW = 296 128141	000556-67-2	72
2	2,4-Diamino-N,N,5-trimethyl-6-quin		97291	1000227-25-1	50
3	5H-Naphtho[2,3-c]carbazole, 5-methy		97364	100025-44-3	50
4	Cyclotetrasiloxane, octamethyl-		128142	000556-67-2	47
5	Benzoic acid, 3-methyl-2-trimethyls		97299	1000153-57-1	42

 Peak Number 3 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.	
35.80	14.05 PPB	1247173	CHLOROBENZENE-D5	30.35	
Hit# of 20	Tentative ID		Ref#	CAS#	Qual
1	1-Hexanol, 2-ethyl-	MW = 130	112165	000104-76-7	86
2	1-Hexanol, 2-ethyl-		15889	000104-76-7	78
3	1-Hexanol, 2-ethyl-		112637	000104-76-7	64
4	2-Propyl-1-pentanol		15895	058175-57-8	50
5	1-Hexanol, 2-ethyl-		112147	000104-76-7	50

 Peak Number 4 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
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38.86 10.87 PPB 964665 CHLOROBENZENE-D5 30.35

Hit# of 4	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox	27665	003789-85-3	64
2	Benzeneethanamine, N-[(pentafluorop	115266	055429-85-1	45
3	Benzoic acid, 2-[(trimethylsilyl)ox	115267	003789-85-3	36
4	1,4-Cyclohexadiene, 1,3,6-tris(trim	26726	1000150-10-8	7

*Unknown******
Peak Number 5 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
40.45	5.12 PPB	454384	CHLOROBENZENE-D5	30.35

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Dodecane <i>MW = 170</i>	16262	000112-40-3	95
2	Dodecane	109555	000112-40-3	95
3	Dodecane	112317	000112-40-3	95
4	Dodecane	112318	000112-40-3	95
5	Undecane	16533	001120-21-4	86

Peak Number 6 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
42.40	29.57 PPB	2625390	CHLOROBENZENE-D5	30.35

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tridecane <i>MW = 184</i>	112308	000629-50-5	97
2	Tridecane	16403	000629-50-5	96
3	Tridecane	112309	000629-50-5	94
4	Tridecane	112239	000629-50-5	93
5	Heptadecane	112319	000629-78-7	91

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TIC: 19032308.D

VSAMB-205-S044

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	21.059	rBB	0.020	139841	21.052	21.072
2	23.979	rBB	0.208	14860623	23.905	24.113
3	30.354	rBB	0.288	16823895	30.267	30.555
4	30.997	rBB	0.121	96969	30.937	31.057
5	31.439	rBB	0.154	550913	31.365	31.519
6	31.566	rBB	0.121	160594	31.519	31.640
7	32.738	rBB	0.027	236718	32.725	32.752
8	33.616	rBB	0.114	103749	33.549	33.662
9	34.466	rBB	0.127	254093	34.406	34.533
10	35.310	rBB	0.161	203304	35.250	35.410
11	35.799	rBB	0.234	1247173	35.712	35.946
12	37.352	rBB	0.134	90143	37.286	37.419
13	38.859	rBB	0.141	964665	38.799	38.940
14	40.446	rBB	0.100	454384	40.386	40.487
15	41.960	rBB	0.121	92713	41.893	42.014
16	42.402	rBB	0.094	2625390	42.362	42.456

15

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Library Searched : C:\DATABASE\NIST98.L
 Quality : 72
 ID : Cyclotetrasiloxane, octamethyl-

Library Searched : C:\DATABASE\NIST98.L
Quality : 86
ID : 1-Hexanol, 2-ethyl-

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Library Searched : C:\DATABASE\WILEY138.L
 Quality : 37
 ID : 2-TRIMETHYLSILYLAMINO-1-(4-TRIMETHYLSILYLOXYPHENYL)-
 1-TRIMETHYL-SILYLOXYETHANE

HNF-4440 Rev. 0

File : D:\C106_2\19032309.D
 Operator : G. FIES
 Acquired : 23 Mar 99 4:27 pm using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VSAMB-206-S046
 Misc Info : 50 TORR
 Vial Number: 1

HNF-4440 Rev. 0

Quantitation Report

Data File : D:\C106_2\19032309.D
 Acq Time : 23 Mar 99 4:27 pm
 Sample : VSAMB-206-S046
 Misc : 50 TORR
 Quant Time: Apr 21 9:19 1999

Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

DF = 2

Method : D:\METHODS\VAP_NP8.M
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Last Update : Mon Mar 22 09:40:09 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7182630	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.35	117	5938063	189.50	NG	-0.08

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.82	85	22190	0.22	PPB m	40
3) METHYL CHLORIDE	9.43	50	8457	0.22	PPB #	42
4) N-BUTANE	11.51	43	6450	0.09	PPB #	53
5) ETHYL CHLORIDE	0.00	64		Not Detected		
6) FREON 11	15.67	101	9649	0.12	PPB	98
7) N-PENTANE	0.00	72		Not Detected		
8) DICHLOROMETHANE	0.00	49		Not Detected		
9) 2-METHYL-PENTANE	19.50	43	244	0.00	PPB #	28
10) 1-HEXENE	20.83	56	63	0.00	PPB #	1
11) N-HEXANE	20.86	57	58	0.00	PPB	89
12) CHLOROFORM	0.00	83		Not Detected		
13) BENZENE	23.48	78	9930	0.12	PPB	100
14) CARBON TETRACHLORIDE	23.52	117	2840	0.06	PPB	100
15) 3-METHYL-HEXANE	24.03	43	97	0.00	PPB #	22
16) N-HEPTANE	24.97	57	28	0.00	PPB #	1
17) TOLUENE	27.54	91	9425	0.07	PPB	93
18) N-OCTANE	28.64	57	14	0.00	PPB	80
19) TETRACHLOROETHYLENE	0.00	166		Not Detected		
21) CHLOROBENZENE	0.00	112		Not Detected		
22) ETHYLBENZENE	30.89	91	2283	0.02	PPB m	91
23) M, P-XYLENE	31.15	91	5027	0.06	PPB m	32
24) STYRENE	0.00	104		Not Detected		
25) N-NONANE	31.95	43	331	0.00	PPB m	3
26) 1,1,2,2-TETRACHLOROETHANE	0.00	83		Not Detected		
27) O-XYLENE	31.99	91	2198	0.02	PPB m	57
28) N-DECANE	34.97	43	2010	0.03	PPB m	100
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	2717	0.02	PPB m	44

(#) = qualifier out of range (m) = manual integration

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HNF-4440 Rev. 0

Quantitation Report

Data File : D:\C106_2\19032309.D
 Acq Time : 23 Mar 99 4:27 pm
 Sample : VSAMB-206-S046
 Misc : 50 TORR
 Quant Time: Apr 21 9:21 1999

Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

DF=2

Method : D:\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7182630	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.35	117	5866731	189.50	NG	-0.11

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	15.70	45	5729	0.76	PPB m	100
3) ACETONITRILE	16.25	40	251	4.07	PPB #	115 1
4) ACETONE	16.46	58	24612	2.93	PPB m	4/24/99 3
5) FURAN	0.00	68		Not Detected		
6) 2-PROPANOL	16.92	45	95	0.00	PPB #	1
7) 1-PROPANOL	0.00	31		Not Detected		
8) PROPANENITRILE	0.00	54		Not Detected		
9) BUTANAL	20.92	72	2969	0.61	PPB m	89
10) 2-BUTANONE	20.92	72	323	0.05	PPB #	1
11) TETRAHYDROFURAN	0.00	72		Not Detected		
12) 1-BUTANOL	23.70	56	2863	0.20	PPB #	29
13) BUTANENITRILE	23.96	41	129	0.00	PPB #	100
14) 2-PENTANONE	24.49	43	9228	0.16	PPB #	66
15) 1,4-DIOXANE	0.00	88		Not Detected		
16) 4-METHYL-2-PENTANONE	26.46	100	858	0.12	PPB	83
18) 2-HEXANONE	28.19	58	200	0.01	PPB #	1
19) 3-HEPTANONE	31.44	114	16308	1.99	PPB	64
20) 2-HEPTANONE	31.56	58	23265	0.54	PPB	84
21) CYCLOHEXANONE	31.75	98	329	0.02	PPB	75
22) 2-OCTANONE	34.70	58	5533	0.09	PPB m	1

(#) = qualifier out of range (m) = manual integration
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TIC: 19032309.D

VSAMB-206-S046

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	14.185	rBB	0.020	.257155	14.178	14.198
2	23.976	rBB	0.214	14392791	23.896	24.110
3	30.351	rBB	0.348	16527344	30.271	30.619
4	31.443	rBB	0.134	324815	31.383	31.517
5	35.803	rBB	0.167	546474	35.749	35.916
6	38.856	rBB	0.161	672173	38.796	38.957
7	40.444	rBB	0.087	194273	40.397	40.484
8	42.406	rBB	0.094	2027194	42.359	42.453

Library Search Compound Report

Data File : D:\C106_2\19032309.D
 Acq Time : 23 Mar 99 4:27 pm Operator: G. FIES
 Sample : VSAMB-206-S046 Inst : 5972 - MS
 Misc : 50 TORR Multiplr: 1.00
 Method : D:\METHODS\VAP_P8.M $\delta F = 2$
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Library : NIST98.L

 Peak Number 1 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
14.19	5.56 PPB	257155	FLUOROBENZENE	23.98

Hit# of	0	Tentative ID	Ref#	CAS#	Qual
1	No Hits From C:\DATABASE\NIST98.L		0	000000-00-0	0

Spike

 Peak Number 2 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
35.80	12.53 PPB <i>Wg</i>	546474	CHLOROBENZENE-D5	30.35

Hit# of	20	Tentative ID	Ref#	CAS#	Qual
1	1-Hexanol, 2-ethyl-	<i>MW = 130</i>	112165	000104-76-7	90
2	1-Hexanol, 2-ethyl-		15889	000104-76-7	80
3	1-Hexanol, 2-ethyl-		112637	000104-76-7	64
4	2-Propyl-1-pentanol		15895	058175-57-8	50
5	Octane, 2,3-dimethyl-		112152	007146-60-3	47

 Peak Number 3 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
38.86	15.41 PPB	672173	CHLOROBENZENE-D5	30.35

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox		27665	003789-85-3	45
2	Benzeneethanamine, N-[(pentafluorop		115266	055429-85-1	45
3	Cyclopropene, 3,3-diphenyl-1-trimet		25532	1000160-85-6	10

Unknown

 Peak Number 4 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
42.41	46.49 PPB	2027194	CHLOROBENZENE-D5	30.35

Hit# of	20	Tentative ID	Ref#	CAS#	Qual
1	Tridecane	<i>MW = 184</i>	112308	000629-50-5	96
2	Tridecane		112239	000629-50-5	96

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3 Tridecane	112309 000629-50-5	94
4 Undecane	112395 001120-21-4	90
5 Dodecane	112317 000112-40-3	90

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HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\19032404.D
Operator : G. FIES
Acquired : 24 Mar 99 10:47 am using AcqMethod VAP_NP8
Instrument : 5972 - MS
Sample Name: VSAMB-207-S065
Misc Info : 50 TORR
Vial Number: 1

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032404.D
Acq On : 24 Mar 99 10:47 am
Sample : VSAMB-207-S065
Misc : 50 TORR
Quant Time: Apr 8 7:02 1999

Vial: 1
Operator: G. FIES
Inst : 5972 - MS
Multiplr: 1.00

DF = 2

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	6919712	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.35	117	5483357	189.50	NG	-0.08

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.82	85	23158	0.24	PPB m	43
3) METHYL CHLORIDE	9.42	50	8695	0.23	PPB #	49
4) N-BUTANE	11.51	43	31547	0.47	PPB	93
5) ETHYL CHLORIDE	0.00	64		Not Detected		
6) FREON 11	15.66	101	10234	0.14	PPB	98
7) N-PENTANE	16.37	72	68	0.01	PPB #	100
8) DICHLOROMETHANE	0.00	49		Not Detected		
9) 2-METHYL-PENTANE	19.49	43	6858	0.10	PPB m	28
10) 1-HEXENE	20.11	56	1906	0.07	PPB m	91
11) N-HEXANE	20.84	57	4050	0.11	PPB m	69
12) CHLOROFORM	0.00	83		Not Detected		
13) BENZENE	23.48	78	25374	0.31	PPB	98
14) CARBON TETRACHLORIDE	23.51	117	2749	0.06	PPB #	4
15) 3-METHYL-HEXANE	24.04	43	260	0.00	PPB #	22
16) N-HEPTANE	24.89	57	2528	0.09	PPB #	68
17) TOLUENE	27.54	91	48215	0.39	PPB m	99
18) N-OCTANE	28.54	57	5724	0.19	PPB m	47
19) TETRACHLOROETHYLENE	29.14	166	185	0.00	PPB #	5
21) CHLOROBENZENE	30.43	112	43	0.00	PPB #	6
22) ETHYLBENZENE	30.89	91	8111	0.07	PPB	98
23) M, P-XYLENE	31.15	91	21247	0.29	PPB m	82
24) STYRENE	31.88	104	2295	0.03	PPB #	86
25) N-NONANE	32.13	43	162	0.00	PPB	96
26) 1,1,2,2-TETRACHLOROETHANE	0.00	83		Not Detected		
27) O-XYLENE	31.99	91	7963	0.09	PPB	92
28) N-DECANE	35.02	43	54	0.00	PPB	89
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	13968	0.14	PPB	94

(#) = qualifier out of range (m) = manual integration
19032404.D VAP_NP8.M Thu Apr 08 07:02:54 1999

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032404.D
 Acq On : 24 Mar 99 10:47 am
 Sample : VSAMB-207-S065
 Misc : 50 TORR
 Quant Time: Apr 8 7:15 1999

Vial: 1
 Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00
 DF = 2

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Last Update : Mon Mar 22 09:53:20 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	6919712	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.35	117	5483357	189.50	NG	-0.11

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	15.64	45	9039	1.25	PPB m	100
3) ACETONITRILE	0.00	40		Not Detected		
4) ACETONE	16.42	58	32577	4.03	PPB m	1
5) FURAN	0.00	68		Not Detected		
6) 2-PROPANOL	16.92	45	25	0.00	PPB #	1
7) 1-PROPANOL	0.00	31		Not Detected		
8) PROPANENITRILE	0.00	54		Not Detected		
9) BUTANAL	20.65	72	2853	0.61	PPB #	62
10) 2-BUTANONE	20.90	72	4157	0.61	PPB #	57
11) TETRAHYDROFURAN	0.00	72		Not Detected		
12) 1-BUTANOL	23.71	56	7857	0.56	PPB	96
13) BUTANENITRILE	23.96	41	7772	0.24	PPB #	100
14) 2-PENTANONE	24.57	43	280	0.00	PPB #	65
15) 1,4-DIOXANE	0.00	88		Not Detected		
16) 4-METHYL-2-PENTANONE	26.45	100	632	0.09	PPB	58
18) 2-HEXANONE	28.18	58	1771	0.08	PPB #	63
19) 3-HEPTANONE	31.44	114	11304	1.48	PPB m	1
20) 2-HEPTANONE	31.58	58	15231	0.38	PPB m	1
21) CYCLOHEXANONE	31.98	98	115	0.01	PPB #	1
22) 2-OCTANONE	34.70	58	3899	0.07	PPB	79

(#) = qualifier out of range (m) = manual integration
 19032404.D VAP_P8.M Thu Apr 08 07:16:04 1999

Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\19032404.D Vial: 1
 Acq On : 24 Mar 99 10:47 am Operator: G. FIEB
 Sample : VSAMB-207-S065 / Inst : 5972 - Ms
 Misc : 50 TORR Multiplr: 1.00
 Method : C:\HPCHEM\1\METHODS\VAP_P8.M DF= 2
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Library : NIST98.L

 Peak Number 1 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
18.95	4.69 PPB	211133	FLUOROBENZENE	23.98
Hit# of 1	Tentative ID		Ref# CAS#	Qual
1 Ethylene oxide	Spike		108063 000075-21-8	3

 Peak Number 2 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
33.13	4.64 PPB	187248	CHLOROBENZENE-D5	30.35
Hit# of 1	Tentative ID		Ref# CAS#	Qual
1 Acetaldehyde	Spike		108064 000075-07-0	4

 Peak Number 3 HV = 286 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
34.46	14.61 PPB vs ns 04/21/99	588806	CHLOROBENZENE-D5	30.35
Hit# of 1	Tentative ID		Ref# CAS#	Qual
1 Cyclotetrasiloxane, octamethyl-			128142 000556-67-2	74

 Peak Number 4 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
38.86	33.00 PPB	1330328	CHLOROBENZENE-D5	30.35
Hit# of 1	Tentative ID		Ref# CAS#	Qual
1 Benzoic acid, 2-[(trimethylsilyl)ox			27665 003789-85-3	59
Unknown				

 Peak Number 5 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
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42.41 16.02 PPB 645920 CHLOROBENZENE-D5 30.35

Hit# of 1 Tentative ID Ref# CAS# Qual

1 Tridecane *MW = 184* 112308 000629-50-5 97

Peak Number 6 Rank in Relative Concentration 4

R.T. Conc Area Relative to ISTD R.T.

42.63 11.08 PPB 446668 CHLOROBENZENE-D5 30.35

Hit# of 1 Tentative ID Ref# CAS# Qual

1 Ethanedioic acid, bis(trimethylsilyl) *Unknown* 26793 018294-04-7 50

19032404.D VAP_P8.M Thu Apr 08 07:25:37 1999

HNF-4440 Rev. 0

TIC: 19032404.D

VSAMB-207-S065

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	23.983	rBV	0.301	14140282	23.895	24.197
2	30.351	rBV	0.522	15626452	30.251	30.773
3	34.463	rVB	0.167	590106	34.383	34.550
4	38.863	rBV	0.154	1400741	38.783	38.937
5	42.406	rBV	0.174	671482	42.359	42.533
6	42.627	rBV	0.254	511742	42.566	42.821

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\19032405.D
 Operator : M STAUFFER
 Acquired : 24 Mar 99 12:02 pm using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VSAMB-211-S067
 Misc Info : 50 TORR
 Vial Number: 1

HNF-4440 Rev. 0 Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032405.D
Acq On : 24 Mar 99 12:02 pm
Sample : VSAMB-211-S067
Misc : 50 TORR
Quant Time: Apr 8 7:32 1999

Vial: 1
Operator: M STAUFFER
Inst : 5972 - MS
Multiplr: 1.00
DF=2

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	6890744	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.36	117	5724369	189.50	NG	-0.07

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.86	85	21822	0.23	PPB m	92
3) METHYL CHLORIDE	9.44	50	8234	0.22	PPB #	51
4) N-BUTANE	11.51	43	48582	0.73	PPB #	51
5) ETHYL CHLORIDE	0.00	64		Not Detected		
6) FREON 11	15.67	101	10012	0.13	PPB	100
7) N-PENTANE	16.35	72	573	0.11	PPB #	100
8) DICHLOROMETHANE	18.04	49	226	0.01	PPB #	16
9) 2-METHYL-PENTANE	19.48	43	5095	0.07	PPB m	28
10) 1-HEXENE	20.84	56	256	0.01	PPB #	1
11) N-HEXANE	20.94	57	63	0.00	PPB #	20
12) CHLOROFORM	21.67	83	80	0.00	PPB #	16
13) BENZENE	23.48	78	15115	0.18	PPB	99
14) CARBON TETRACHLORIDE	23.52	117	2856	0.06	PPB	98
15) 3-METHYL-HEXANE	23.96	43	38654	0.66	PPB m	93
16) N-HEPTANE	24.89	57	5498	0.19	PPB	82
17) TOLUENE	27.55	91	48203	0.39	PPB	99
18) N-OCTANE	28.64	57	48	0.00	PPB #	1
19) TETRACHLOROETHYLENE	0.00	166		Not Detected		
21) CHLOROBENZENE	0.00	112		Not Detected		
22) ETHYLBENZENE	30.89	91	3963	0.03	PPB	95
23) M,P-XYLENE	31.16	91	8943	0.12	PPB #	85
24) STYRENE	31.89	104	398	0.01	PPB #	31
25) N-NONANE	32.19	43	139	0.00	PPB	91
26) 1,1,2,2-TETRACHLOROETHANE	0.00	83		Not Detected		
27) O-XYLENE	31.99	91	3831	0.04	PPB	98
28) N-DECANE	35.05	43	41	0.00	PPB #	1
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	4207	0.04	PPB	97

(#) = qualifier out of range (m) = manual integration
19032405.D VAP_NP8.M Thu Apr 08 07:32:52 1999

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032405.D
Acq On : 24 Mar 99 12:02 pm
Sample : VSAMB-211-S067
Misc : 50 TORR
Quant Time: Apr 8 7:30 1999

Vial: 1
Operator: M STAUFFER
Inst : 5972 - MS
Multiplr: 1.00

DF = 2

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
Last Update : Mon Mar 22 09:53:20 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) FLUOROBENZENE	23.98	96	6890744	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.36	117	5724369	189.50	NG	-0.10

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	15.51	45	21002	1.46	PPB m	100
3) ACETONITRILE	0.00	40		Not Detected		
4) ACETONE	16.39	58	32839	2.04	PPB m	41
5) FURAN	0.00	68		Not Detected		
6) 2-PROPANOL	16.90	45	33	0.00	PPB #	1
7) 1-PROPANOL	19.66	31	114032	2.27	PPB m	98
8) PROPANENITRILE	0.00	54		Not Detected		
9) BUTANAL	20.64	72	1536	0.16	PPB m	45
10) 2-BUTANONE	20.90	72	3339	0.25	PPB m	1
11) TETRAHYDROFURAN	0.00	72		Not Detected		
12) 1-BUTANOL	23.71	56	12531	0.45	PPB	98
13) BUTANENITRILE	23.96	41	20284	0.32	PPB #	100
14) 2-PENTANONE	24.57	43	176	0.00	PPB #	65
15) 1,4-DIOXANE	0.00	88		Not Detected		
16) 4-METHYL-2-PENTANONE	26.47	100	368	0.03	PPB #	1
18) 2-HEXANONE	28.20	58	1383	0.03	PPB #	40
19) 3-HEPTANONE	31.45	114	6396	0.40	PPB	60
20) 2-HEPTANONE	31.58	58	10894	0.13	PPB m	1
21) CYCLOHEXANONE	31.98	98	600	0.02	PPB #	1
22) 2-OCTANONE	34.70	58	3415	0.03	PPB #	8

(#) = qualifier out of range (m) = manual integration
19032405.D VAP_P8.M Thu Apr 08 07:30:47 1999

Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\19032405.D
 Acq On : 24 Mar 99 12:02 pm
 Sample : VSAMB-211-S067
 Misc : 50 TORR
 Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Library : NIST98.L

Vial: 1
 Operator: M STAUFFER
 Inst : 5972 - MS
 Multiplr: 1.00
 DF=2

 Peak Number 1 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
18.83	2.03 PPB	182677	FLUOROBENZENE	23.98
Hit# of 1	Tentative ID		Ref# CAS#	Qual
1	Ethylene oxide	Spike	108063 000075-21-8	3

 Peak Number 2 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
34.47	7.69 PPB <i>ug</i> <i>NI 4/2/99</i>	644141	CHLOROBENZENE-D5	30.36
Hit# of 1	Tentative ID		Ref# CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-		128142 000556-67-2	83
<i>NW = 296</i>				

 Peak Number 3 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
38.86	16.06 PPB <i>ug</i>	1344681	CHLOROBENZENE-D5	30.36
Hit# of 1	Tentative ID		Ref# CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox]		27665 003789-85-3	59
<i>Unknown</i>				

 Peak Number 4 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
42.41	4.18 PPB	350314	CHLOROBENZENE-D5	30.36
Hit# of 1	Tentative ID		Ref# CAS#	Qual
1	Tridecane ✓	<i>NW = 184</i>	112308 000629-50-5	97

 Peak Number 5 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
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HNF-4440 Rev. 0

44.83 2.59 PPB 216964 CHLOROBENZENE-D5 30.36

Hit# of 1 Tentative ID Ref# CAS# Qual

1 Acetaldehyde *Spike* 108064 000075-07-0 3

19032405.D VAP_NP8.M Thu Apr 08 07:35:08 1999

HNF-4440 Rev. 0

TIC: 19032405.D

VSAMB-211-S067

Peak#	Ret Time	Type	Width	Area	Start Time	End Time	
1	18.833	rBB	0.027	182676	18.819	18.846	
2	23.983	rBB	0.254	14014824	23.896	24.150	
3	30.352	rBB	0.301	15865174	30.271	30.573	(S)
4	34.470	rBB	0.147	644140	34.403	34.551	
5	38.863	rBB	0.134	1344681	38.803	38.937	
6	42.406	rBB	0.087	350313	42.366	42.453	
7	44.830	rBB	0.027	216963	44.817	44.844	

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\19032406.D
Operator : M STAUFFER
Acquired : 24 Mar 99 1:12 pm using AcqMethod VAP_NP8
Instrument : 5972 - MS
Sample Name: VSAMB-212-S098
Misc Info : 50 TORR
Vial Number: 1

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032406.D
Acq On : 24 Mar 99 1:12 pm
Sample : VSAMB-212-S098
Misc : 50 TORR
Quant Time: Apr 8 7:40 1999

Vial: 1
Operator: M STAUFFER
Inst : 5972 - MS
Multiplr: 1.00

DF = 2

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
Last Update : Mon Mar 22 09:53:20 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	Q Ion	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	6506937	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.36	117	5332244	189.50	NG	-0.10

System Monitoring Compounds %Recovery

Target Compounds	R.T.	Q	Ion	Response	Conc	Units	Qvalue
2) ETHANOL	15.62	45		8235	1.21 PPB	m	100
3) ACETONITRILE	0.00	40			Not Detected		
4) ACETONE	16.43	58		20625	2.71 PPB	m	1
5) FURAN	0.00	68			Not Detected		
6) 2-PROPANOL	16.91	45		82	0.00 PPB	#	1
7) 1-PROPANOL	0.00	31			Not Detected		
8) PROPANENITRILE	0.00	54			Not Detected		
9) BUTANAL	20.67	72		1944	0.44 PPB	m	1
10) 2-BUTANONE	20.92	72		2501	0.39 PPB	m	1
11) TETRAHYDROFURAN	0.00	72			Not Detected		
12) 1-BUTANOL	23.71	56		6749	0.51 PPB		98
13) BUTANENITRILE	23.96	41		6715	0.22 PPB	#	100
14) 2-PENTANONE	24.49	43		5943	0.11 PPB	#	92
15) 1,4-DIOXANE	0.00	88			Not Detected		
16) 4-METHYL-2-PENTANONE	0.00	100			Not Detected		
18) 2-HEXANONE	28.19	58		2109	0.09 PPB	#	42
19) 3-HEPTANONE	31.45	114		11061	1.49 PPB		57
20) 2-HEPTANONE	31.58	58		12293	0.31 PPB	m	1
21) CYCLOHEXANONE	31.99	98		493	0.03 PPB	m	1
22) 2-OCTANONE	34.71	58		2069	0.04 PPB	#	68

(#) = qualifier out of range (m) = manual integration
19032406.D VAP_P8.M Thu Apr 08 07:40:53 1999

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032406.D
Acq On : 24 Mar 99 1:12 pm
Sample : VSAMB-212-S098
Misc : 50 TORR
Quant Time: Apr 8 7:38 1999

Vial: 1
Operator: M STAUFFER
Inst : 5972 - MS
Multiplr: 1.00

DF = 2

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) FLUOROBENZENE	23.98	96	6506937	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.36	117	5332244	189.50	NG	-0.07

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.87	85	21571	0.24	PPB #	43
3) METHYL CHLORIDE	9.45	50	7947	0.22	PPB m	41
4) N-BUTANE	11.51	43	68884	1.10	PPB #	88
5) ETHYL CHLORIDE	0.00	64		Not Detected		
6) FREON 11	15.66	101	10002	0.14	PPB	100
7) N-PENTANE	16.37	72	1063	0.21	PPB #	100
8) DICHLOROMETHANE	0.00	49		Not Detected		
9) 2-METHYL-PENTANE	19.55	43	120	0.00	PPB #	28
10) 1-HEXENE	20.48	56	3455	0.14	PPB #	54
11) N-HEXANE	20.85	57	4699	0.14	PPB m	50
12) CHLOROFORM	0.00	83		Not Detected		
13) BENZENE	23.48	78	14660	0.19	PPB	98
14) CARBON TETRACHLORIDE	23.52	117	2840	0.07	PPB	97
15) 3-METHYL-HEXANE	24.03	43	172	0.00	PPB #	22
16) N-HEPTANE	24.89	57	19880	0.73	PPB m	86
17) TOLUENE	27.54	91	32090	0.28	PPB m	100
18) N-OCTANE	28.55	57	4616	0.16	PPB m	1
19) TETRACHLOROETHYLENE	0.00	166		Not Detected		
21) CHLOROBENZENE	0.00	112		Not Detected		
22) ETHYLBENZENE	30.90	91	3638	0.03	PPB	94
23) M,P-XYLENE	31.15	91	8665	0.12	PPB #	85
24) STYRENE	31.88	104	213	0.00	PPB #	31
25) N-NONANE	31.90	43	8695	0.14	PPB m	45
26) 1,1,2,2-TETRACHLOROETHANE	0.00	83		Not Detected		
27) O-XYLENE	31.99	91	3402	0.04	PPB	99
28) N-DECANE	34.97	43	7698	0.12	PPB	82
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	3687	0.04	PPB ✓	100

(#) = qualifier out of range (m) = manual integration
19032406.D VAP_NP8.M Thu Apr 08 07:38:31 1999

Library Search Compound Report

Data File : D:\C106_2\19032406.D
 Acq Time : 24 Mar 99 1:12 pm Operator: M STAUFFER
 Sample : VSAMB-212-S098 Inst : 5972 - MS
 Misc : 50 TORR Multiplr: 1.00
 Method : D:\METHODS\VAP_P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Library : NIST98.L

 Peak Number 1 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
17.40	1.92 PPB	161938	FLUOROBENZENE	23.98

Hit# of	0	Tentative ID	Ref#	CAS#	Qual
1	No Hits From C:\DATABASE\NIST98.L		0	000000-00-0	0

Spike

 Peak Number 2 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
24.89	3.31 PPB	279571	FLUOROBENZENE	23.98

Hit# of	20	Tentative ID	Ref#	CAS#	Qual
1	(2)-3-Heptene	98	108691	007642-10-6	49
2	2-Heptene	<i>Heptane</i>	108687	000592-77-8	47
3	1-Heptene		108686	000592-76-7	43
4	1-Heptene		2183	000592-76-7	43
5	Cyclopentane, 1,2-dimethyl-		15223	002452-99-5	43

Target

 Peak Number 3 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
25.16	1.87 PPB	157831	FLUOROBENZENE	23.98

Hit# of	20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, (E)-	<i>98</i>	13656	014686-13-6	97
2	2-Heptene, (E)-		111908	014686-13-6	95
3	2-Heptene		2208	000592-77-8	94
4	2-Heptene		108687	000592-77-8	94
5	3-Heptene		108688	000592-78-9	90

 Peak Number 4 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
34.48	2.06 PPB	160894	CHLOROBENZENE-D5	30.36

Hit# of	9	Tentative ID	Ref#	CAS#	Qual
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HNF-4440 Rev. 0

1 Cyclotetrasiloxane, octamethyl-	296	128142	000556-67-2	64
2 Cyclotetrasiloxane, octamethyl-		97367	000556-67-2	56
3 Cyclotetrasiloxane, octamethyl-		128141	000556-67-2	50
4 2,4-Diamino-N,N,5-trimethyl-6-quino		97291	1000227-25-1	47
5 5H-Naphtho[2,3-c]carbazole, 5-methy		97364	100025-44-3	47

Peak Number 5 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
38.87	15.47 PPB	1207537	CHLOROBENZENE-D5	30.36

Hit# of 6	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox	27665	003789-85-3	59
2	Benzeneethanamine, N-[(pentafluorop	115266	055429-85-1	45
3	Tetrasiloxane, 1,1,3,3,5,5,7,7-octa	27274	001000-05-1	39
4	Benzoic acid, 2-[(trimethylsilyl)ox	115268	003789-85-3	28
5	Silane, (2-ethyl-5,5-dimethyl-4-met	25758	095798-05-3	12

Unknown

Peak Number 6 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
42.41	2.71 PPB	211478	CHLOROBENZENE-D5	30.36

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tridecane	112308	000629-50-5	97
2	Tridecane	112309	000629-50-5	90
3	Tridecane	16403	000629-50-5	90
4	Dodecane	16262	000112-40-3	90
5	Dodecane	112317	000112-40-3	90

19032406.D VAP_P8.M Thu Apr 22 10:29:35 1999

HNF-4440 Rev. 0

TIC: 19032406.D

VSAMB-212-S098

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	7.252	rBB	0.107	18442	7.246	7.353
2	7.882	rBB	0.074	19311	7.875	7.949
3	11.512	rBB	0.134	129378	11.451	11.585
4	15.094	rBB	0.121	91149	15.034	15.155
5	15.670	rBB	0.094	18998	15.603	15.697
6	16.360	rBB	0.087	29758	16.307	16.394
7	17.398	rBB	0.020	161938	17.391	17.412
8	19.997	rBB	0.027	24156	19.983	20.010
9	20.479	rBB	0.114	18411	20.412	20.526
10	20.840	rBB	0.074	15922	20.800	20.874
11	21.738	rBB	0.107	25769	21.651	21.758
12	23.479	rBB	0.100	35022	23.439	23.539
13	23.599	rBB	0.087	28824	23.559	23.646
14	23.713	rBB	0.080	25237	23.673	23.753
15	23.981	rBB	0.261	13138466	23.881	24.142
16	24.470	rBB	0.094	17281	24.423	24.517
17	24.550	rBB	0.094	24229	24.517	24.611
18	24.892	rBB	0.134	279571	24.838	24.972
19	25.039	rBB	0.127	71861	24.972	25.100
20	25.160	rBB	0.121	157831	25.113	25.233
21	25.495	rBB	0.107	102551	25.441	25.548
22	27.042	rBB	0.094	20049	26.988	27.082
23	27.544	rBB	0.107	78092	27.484	27.591
24	27.638	rBB	0.100	65324	27.591	27.691
25	27.792	rBB	0.080	15093	27.765	27.845
26	28.200	rBB	0.134	86459	28.127	28.260
27	28.548	rBB	0.154	68781	28.481	28.636
28	29.118	rBB	0.087	16444	29.064	29.151
29	30.357	rBB	0.315	14790488	30.270	30.584
30	31.006	rBB	0.121	44526	30.946	31.066
31	31.154	rBB	0.121	24172	31.087	31.207
32	31.448	rBB	0.141	215727	31.388	31.529
33	31.575	rBB	0.134	52260	31.529	31.663
34	32.305	rBB	0.020	36488	32.299	32.319
35	32.453	rBB	0.020	54064	32.446	32.466
36	33.209	rBB	0.100	22624	33.156	33.256
37	33.337	rBB	0.121	22529	33.270	33.390
38	33.631	rBB	0.141	34342	33.578	33.718
39	34.475	rBB	0.141	160894	34.422	34.562
40	34.977	rBB	0.114	36434	34.917	35.031
41	35.332	rBB	0.127	25113	35.279	35.406
42	35.835	rBB	0.141	55043	35.761	35.902
43	37.817	rBB	0.127	67984	37.757	37.884
44	38.868	rBB	0.141	1207537	38.801	38.942
45	40.456	rBB	0.121	126859	40.382	40.502
46	42.411	rBB	0.080	211478	42.364	42.445
47	42.692	rBB	0.154	57318	42.632	42.786

(S

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\19032408.D
 Operator : M STAUFFER
 Acquired : 24 Mar 99 3:33 pm using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VS702-202-S058
 Misc Info : 50 TORR
 Vial Number: 1

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032408.D
Acq On : 24 Mar 99 3:33 pm
Sample : VS702-202-S058
Misc : 50 TORR
Quant Time: Apr 8 8:39 1999

Vial: 1
Operator: M STAUFFER
Inst : 5972 - MS
Multiplr: 1.00
DF > 2

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
Last Update : Mon Mar 22 09:53:20 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	6724345	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.36	117	5515813	189.50	NG	-0.10

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	14.77	45	486343	69.21	PPB m	100
3) ACETONITRILE	16.02	40	572743	67.43	PPB m	81
4) ACETONE	16.11	58	1131738	144.04	PPB m	31 E
5) FURAN	0.00	68		Not Detected		
6) 2-PROPANOL	16.85	45	42817	1.47	PPB	93
7) 1-PROPANOL	19.44	31	244804	9.97	PPB m	89
8) PROPANENITRILE	19.95	54	233119	23.23	PPB	97
9) BUTANAL	20.54	72	32547	7.11	PPB m	95
10) 2-BUTANONE	20.72	72	151164	22.89	PPB	84
11) TETRAHYDROFURAN	22.10	72	4752	0.69	PPB	99
12) 1-BUTANOL	23.59	56	380425	27.84	PPB m	96
13) BUTANENITRILE	23.95	41	3843	0.12	PPB #	100
14) 2-PENTANONE	24.37	43	241146	4.35	PPB m	99
15) 1,4-DIOXANE	0.00	88		Not Detected		
16) 4-METHYL-2-PENTANONE	26.39	100	2237	0.33	PPB	73
18) 2-HEXANONE	28.15	58	21393	0.92	PPB	85
19) 3-HEPTANONE	31.44	114	23966	3.12	PPB m	1
20) 2-HEPTANONE	31.58	58	21401	0.53	PPB m	83
21) CYCLOHEXANONE	31.98	98	4	0.00	PPB #	1
22) 2-OCTANONE	34.71	58	1538	0.03	PPB #	1

(#) = qualifier out of range (m) = manual integration
19032408.D VAP_P8.M Thu Apr 08 08:39:41 1999

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032408.D
Acq On : 24 Mar 99 3:33 pm
Sample : VS702-202-S058
Misc : 50 TORR
Quant Time: Apr 8 8:35 1999

Vial: 1
Operator: M STAUFFER
Inst : 5972 - MS
Multiplr: 1.00
DF=2

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	6724345	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.36	117	5515813	189.50	NG	-0.07

System Monitoring Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	%Recovery	Qvalue
2) FREON 12	7.86	85	29555	0.32	PPB		89
3) METHYL CHLORIDE	9.43	50	10550	0.29	PPB	m	41
4) N-BUTANE	11.51	43	103844	1.60	PPB		93
5) ETHYL CHLORIDE	13.76	64	260	0.01	PPB		100
6) FREON 11	15.67	101	1006572	13.74	PPB		100
7) N-PENTANE	16.36	72	3867	0.75	PPB	#	100
8) DICHLOROMETHANE	18.05	49	891	0.02	PPB		95
9) 2-METHYL-PENTANE	19.48	43	28328	0.42	PPB	#	54
10) 1-HEXENE	20.49	56	11348	0.44	PPB	m	88
11) N-HEXANE	20.84	57	54275	1.54	PPB	m	52
12) CHLOROFORM	21.67	83	41150	0.89	PPB		97
13) BENZENE	23.48	78	25525	0.32	PPB		100
14) CARBON TETRACHLORIDE	23.52	117	3474	0.08	PPB		96
15) 3-METHYL-HEXANE	23.96	43	9827	0.17	PPB	#	22
16) N-HEPTANE	24.89	57	73335	2.62	PPB		92
17) TOLUENE	27.55	91	40907	0.34	PPB		97
18) N-OCTANE	28.56	57	8627	0.29	PPB	m	83
19) TETRACHLOROETHYLENE	29.15	166	275982	5.14	PPB		90
21) CHLOROBENZENE	30.44	112	39	0.00	PPB	#	6
22) ETHYLBENZENE	30.90	91	3560	0.03	PPB		93
23) M,P-XYLENE	31.16	91	3350	0.05	PPB		96
24) STYRENE	0.00	104		Not Detected			
25) N-NONANE	31.90	43	1298	0.02	PPB	#	73
26) 1,1,2,2-TETRACHLOROETHANE	0.00	83		Not Detected			
27) O-XYLENE	31.99	91	837	0.01	PPB	m	64
28) N-DECANE	35.03	43	47	0.00	PPB		84
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	1206	0.01	PPB		98

(#) = qualifier out of range (m) = manual integration
19032408.D VAP_NP8.M Thu Apr 08 08:35:41 1999

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19040805.D
Acq On : 8 Apr 99 12:13 pm
Sample : VS702-202-S058
Misc : 25 TORR
Quant Time: Apr 8 14:01 1999

Vial: 1
Operator: G. FIES
Inst : 5972 - MS
Multiplr: 4.00

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
Last Update : Mon Mar 22 09:53:20 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) FLUOROBENZENE	23.98	96	8093703	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.35	117	6958169	189.50	NG	-0.11

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	14.92	45	300080	70.96	PPB m	100
3) ACETONITRILE	16.02	40	280888	59.74	PPB m	ns 96
4) ACETONE	16.10	58	702477	148.56	PPB m	24
5) FURAN	0.00	68		Not Detected		4/4/99
6) 2-PROPANOL	16.89	45	19794	1.13	PPB	99
7) 1-PROPANOL	19.44	31	166987	11.31	PPB m	93
8) PROPANENITRILE	19.94	54	155887	25.81	PPB m	96
9) BUTANAL	20.54	72	16950	6.15	PPB m	90
10) 2-BUTANONE	20.72	72	108004	27.18	PPB	86
11) TETRAHYDROFURAN	22.10	72	3437	0.82	PPB	98
12) 1-BUTANOL	23.58	56	278184	33.82	PPB m	93
13) BUTANENITRILE	23.77	41	331371	17.56	PPB #	100
14) 2-PENTANONE	24.38	43	211038	6.33	PPB m	98
15) 1,4-DIOXANE	25.21	88	2491	0.32	PPB	89
16) 4-METHYL-2-PENTANONE	26.38	100	4900	1.21	PPB	82
18) 2-HEXANONE	28.14	58	30020	2.04	PPB	88
19) 3-HEPTANONE	31.42	114	48491	10.00	PPB	57
20) 2-HEPTANONE	31.56	58	85867	3.36	PPB m	1
21) CYCLOHEXANONE	31.95	98	11755	1.23	PPB	78
22) 2-OCTANONE	34.69	58	106620	2.89	PPB	81

(#) = qualifier out of range (m) = manual integration
19040805.D VAP_P8.M Thu Apr 08 14:03:06 1999

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TIC: 19032408.D

VS702-202-S058

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	10.945	rBB	0.174	473074	10.905	11.079
2	11.555	rBB	0.254	990863	11.535	11.789
3	14.769	rBB	0.087	370716	14.736	14.823
4	15.667	rBB	0.161	2471957	15.593	15.754
5	16.022	rBB	0.080	1085420	15.981	16.062
6	16.109	rBB	0.121	5240024	16.062	16.182
7	18.258	rBB	0.161	295672	18.191	18.352
8	19.457	rBB	0.241	432551	19.370	19.611
9	19.946	rBB	0.174	447947	19.886	20.060
10	20.535	rBB	0.100	203550	20.488	20.589
11	20.723	rBB	0.141	1230311	20.656	20.796
12	20.843	rBB	0.107	229472	20.796	20.904
13	22.009	rBB	0.121	419298	21.948	22.069
14	23.589	rBB	0.201	1431263	23.522	23.723
15	23.777	rBB	0.134	567818	23.723	23.857
16	23.984	rBB	0.167	13520139	23.910	24.078
17	24.373	rBB	0.134	356562	24.312	24.446
18	24.895	rBB	0.147	809086	24.828	24.975
19	25.745	rBB	0.194	401531	25.678	25.873
20	27.634	rBB	0.134	1048049	27.580	27.714
21	29.154	rBB	0.174	1654815	29.067	29.241
22	30.360	rBB	0.221	15292712	30.273	30.494 - 18
23	31.438	rBB	0.154	456134	31.371	31.525
24	35.355	rBB	0.020	228335	35.349	35.369
25	38.871	rBB	0.134	226558	38.818	38.952
26	40.459	rBB	0.127	307164	40.405	40.532
27	42.407	rBB	0.087	421433	42.367	42.454

Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\19032408.D Vial: 1
 Acq On : 24 Mar 99 3:33 pm Operator: M STAUFFER
 Sample : VS702-202-S058 Inst : 5972 - MS
 Misc : 50 TORR Multiplr: 1.00
 Method : C:\HPCHEM\1\METHODS\VAP P8.M
 Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
 Library : NIST98.L

 Peak Number 1 Rank in Relative Concentration 8

R.T.	Conc	Area	Relative to ISTD	R.T.
10.95	10.88 PPB	473074	FLUOROBENZENE	23.98

Hit# of	Tentative ID	Ref#	CAS#	Qual
1	Acetaldehyde <i>NW = 44</i>	108064	000075-07-0	90
2	Propane	108018	000074-98-6	5
3	Ethylene oxide	308	000075-21-8	5

 Peak Number 2 Rank in Relative Concentration 13

R.T.	Conc	Area	Relative to ISTD	R.T.
14.77	8.53 PPB	370716	FLUOROBENZENE	23.98

Hit# of	Tentative ID	Ref#	CAS#	Qual
1	Ethanol <i>Target</i>	108331	000064-17-5	83
2	Acetic acid, hydroxy-	1047	000079-14-1	4
3	Formic acid, propyl ester	108322	000110-74-7	2

 Peak Number 3 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
16.02	24.97 PPB	1085421	FLUOROBENZENE	23.98

Hit# of	Tentative ID	Ref#	CAS#	Qual
1	Acetonitrile <i>Target</i>	108497	000075-05-8	74
2	Methane, isocyano-	1633	000593-75-9	74
3	1-Propyne	1402	000074-99-7	4

 Peak Number 4 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
16.11	120.53 PPB	5240024	FLUOROBENZENE	23.98

Hit# of	Tentative ID	Ref#	CAS#	Qual
1	Acetone <i>Target</i>	109703	000067-64-1	72
2	2-Pentanone, 4-hydroxy-4-methyl-	109734	000123-42-2	9

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3 Ethene, methoxy-

9 000107-25-5 4

 Peak Number 5 Rank in Relative Concentration 16

R.T.	Conc	Area	Relative to ISTD	R.T.
18.26	6.80 PPB	295672	FLUOROBENZENE	23.98
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	Methyl nitrate <i>Unknown</i>	12190	000598-58-3	43
2	Nitric acid, propyl ester	12186	000627-13-4	9
3	Nitric acid, ethyl ester	110980	000625-58-1	9

 Peak Number 6 Rank in Relative Concentration 10

R.T.	Conc	Area	Relative to ISTD	R.T.
19.95	10.30 PPB	447948	FLUOROBENZENE	23.98
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	Propanenitrile <i>NV=SS</i>	107962	000107-12-0	72
2	1,2-Butadiene	111133	000590-19-2	9
3	2-Butyne	111116	000503-17-3	9

 Peak Number 7 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
20.72	28.30 PPB	1230311	FLUOROBENZENE	23.98
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	2-Butanone <i>Target</i>	109957	000078-93-3	78
2	Propanal, 2-methyl-	109227	000078-84-2	9
3	Hydrogen azide	3862	007782-79-8	5

 Peak Number 8 Rank in Relative Concentration 19

R.T.	Conc	Area	Relative to ISTD	R.T.
21.28	3.11 PPB	135264	FLUOROBENZENE	23.98
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	Ethylene oxide <i>Spike</i>	308	000075-21-8	4
2	Acetaldehyde	108066	000075-07-0	4
3	Propane	108018	000074-98-6	1

 Peak Number 9 Rank in Relative Concentration 11

R.T.	Conc	Area	Relative to ISTD	R.T.
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22.01	9.64 PPB	419298	FLUOROBENZENE	23.98
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	1,3-Propanediol, dinitrate	12246	003457-90-7	56
2	1,2,3-Propanetriol, 1,3-dinitrate	12196	000623-87-0	40
3	Nitric acid, ethyl ester <i>MW: 91</i>	110982	000625-58-1	40

Peak Number 10 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
23.59	32.92 PPB	1431264	FLUOROBENZENE	23.98
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	1-Butanol <i>Target</i>	108338	000071-36-3	94
2	2H-Pyran-2-one, tetrahydro-5,6-dime	15084	024405-16-1	39
3	Cyanoic acid, propyl ester	14993	001768-36-1	37

Peak Number 11 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
23.78	13.06 PPB	567818	FLUOROBENZENE	23.98
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	Butanenitrile <i>Target</i>	1478	000109-74-0	56
2	2-Butenenitrile	2325	004786-20-3	37
3	2-Propenenitrile, 2-methyl-	1565	000126-98-7	35

Peak Number 12 Rank in Relative Concentration 14

R.T.	Conc	Area	Relative to ISTD	R.T.
24.37	8.20 PPB	356562	FLUOROBENZENE	23.98
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	2-Pentanone <i>Target</i>	7171	000107-87-9	78
2	2-Butanone, 3-methyl-	109358	000563-80-4	64
3	2,3-Butanedione	110094	000431-03-8	50

Peak Number 13 Rank in Relative Concentration 12

R.T.	Conc	Area	Relative to ISTD	R.T.
25.75	9.24 PPB	401532	FLUOROBENZENE	23.98
Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	Hydrazine, methyl- <i>Unknown</i>	107959	000060-34-4	9
2	1-Propanol	108294	000071-23-8	9

3 1-Butanol

108338 000071-36-3 9

 Peak Number 14 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
27.63	25.97 PPB	1048049	CHLOROBENZENE-D5	30.36

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Pentanenitrile	<i>NV-83</i>	108508	000110-59-8	72
2	Butanedinitrile, 2,3-dimethyl-		12704	016411-13-5	17
3	Pentanedinitrile		108568	000544-13-8	17

 Peak Number 15 Rank in Relative Concentration 7

R.T.	Conc	Area	Relative to ISTD	R.T.
31.44	11.30 PPB	456134	CHLOROBENZENE-D5	30.36

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	3-Heptanone	<i>Target</i>	112009	000106-35-4	90
2	3-Hexanone, 5-methyl-		17303	000623-56-3	72
3	4-Methyl-5-nonanone		17314	035900-26-6	53

 Peak Number 16 Rank in Relative Concentration 17

R.T.	Conc	Area	Relative to ISTD	R.T.
35.36	5.66 PPB	228336	CHLOROBENZENE-D5	30.36

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Acetaldehyde	<i>Spike</i>	108064	000075-07-0	4
2	Ethylene oxide		107992	000075-21-8	4
3	Propane		108018	000074-98-6	2

 Peak Number 17 Rank in Relative Concentration 18

R.T.	Conc	Area	Relative to ISTD	R.T.
38.87	5.61 PPB	226559	CHLOROBENZENE-D5	30.36

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox		27665	003789-85-3	45
2	4,6-Dioxo-3,8-disiladecane, 5-(2,6-		27655	109629-49-4	39
3	Benzeneethanamine, N-[(pentafluorop		115266	055429-85-1	38

Unknown

 Peak Number 18 Rank in Relative Concentration 15

R.T.	Conc	Area	Relative to ISTD	R.T.
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40.46	7.61 PPB	307165	CHLOROBENZENE-D5	30.36	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Dodecane	MW = 170	16262	000112-40-3	95
2	Decane, 2,3,6-trimethyl-		5623	062238-12-4	86
3	Tridecane		16403	000629-50-5	78

Peak Number 19 Rank in Relative Concentration 9

R.T.	Conc	Area	Relative to ISTD	R.T.	
42.41	10.44 PPB	421434	CHLOROBENZENE-D5	30.36	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Tridecane	MW = 184	112308	000629-50-5	97
2	Heptadecane		112319	000629-78-7	91
3	Dodecane		112317	000112-40-3	90

19032408.D VAP_P8.M Thu Apr 08 08:47:28 1999

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\NIST98.L
 Quality : 72
 ID : 1,3-Propanediol, dinitrate

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 37
 ID : Hydrazine, methyl-

Library Searched : C:\DATABASE\NIST98.L
 Quality : 72
 ID : Pentanenitrile

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\19032409.D
 Operator : M STAUFFER
 Acquired : 24 Mar 99 5:09 pm using AcqMethod VAP_NP8
 Instrument : 5972 - MS
 Sample Name: VS702-204-S079
 Misc Info : 50 TORR
 Vial Number: 1

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032409.D
Acq On : 24 Mar 99 5:09 pm
Sample : VS702-204-S079
Misc : 50 TORR
Quant Time: Apr 8 9:07 1999

Vial: 1
Operator: M STAUFFER
Inst : 5972 - MS
Multiplr: 1.00
BF = 2

Method : C:\HPCHEM\1\METHODS\VAP_P8.M
Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES
Last Update : Mon Mar 22 09:53:20 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.99	96	6681811	155.50	NG	0.06
17) CHLOROBENZENE-D5	30.36	117	5625409	189.50	NG	-0.10

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	14.77	45	636025	45.54	PPB	m 100
3) ACETONITRILE	16.04	40	537473	31.95	PPB	m 84
4) ACETONE	16.13	58	1291367	82.70	PPB	m 1
5) FURAN	16.42	68	1683	0.05	PPB	# 1
6) 2-PROPANOL	16.69	45	66371	1.14	PPB	# 60
7) 1-PROPANOL	19.37	31	348739	7.15	PPB	m 92
8) PROPANENITRILE	19.95	54	295134	14.80	PPB	m 95
9) BUTANAL	20.54	72	173813	19.11	PPB	m 84
10) 2-BUTANONE	20.73	72	209886	16.00	PPB	83
11) TETRAHYDROFURAN	22.10	72	11793	0.86	PPB	91
12) 1-BUTANOL	23.56	56	591071	21.76	PPB	m 100
13) BUTANENITRILE	23.96	41	600111	15.0 10	PPB	# 100 MS
14) 2-PENTANONE	24.37	43	393095	3.57	PPB	100 5/4/9
15) 1,4-DIOXANE	25.23	88	109	0.00	PPB	# 67
16) 4-METHYL-2-PENTANONE	26.42	100	65	0.00	PPB	# 1
18) 2-HEXANONE	28.14	58	58290	1.22	PPB	96
19) 3-HEPTANONE	31.44	114	86432	5.51	PPB	m 1
20) 2-HEPTANONE	31.57	58	78792	0.95	PPB	# 73
21) CYCLOHEXANONE	31.96	98	2090	0.07	PPB	m 94
22) 2-OCTANONE	34.71	58	3168	0.03	PPB	m 1

(#) = qualifier out of range (m) = manual integration
19032409.D VAP_P8.M Thu Apr 08 09:07:22 1999

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\19032409.D
Acq On : 24 Mar 99 5:09 pm
Sample : VS702-204-S079
Misc : 50 TORR
Quant Time: Apr 8 9:09 1999

Vial: 1
Operator: M STAUFFER
Inst : 5972 - MS
Multiplr: 1.00

8F-2

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M
Title : NONPOLAR VAPOR STANDARD CALIBRATION
Last Update : Mon Mar 22 09:40:09 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.99	96	6681811	155.50	NG	0.06
20) CHLOROBENZENE-D5	30.36	117	5625409	189.50	NG	-0.07

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.90	85	29518	0.32	PPB	m 58
3) METHYL CHLORIDE	9.45	50	9811	0.27	PPB	m 41
4) N-BUTANE	11.53	43	2691051	41.85	PPB	93
5) ETHYL CHLORIDE	13.79	64	206	0.01	PPB	100
6) FREON 11	15.67	101	1120164	15.39	PPB	100
7) N-PENTANE	16.36	72	78817	15.29	PPB	# 100
8) DICHLOROMETHANE	18.05	49	990	0.03	PPB	89
9) 2-METHYL-PENTANE	19.49	43	111069	1.64	PPB	m 71
10) 1-HEXENE	20.49	56	399996	15.68	PPB	96
11) N-HEXANE	20.85	57	335599	9.55	PPB	# 52
12) CHLOROFORM	21.67	83	44615	0.97	PPB	98
13) BENZENE	23.49	78	43294	0.54	PPB	99
14) CARBON TETRACHLORIDE	23.53	117	3213	0.07	PPB	90
15) 3-METHYL-HEXANE	23.96	43	25340	0.44	PPB	# 22
16) N-HEPTANE	24.90	57	529135	19.04	PPB	m 82
17) TOLUENE	27.55	91	64580	0.54	PPB	97
18) N-OCTANE	28.56	57	22354	0.77	PPB	90
19) TETRACHLOROETHYLENE	29.15	166	335268	6.29	PPB	90
21) CHLOROBENZENE	30.44	112	274	0.00	PPB	# 6
22) ETHYLBENZENE	30.90	91	5814	0.05	PPB	# 43
23) M, P-XYLENE	31.15	91	4841	0.06	PPB	# 86
24) STYRENE	0.00	104		Not Detected		
25) N-NONANE	31.90	43	6084	0.10	PPB	83
26) 1,1,2,2-TETRACHLOROETHANE	32.72	83	225	0.01	PPB	# 69
27) O-XYLENE	31.97	91	1077	0.01	PPB	m 70
28) N-DECANE	34.98	43	6310	0.09	PPB	m 95
29) 1,2,4-TRIMETHYLBENZENE	35.15	105	672	0.01	PPB	# 33

(#) = qualifier out of range (m) = manual integration
19032409.D VAP_NP8.M Thu Apr 08 09:10:06 1999

HNF-4440 Rev. 0

TIC: 19032409.D

VS702-204-S079

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	7.189	rBB	0.368	2409854	7.082	7.450
2	9.164	rBB	0.228	270516	9.084	9.312
3	10.805	rBB	0.020	178398	10.798	10.819
4	10.939	rBB	0.201	1460907	10.906	11.107
5	11.254	rBB	0.254	6796806	11.127	11.381
6	11.528	rBB	0.362	6432080	11.435	11.796
7	12.185	rBB	0.141	340714	12.111	12.252
8	12.633	rBB	0.154	479994	12.553	12.707
9	12.901	rBB	0.201	908108	12.774	12.975
10	14.770	rBB	0.308	2216187	14.730	15.038
11	15.105	rBB	0.161	248011	15.038	15.198
12	15.674	rBB	0.188	2751163	15.587	15.774
13	15.968	rBB	0.094	1410021	15.908	16.002
14	16.035	rBB	0.074	817285	16.002	16.076
15	16.129	rBB	0.107	6167664	16.076	16.183
16	16.210	rBB	0.067	278746	16.183	16.250
17	16.370	rBB	0.188	2964393	16.263	16.451
18	16.866	rBB	0.121	297126	16.806	16.926
19	17.294	rBB	0.107	425823	17.254	17.361
20	18.259	rBB	0.141	739428	18.192	18.332
21	19.016	rBB	0.181	197694	18.915	19.096
22	19.371	rBB	0.114	393179	19.317	19.431
23	19.484	rBB	0.114	301701	19.431	19.545
24	19.953	rBB	0.154	623636	19.866	20.020
25	20.489	rBB	0.080	1475086	20.442	20.522
26	20.730	rBB	0.127	1725410	20.663	20.790
27	20.851	rBB	0.121	1546433	20.790	20.911
28	21.554	rBB	0.107	164068	21.507	21.614
29	22.016	rBB	0.100	806760	21.962	22.063
30	23.563	rBB	0.281	2484635	23.449	23.730
31	23.777	rBB	0.087	505951	23.730	23.817
32	23.991	rBB	0.275	13645471	23.878	24.152
33	24.366	rBB	0.114	601749	24.313	24.427
34	24.561	rBB	0.121	711109	24.507	24.628
35	24.768	rBB	0.141	402101	24.695	24.835
36	24.902	rBB	0.147	8550112	24.835	24.983
37	25.049	rBB	0.127	2530602	24.989	25.116
38	25.170	rBB	0.114	3862385	25.116	25.230
39	25.505	rBB	0.141	2858618	25.445	25.585
40	25.753	rBB	0.127	1200097	25.692	25.820
41	25.826	rBB	0.020	213648	25.820	25.840
42	27.038	rBB	0.188	1280327	26.938	27.126
43	27.541	rBB	0.100	344634	27.480	27.581
44	27.634	rBB	0.121	2137715	27.581	27.701
45	27.795	rBB	0.087	502739	27.755	27.842
46	28.137	rBB	0.067	170928	28.097	28.164
47	28.204	rBB	0.114	444342	28.164	28.277
48	28.552	rBB	0.134	368023	28.492	28.626
49	29.155	rBB	0.161	1962541	29.074	29.235
50	30.360	rBB	0.268	15639658	30.260	30.528
51	30.990	rBB	0.127	569450	30.936	31.063
52	31.432	rBB	0.147	1545970	31.358	31.505
53	31.566	rBB	0.188	346640	31.505	31.693
54	38.872	rBB	0.154	163902	38.818	38.972

15

Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\19032409.D

Acq On : 24 Mar 99 5:09 pm

Sample : VS702-204-S079

Misc : 50 TORR

Method : C:\HPCHEM\1\METHODS\VAP_NP8.M

Title : NONPOLAR VAPOR STANDARD CALIBRATION

Library : NIST98.L

Vial: 1

Operator: M STAUFFER

Inst : 5972 - MS

Multiplr: 1.00

8F=2

 Peak Number 1 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.	
7.19	27.46 PPB	2409854	FLUOROBENZENE	23.99	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Propene	NV = 42	108457	000115-07-1	83
2	Cyclopropane		108993	000075-19-4	39
3	Cyclopropene		1232	1000194-05-8	5

 Peak Number 2 Rank in Relative Concentration 34

R.T.	Conc	Area	Relative to ISTD	R.T.	
9.16	3.08 PPB	270516	FLUOROBENZENE	23.99	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Cyclopropane	NV = 42	108993	000075-19-4	90
2	Propene		108457	000115-07-1	83
3	1,3,5-Triazine, hexahydro-1,3,5-tri		109008	000108-74-7	1

 Peak Number 3 Rank in Relative Concentration 43

R.T.	Conc	Area	Relative to ISTD	R.T.	
9.57	1.57 PPB	137638	FLUOROBENZENE	23.99	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Ethane, 1-chloro-1,1-difluoro-	NV = 100	113576	000075-68-3	90
2	Propane, 2,2-difluoro-		113578	000420-45-1	4
3	Methanesulfinic acid		20703	017696-73-0	1

 Peak Number 4 Rank in Relative Concentration 42

R.T.	Conc	Area	Relative to ISTD	R.T.	
9.87	1.71 PPB	150315	FLUOROBENZENE	23.99	
Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Isobutane	NV = 58	109241	000075-28-5	42
2	Propane		108018	000074-98-6	9

3 Methane, diazo-

2 000334-88-3 3

 Peak Number 5 Rank in Relative Concentration 39

R.T.	Conc	Area	Relative to ISTD	R.T.
10.81	2.03 PPB	178398	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Acetaldehyde	<i>Spike</i>	108065	000075-07-0	4
2	Ethylene oxide		107992	000075-21-8	3
3	Propane		108018	000074-98-6	2

 Peak Number 6 Rank in Relative Concentration 11

R.T.	Conc	Area	Relative to ISTD	R.T.
10.94	16.65 PPB	1460908	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Acetaldehyde	<i>NV = 44</i>	108064	000075-07-0	90
2	Propane		108018	000074-98-6	5
3	Ethylene oxide		308	000075-21-8	5

 Peak Number 7 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
11.25	77.45 PPB	6796807	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	1-Propene, 2-methyl-		108669	000115-11-7	90
2	1-Butene	<i>NV = 56</i>	108672	000106-98-9	87
3	2-Butene, (Z)-		2189	000590-18-1	80

 Peak Number 8 Rank in Relative Concentration 31

R.T.	Conc	Area	Relative to ISTD	R.T.
12.18	3.88 PPB	340714	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	1-Butene		108672	000106-98-9	83
2	1-Propene, 2-methyl-		108669	000115-11-7	83
3	2-Butene, (E)-	<i>NV = 56</i>	108664	000624-64-6	72

 Peak Number 9 Rank in Relative Concentration 25

R.T.	Conc	Area	Relative to ISTD	R.T.
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12.63	5.47 PPB	479995	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	2-Butene, (Z)-	<i>NU = 56</i>	2189 000590-18-1	80
2	1-Propene, 2-methyl-		108669 000115-11-7	78
3	1-Butene		108671 000106-98-9	59

Peak Number 10 Rank in Relative Concentration 15

R.T.	Conc	Area	Relative to ISTD	R.T.
12.90	10.35 PPB	908109	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	1-Butene		108673 000106-98-9	87
2	1-Propene, 2-methyl-	<i>NU = 56</i>	108669 000115-11-7	87
3	2-Butene, (E)-		2187 000624-64-6	74

Peak Number 11 Rank in Relative Concentration 8

R.T.	Conc	Area	Relative to ISTD	R.T.
14.77	25.26 PPB	2216187	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Ethanol	<i>Target</i>	108331 000064-17-5	83
2	Acetic acid, hydroxy-		1047 000079-14-1	2
3	Formic acid, propyl ester		108322 000110-74-7	2

Peak Number 12 Rank in Relative Concentration 35

R.T.	Conc	Area	Relative to ISTD	R.T.
15.10	2.83 PPB	248011	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Butane, 2-methyl-	<i>72</i>	109392 000078-78-4	86
2	3-Buten-1-ol		108985 000627-27-0	47
3	1-Butene		108671 000106-98-9	18

Peak Number 13 Rank in Relative Concentration 12

R.T.	Conc	Area	Relative to ISTD	R.T.
15.97	16.07 PPB	1410022	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	1-Pentene	<i>79</i>	3426 000109-67-1	91
2	Cyclopropane, ethyl-		3424 001191-96-4	91

3 Cyclobutane, methyl-

3261 000598-61-8 59

 Peak Number 14 Rank in Relative Concentration 16

R.T.	Conc	Area	Relative to ISTD	R.T.
16.04	9.31 PPB	817286	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Acetonitrile	Target	108497	000075-05-8	9
2	Methane, isocyano-		1633	000593-75-9	9
3	1-Propyne		1402	000074-99-7	4

 Peak Number 15 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
16.13	70.28 PPB	6167665	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Acetone	Target	109708	000067-64-1	72
2	2-Pentanone, 4-hydroxy-4-methyl-		109734	000123-42-2	9
3	Ethene, methoxy-		9	000107-25-5	4

 Peak Number 16 Rank in Relative Concentration 33

R.T.	Conc	Area	Relative to ISTD	R.T.
16.21	3.18 PPB	278746	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Propanal	58	108093	000123-38-6	72
2	Boron, trihydro(N-methylmethanamine		18467	000074-94-2	50
3	Trimethylene oxide		107971	000503-30-0	40

 Peak Number 17 Rank in Relative Concentration 32

R.T.	Conc	Area	Relative to ISTD	R.T.
16.87	3.39 PPB	297126	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Cyclopropane, 1,2-dimethyl-, cis-		13985	000930-18-7	90
2	2-Pentene, (2E)-E	70	111413	000627-20-3	90
3	1-Butene, 2-methyl-		111233	000563-46-2	90

 Peak Number 18 Rank in Relative Concentration 27

R.T.	Conc	Area	Relative to ISTD	R.T.
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17.29	4.85 PPB	425824	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Cyclopropane, ethyl-	7a	3424 001191-96-4	91
2	Cyclobutane, methyl-		3261 000598-61-8	91
3	1-Pentene		109030 000109-67-1	90

Peak Number 19 Rank in Relative Concentration 18

R.T.	Conc	Area	Relative to ISTD	R.T.
18.26	8.43 PPB	739429	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Methyl nitrate	Unknown	12190 000598-58-3	40
2	Nitroglycerin		110985 000055-63-0	9
3	Nitric acid, ethyl ester		110980 000625-58-1	9

Peak Number 20 Rank in Relative Concentration 37

R.T.	Conc	Area	Relative to ISTD	R.T.
19.02	2.25 PPB	197695	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	1-Pentene, 4-methyl-	84	109287 000691-37-2	59
2	1-Propene, 2-methyl-		108669 000115-11-7	53
3	1-Butene		108673 000106-98-9	49

Peak Number 21 Rank in Relative Concentration 29

R.T.	Conc	Area	Relative to ISTD	R.T.
19.37	4.48 PPB	393180	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	1-Propanol	Target	108295 000071-23-8	78
2	Acetaldehyde, hydroxy-		1056 000141-46-8	9
3	Oxirane, (ethoxymethyl)-		1096 004016-11-9	4

Peak Number 22 Rank in Relative Concentration 20

R.T.	Conc	Area	Relative to ISTD	R.T.
19.95	7.11 PPB	623636	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Propanenitrile	Target	107962 000107-12-0	64
2	1,2-Butadiene		111133 000590-19-2	9

3 2-Butyne

111116 000503-17-3 9

 Peak Number 23 Rank in Relative Concentration 9

R.T.	Conc	Area	Relative to ISTD	R.T.
20.73	19.66 PPB	1725411	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	2-Butanone	Target	109957	000078-93-3	78
2	Propanal, 2-methyl-		109962	000078-84-2	9
3	Hydrogen azide		3862	007782-79-8	5

 Peak Number 24 Rank in Relative Concentration 41

R.T.	Conc	Area	Relative to ISTD	R.T.
21.55	1.87 PPB	164069	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	2-Hexene, (Z)-		13446	007688-21-3	94
2	2-Hexene		12973	000592-43-8	93
3	3-Hexene, (Z)-		111251	007642-09-3	87

 Peak Number 25 Rank in Relative Concentration 17

R.T.	Conc	Area	Relative to ISTD	R.T.
22.02	9.19 PPB	806760	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Nitric acid, ethyl ester	91	110980	000625-58-1	56
2	Nitric acid, propyl ester		12186	000627-13-4	42
3	Methanamine, N-methoxy-		12230	001117-97-1	39

 Peak Number 26 Rank in Relative Concentration 24

R.T.	Conc	Area	Relative to ISTD	R.T.
23.78	5.77 PPB	505951	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Butanenitrile	Target	108437	000109-74-0	56
2	2-Butenenitrile		108466	004786-20-3	38
3	2-Propenenitrile, 2-methyl-		1565	000126-98-7	27

 Peak Number 27 Rank in Relative Concentration 22

R.T.	Conc	Area	Relative to ISTD	R.T.
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24.37	6.86 PPB	601750	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	2-Pentanone	<i>Target</i>	7171 000107-87-9	78
2	2-Butanone, 3-methyl-		109358 000563-80-4	64
3	2,3-Butanedione		110094 000431-03-8	40

Peak Number 28 Rank in Relative Concentration 19

R.T.	Conc	Area	Relative to ISTD	R.T.
24.56	8.10 PPB	711109	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	1-Heptene	<i>98</i>	2183 000592-76-7	94
2	2-Heptene		108687 000592-77-8	68
3	Isopropylcyclobutane		15016 000872-56-0	52

Peak Number 29 Rank in Relative Concentration 28

R.T.	Conc	Area	Relative to ISTD	R.T.
24.77	4.58 PPB	402101	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	Pentanal	<i>86</i>	110569 000110-62-3	72
2	2-Butanamine		110572 013952-84-6	56
3	2-Propanamine		110466 000075-31-0	42

Peak Number 30 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
25.05	28.84 PPB	2530603	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	3-Heptene		108688 000592-78-9	97
2	(Z)-3-Heptene		108691 007642-10-6	91
3	2-Heptene		108687 000592-77-8	91

Peak Number 31 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
25.17	44.01 PPB	3862386	FLUOROBENZENE	23.99
Hit# of 3		Tentative ID	Ref# CAS#	Qual
1	2-Heptene, (E)-	<i>98</i>	13656 014686-13-6	97
2	2-Heptene		108687 000592-77-8	94

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3 (Z)-3-Heptene

2213 007642-10-6 68

Peak Number 32

Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
25.50	32.58 PPB	2858618	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, <i>2</i>	<i>98</i>	108687	000592-77-8	95
2	2-Heptene, (E)-		13656	014686-13-6	95
3	3-Heptene		108688	000592-78-9	91

Peak Number 33

Rank in Relative Concentration 14

R.T.	Conc	Area	Relative to ISTD	R.T.
25.75	13.68 PPB	1200098	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Cyclopropane, butyl-	<i>98</i>	1931	000930-57-4	50
2	2-Butene-1,4-diol, (Z)-		3248	006117-80-2	38
3	2-Butene-1,4-diol		109048	000110-64-5	38

Peak Number 34

Rank in Relative Concentration 36

R.T.	Conc	Area	Relative to ISTD	R.T.
25.83	2.43 PPB	213649	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Ethylene oxide	<i>Spike</i>	107992	000075-21-8	4
2	Acetaldehyde		108064	000075-07-0	3
3	Propane		108018	000074-98-6	2

Peak Number 35

Rank in Relative Concentration 13

R.T.	Conc	Area	Relative to ISTD	R.T.
27.04	14.59 PPB	1280328	FLUOROBENZENE	23.99

Hit# of	3	Tentative ID	Ref#	CAS#	Qual
1	Propane, 2-(methylthio)-		2693	001551-21-9	83
2	3,4-Heptadiene		31430	002454-31-1	83
3	Cyclohexene, 1-methyl-		116137	000591-49-1	72
	<i>2,3-Heptadiene, 2-methyl-</i>	<i>96</i>		<i>29212-09-7</i>	

Peak Number 36

Rank in Relative Concentration 7

R.T.	Conc	Area	Relative to ISTD	R.T.
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27.63	25.90 PPB	2137715	CHLOROBENZENE-D5	30.36
Hit# of	3	Tentative ID	Ref#	CAS#
1	Heptane, 3-methyl-	114	109689	000589-81-1
2	Hexane, 2,3,5-trimethyl-		7099	001069-53-0
3	Pentanenitrile		4187	000110-59-8

Peak Number 37 Rank in Relative Concentration 23

R.T.	Conc	Area	Relative to ISTD	R.T.
27.80	6.09 PPB	502740	CHLOROBENZENE-D5	30.36
Hit# of	3	Tentative ID	Ref#	CAS#
1	2-Heptyne	96	116025	001119-65-9
2	2,4-Hexadienal, (E,E)-		116030	000142-83-6
3	Cyclopropane, trimethylmethylene-		116046	034462-28-7

Peak Number 38 Rank in Relative Concentration 38

R.T.	Conc	Area	Relative to ISTD	R.T.
28.14	2.07 PPB	170929	CHLOROBENZENE-D5	30.36
Hit# of	3	Tentative ID	Ref#	CAS#
1	2-Hexanone	Target	109711	000591-78-6
2	2-Hexanone, 4-hydroxy-3-propyl-		5739	062338-17-4
3	Oxirane, 2-methyl-2-(1-methylethyl)		5754	072221-03-5

Peak Number 39 Rank in Relative Concentration 26

R.T.	Conc	Area	Relative to ISTD	R.T.
28.20	5.38 PPB	444342	CHLOROBENZENE-D5	30.36
Hit# of	3	Tentative ID	Ref#	CAS#
1	Heptane, 3-methylene-	112	114416	001632-16-2
2	Cyclopentane, 1,2,4-trimethyl-, (1.		23858	004850-28-6
3	Cyclopentane, 1,2,4-trimethyl-, (1.		23853	016883-48-0

Peak Number 40 Rank in Relative Concentration 21

R.T.	Conc	Area	Relative to ISTD	R.T.
30.99	6.90 PPB	569450	CHLOROBENZENE-D5	30.36
Hit# of	3	Tentative ID	Ref#	CAS#
1	4-Heptanone	114	109855	000123-19-3
2	3-Pentanone, 2,4-dimethyl-		6290	000565-80-0

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3 3-Hexanone, 2-methyl-

109949 007379-12-6 80

 Peak Number 41 Rank in Relative Concentration 10

R.T.	Conc	Area	Relative to ISTD	R.T.
31.43	18.73 PPB	1545971	CHLOROBENZENE-D5	30.36

Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	3-Heptanone <i>Target</i>	15594	000106-35-4	91
2	3-Hexanone, 5-methyl-	17303	000623-56-3	72
3	4-Methyl-5-nonanone	17314	035900-26-6	53

 Peak Number 42 Rank in Relative Concentration 30

R.T.	Conc	Area	Relative to ISTD	R.T.
31.57	4.20 PPB	346640	CHLOROBENZENE-D5	30.36

Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	2-Heptanone <i>Target</i>	5736	000110-43-0	91
2	2-Hexanone, 4-methyl-	5737	000105-42-0	86
3	2-Hexanone, 5-methyl-	5735	000110-12-3	64

 Peak Number 43 Rank in Relative Concentration 40

R.T.	Conc	Area	Relative to ISTD	R.T.
38.87	1.99 PPB	163902	CHLOROBENZENE-D5	30.36

Hit# of 3	Tentative ID	Ref#	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl)ox	27665	003789-85-3	50
2	Benzeneethanamine, N-[(pentafluorop	115266	055429-85-1	32
3	Benzeneacetic acid, 3-methoxy-4-[(t	27189	015964-84-8	25

Unknown

 19032409.D VAP_NP8.M Thu Apr 08 09:15:36 1999

Library Searched : C:\DATABASE\NIST98.L
Quality : 80
ID : Pentanal

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Quantitation Report

Data File : C:\HPCHEM\1\DATA\19040807.D

Acq Time : 8 Apr '99 2:30 pm

Sample : VS702-204-S079 DUP

Misc : 50 TORR

Quant Time: May 5 14:05 1999

Operator: G. FIES

Inst : 5972 - MS

Multiplr: 1.00

DF = 2

Method : C:\HPCHEM\1\METHODS\VAP_P8.M

Title : POLAR TARGET COMPOUNDS FOR TANK VAPOR ANALYSES

Last Update : Mon Mar 22 09:53:20 1999

Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) FLUOROBENZENE	23.98	96	7225461	155.50	NG	0.05
17) CHLOROBENZENE-D5	30.34	117	6191282	189.50	NG	-0.12

System Monitoring Compounds

%Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) ETHANOL	14.75	45	742160	49.15	PPB m	0
3) ACETONITRILE	16.02	40	599248	32.88	PPB m	1
4) ACETONE	16.11	58	1431288	84.76	PPB m	1
5) FURAN	0.00	68		Not Detected		
6) 2-PROPANOL	16.66	45	84881	1.35	PPB #	64
7) 1-PROPANOL	19.35	31	409679	7.77	PPB m	91
8) PROPANENITRILE	19.94	54	333173	15.45	PPB m	94
9) BUTANAL	20.53	72	194187	19.74	PPB m	84
10) 2-BUTANONE	20.71	72	257012	18.11	PPB	82
11) TETRAHYDROFURAN	22.08	72	13108	0.88	PPB m	60
12) 1-BUTANOL	23.53	56	679132	23.12	PPB m	93
13) BUTANENITRILE	23.76	41	815543	12.10	PPB m	100
14) 2-PENTANONE	24.35	43	500076	4.20	PPB	100
15) 1,4-DIOXANE	0.00	88		Not Detected		
16) 4-METHYL-2-PENTANONE	0.00	100		Not Detected		
18) 2-HEXANONE	28.12	58	60884	1.16	PPB	95
19) 3-HEPTANONE	31.42	114	87334	5.06	PPB m	1
20) 2-HEPTANONE	31.54	58	91113	1.00	PPB m	70
21) CYCLOHEXANONE	0.00	98		Not Detected		
22) 2-OCTANONE	0.00	58		Not Detected		

(#) = qualifier out of range (m) = manual integration

19040807.D VAP_P8.M

Wed May 05 14:06:42 1999

HNF-4440 Rev. 0

Quantitation Report

(QT Reviewed)

Data File : F:\C106_2\19040807.D
 Acq On : 8 Apr 1999 2:30 pm
 Sample : VS702-204-S079 DUP
 Misc : 50 TORR
 MS Integration Params: RTE MID.P
 Quant Time: May 5 14:06 1999

Vial: 1
 Operator: G. FIES
 Inst : 5972 - MS
 Multiplr: 1.00

Quant Results File: VAP_NP8.RES

Quant Method : F:\METHODS\VAP_NP8.M (RTE Integrator)
 Title : NONPOLAR VAPOR STANDARD CALIBRATION
 Last Update : Mon Mar 22 09:40:09 1999
 Response via : Initial Calibration
 DataAcq Meth : VAP_NP8

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) FLUOROBENZENE	23.98	96	7225461	155.50	NG	0.05
20) CHLOROBENZENE-D5	30.34	117	6191282	189.50	NG	-0.08

System Monitoring Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) FREON 12	7.84	85	32676	N.D.		
3) METHYL CHLORIDE	9.40	50	11251	N.D.		
4) N-BUTANE	11.49	43	3059233	43.99	PPB	93
5) ETHYL CHLORIDE	13.75	64	218	N.D.		
6) FREON 11	15.66	101	1217375	15.47	PPB	100
7) N-PENTANE	16.35	72	80263	14.40	PPB	# 100
8) DICHLOROMETHANE	18.02	49	997	N.D.		
9) 2-METHYL-PENTANE	19.47	43	112235	1.54	PPB	# 70
10) 1-HEXENE	20.47	56	432083	15.66	PPB	99
11) N-HEXANE	20.83	57	369357m	9.72	PPB	
12) CHLOROFORM	21.65	83	46155	0.93	PPB	98
13) BENZENE	23.47	78	46188	0.54	PPB	98
14) CARBON TETRACHLORIDE	23.51	117	2920	N.D.		
15) 3-METHYL-HEXANE	23.95	43	28353	N.D.		
16) N-HEPTANE	24.88	57	564778m	18.79	PPB	
17) TOLUENE	27.53	91	67346m	0.52	PPB	
18) N-OCTANE	28.54	57	28679m	0.91	PPB	
19) TETRACHLOROETHYLENE	29.14	166	348390	6.04	PPB	90
21) CHLOROBENZENE	30.42	112	4152	N.D.		
22) ETHYLBENZENE	30.88	91	6251	N.D.		
23) M,P-XYLENE	31.13	91	5250	N.D.		
24) STYRENE	31.87	104	127	N.D.		
25) N-NONANE	31.88	43	14162	N.D.		
26) 1,1,2,2-TETRACHLOROETHANE	32.68	83	192	N.D.		
27) O-XYLENE	31.97	91	1271	N.D.		
28) N-DECANE	34.96	43	5338	N.D.		
29) 1,2,4-TRIMETHYLBENZENE	35.13	105	11681	N.D.		

(#) = qualifier out of range (m) = manual integration
 19040807.D VAP_NP8.M Wed May 05 14:06:37 1999

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

Section 4 of 5

Document Information			
Document #	HNF-4440	Revision	0
Title	TANK VAPOR SAMPLING & ANALYSIS DATA PACKAGE FOR TANK 241C106 WASTE RETRIEVAL SLUICING SYS PROCESS TEST PHASE 2 SAMPLED 03/07/1999		
Date	05/25/1999		
Originator	LOCKREM LL	Originator Co.	NHC
Recipient		Recipient Co.	
References	EDT-620356		
Keywords			
Projects			
Other Information	2.0 ANALYSES SEC 2.5 PERMANENT GASES IN SUMMA CANISTER SAMPLES		

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2.5 Permanent Gases in SUMMA Canister Samples

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2.5.1 Narrative

This section contains descriptions of the analytical method and quality assurance used during analysis.

2.5.1.1 Determination of Permanent Gases in SUMMA Canister Samples

The permanent gas target analytes are carbon dioxide, carbon monoxide, hydrogen, methane, and nitrous oxide. These target analytes are determined in aliquots of tank headspace vapor collected in SUMMA canisters by means of a gas chromatograph equipped with a thermal conductivity detector (GC/TCD). The permanent gas target analytes are identified by matching their sample peak-retention times with those from standard gas mixtures. Target analyte concentrations are determined by calibrating the GC/TCD with standard gas mixtures; the integrated area of the chromatographic peak is proportional to the analyte concentration. The instrument detection limit for this method is typically on the order of 20 parts per million by volume.

2.5.1.2 Permanent Gas Analytical Quality Assurance

Method LA-523-409, Rev. A-0, is used for the qualitative and quantitative gas chromatographic determination of selected permanent gases in waste tank headspace samples collected in SUMMA canisters.

The gas chromatographic system is calibrated initially prior to starting sample analysis and each time continuing calibration criteria cannot be met for subsequent analysis. At least 3 standard concentration levels containing each target analyte is used for initial calibration (ICAL). The initial calibration standards, or calibration verification standard, are measured to determine analyte chromatographic column retention times and to compute target analyte retention time windows. The validity of the initial calibration is demonstrated by meeting deviation or curve fit criteria and through the satisfactory analysis of a "check standard" gas, the ICVS. Initial calibration gas blanks are measured to demonstrate system cleanliness. Each day that the GC system is used for analysis, the continuing calibration of the system is verified through the measurement of a mid-level check standard gas, or CCV. Criteria for the CCV that must be met are target analyte retention time windows and percent recovery of the CCV analytes. Method blanks (MBs) are analyzed to document the continued cleanliness of the GC system.

With each tank sample reporting batch, the analysis of a laboratory control sample (LCS) and LCS duplicate is conducted. The recovery of the LCS analytes must meet accuracy (percent recovery - %R) and precision (relative percent difference - RPD) requirements. Also, with each tank sample reporting batch, an actual tank sample is analyzed in duplicate (laboratory sample duplicate). The RPD between sample analyte concentrations measured above reporting limits and the sample duplicate analyte concentrations must meet precision requirements or the resulting data is flagged.

2.5.2 Result Summary Tables

The result summary tables are presented in this section. All reported values have been corrected to 25 °C and 1 atmosphere pressure.

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-202-S011

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/8/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590408				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	5.8 -7.7 -26	12 -15 -51	50	0.5 -0.6 -2.1	1.0 -1.3 -4.2	4.1		M
Methane	74-82-8	7.65	7.65	0 0 0	0 0 0	50	0 0 0	0 0 0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor 2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-202-S011

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	147 145 140	295 289 280	290	265 260 252	530 521 504	520	2.6	
Nitrous Oxide	100-97-2	6.18	6.20	0 0 0	0 0 0	50	0 0 0	0 0 0	90	M	
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57	M	

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

Dilution Factor 2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-212-S028

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	3/19/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	3/590319				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	23	45	45	1.8	3.7			
				27	55	55	2.2	4.5			
				14	27	50	1.1	2.2	4.1	33.0	M
Methane	74-82-8	7.65	7.65	0	0	0	0	0			
				0	0	0	0	0			
				0	0	50	0	0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

The sample was analyzed 3 times and the mean of those 3 analysis is reported

The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor

2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-212-S028

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	41 40 49	83 80 98	87	75 72 88	149 144 176	160	11.0 *	
Nitrous Oxide	100-97-2	6.18	6.20	90 89 86	180 179 171	180	162 161 154	323 322 308	320	2.7	
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57	M	

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

The sample was analyzed 3 times and the mean of those 3 analysis is reported

The relative standard deviation is the %RSD of the 3 analysis.

Dilution Factor

2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-222-S039

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	3/19/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590319				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	56	112	112	4.6	9.1			
				64	129	129	5.3	10.5			
				54	107	120	4.4	8.8	9.5	9.8	
Methane	74-82-8	7.65	7.65	0	0	0	0	0			
				0	0	0	0	0			
				0	0	50	0	0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

The sample was analyzed 3 times and the mean of those 3 analysis is reported

The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor 2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number

VS006-222-S039

Laboratory Sample Number	G-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	7	14	25	12	0	0	90	170.0 M
				0	0	50	0	0	0		
				0	0						
Nitrous Oxide	100-97-2	6.18	6.20	324	648		583	1166			
				315	630		567	1133			
				312	624	630	562	1124	1100	2.0	
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor

2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-232-S056

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	3/19/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	3/590319				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m^3)	Sample Concentration (mg/m^3)	Reported Concentration (mg/m^3)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	46 61 52	92 122 103	110	3.8 5.0 4.2	7.6 10.0 8.4	8.7	14.0	
Methane	74-82-8	7.65	7.65	0 0 0	0 0 0	0 0 50	0 0 0	0 0 0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor 2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-232-S056

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	3/31/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590331				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	62 15 15	123 29 29	222 53 53	111 26 27	222 53 53	110 110 110	39.0 *	
Nitrous Oxide	100-97-2	6.18	6.20	349 366 353	698 732 706	1256 1316 1270	628 658 635	1256 1316 1270	1300 1300 1300	2.5	
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57		

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-237-S071

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	3/19/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	3/590319					
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	52	104	4.3	8.5	4.3	8.5	8.4	1.1	
				51	102	4.2	8.3	4.2	8.4			
				51	103	4.2	8.4	4.2	8.4			
Methane	74-82-8	7.65	7.65	0	0	0	0	0	0	33		M
				0	0	0	0	0	0			
				0	0	0	50	0	0			

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor 2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-237-S071

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	3/31/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590331				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m^3)	Sample Concentration (mg/m^3)	Reported Concentration (mg/m^3)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	20	40		36	71			
				23	46		41	82			
				30	61	50	55	109		90	22.0 M
Nitrous Oxide	100-97-2	6.18	6.20	372	744		670	1339			
				377	755		679	1358			
				397	794	760	715	1430		1400	3.5
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57	M	

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VSAMB-201-S017

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/8/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590408				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	0	0	0	0	0	0		
				0	0	0	0	0	0		
				0	0	50	0	0	4.1		M
Methane	74-82-8	7.65	7.65	0	0	0	0	0	0		
				0	0	0	0	0	0		
				0	0	50	0	0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor 2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number

VSAMB-201-S017

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	208 161 157	417 323 315	350	375 290 283	750 580 566	630	16.0	
Nitrous Oxide	100-97-2	6.18	6.20	0 0 0	0 0 0	50	0 0 0	0 0 0	90		M
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor

2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VSAMB-205-S044

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/8/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590408					
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags	
Hydrogen	1333-74-0	5.78	5.78	0	0	0	0	0	0			
				0	0	0	0	0	0			
				0	0	50	0	0	4.1			M
Methane	74-82-8	7.65	7.65	0	0	0	0	0	0			
				0	0	0	0	0	0			
				0	0	50	0	0	33			M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

The sample was analyzed 3 times and the mean of those 3 analysis is reported

The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor 2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number

VSAMB-205-S044

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.66	5.62	142	284		255	510			
				142	283		255	510			
				142	285	280	256	512	510	0.3	
Nitrous Oxide	100-97-2	6.18	6.20	0	0		0	0			
				0	0		0	0			
				0	0	50	0	0	90		M
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor

2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VSAMB-206-S046

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/8/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590408				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	-23 -22 -27	-47 -44 -53	50	-2 -2 -2	-4 -4 -4	4.1		M
Methane	74-82-8	7.65	7.65	0 0 0	0 0 0	50	0 0 0	0 0 0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor 2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number

VSAMB-206-S046

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	80 158 68	160 316 135	200	144 284 122	288 569 244	370	48.0	
Nitrous Oxide	100-97-2	6.18	6.20	0 0 0	0 0 0	50	0 0 0	0 0 0	90	M	
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57	M	

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor

2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number

VSAMB-207-S065

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/8/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590408				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	0	0	0	0	0	0		
				0	0	50	0	0	4.1		M
Methane	74-82-8	7.65	7.65	0	0	0	0	0	0		
				0	0	50	0	0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

Dilution Factor 2.00

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number

VSAMB-207-S065

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	148 138 133	295 276 265	280	266 248 239	532 497 477	500	5.5	
Nitrous Oxide	100-97-2	6.18	6.20	0 0 0	0 0 0	50	0 0 0	0 0 0	90		M
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor

2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VSAMB-211-S067

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/8/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590408				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	-24 0 0	-47 0 0	50	-2 0 0	-4 0 0	4.1		M
Methane	74-82-8	7.65	7.65	-20 -5 0	-39 -10 0	50	-13 -3 0	-26 -6 0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

Dilution Factor 2.00

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number

VSAMB-211-S067

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	152 140 134	303 280 267	280	273 252 241	546 503 481	510	6.5	
Nitrous Oxide	100-97-2	6.18	6.20	0 0 0	0 0 0	50	0 0 0	0 0 0	90	M	
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57	M	

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor

2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VSAMB-212-S098

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/8/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590408				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m^3)	Sample Concentration (mg/m^3)	Reported Concentration (mg/m^3)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	0	0		0	0			
				0	0		0	0			
				0	0	50	0	0	4.1	M	
Methane	74-82-8	7.65	7.65	0	0		0	0			
				0	0		0	0			
				0	0	50	0	0	33	M	

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

The sample was analyzed 3 times and the mean of those 3 analysis is reported

The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor

2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VSAMB-212-S098

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	136 142 139	273 284 278	280	245 255 250	491 510 500	500	2.0	
Nitrous Oxide	100-97-2	6.18	6.20	0 0 0	0 0 0	50	0 0 0	0 0 0	90		M
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor

2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS702-202-S058

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/8/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590408				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	6.9 3.6 -4.1	13.7 7.2 -8.2	50	0.6 0.3 -0.3	1.1 0.6 -0.7	4.1		M
Methane	74-82-8	7.65	7.65	0 0 0	0 0 0	50	0 0 0	0 0 0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Dilution Factor 2.00

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS702-202-S058

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	103 101 104	206 201 208	200	185 181 187	370 362 375	370	1.8	
Nitrous Oxide	100-97-2	6.18	6.20	0 0 0	0 0 0	50	0 0 0	0 0 0	90	M	
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57	M	

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

Hydrogen/Methane Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS702-204-S079

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/8/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	31590408				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Hydrogen	1333-74-0	5.78	5.78	5.2 10.3 9.3	10 21 19	50	0.4 0.8 0.8	0.8 1.7 1.5	4.1		M
Methane	74-82-8	7.65	7.65	0 0 0	0 0 0	50	0 0 0	0 0 0	33		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

Dilution Factor 2.00

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

Permanent Gas Analysis

Analyst: L.A. Pingel

Sample Canister Number VS702-204-S079

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/7/99	Laboratory Notebook Number	HNF-N-125, 1	Sample Datafile Identifier	1/590407				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppmv)	Sample Concentration (ppmv)	Reported Concentration (ppmv)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
Carbon Dioxide	124-38-9	5.65	5.62	103 101 104	206 201 208		185 181 187	370 362 375			
						200			370	1.3	
Nitrous Oxide	100-97-2	6.18	6.20	0 0 0	0 0 0		0 0 0	0 0 0			M
						50			90		
Carbon Monoxide	630-08-0	7.46	7.46	0	0	50	0	0	57		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory
 The sample was analyzed 3 times and the mean of those 3 analysis is reported
 The relative standard deviation is the %RSD of the 3 analysis.

Dilution Factor 2.00

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2.5.3 Quality Control Summary Tables

Quality control summary tables are organized by sample number and analytes. The tables include the following:

- CCV results
- Duplicate results
- Method blank results.

VS006- 202-S011
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	176 ppmv	5.4%	
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1228 ppmv	1.7%	
003R 0302.D	CCVS Dup	1250 Dup	1247 ppmv	0.2%	
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	5048 ppmv	1.0%	
005R 0401.D	185-1-12.02	Zero Air			
009R 0501.D	202-S011	6 ppmv	0.5 mg/m ³		
009R 0502.D	202-S011	-8 ppmv	-0.6 mg/m ³		
009R 0503.D	202-S011	-26 ppmv	-2.1 mg/m ³		
		Average	0 mg/m ³		

VS006- 202-S011
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv		0.2%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1283 ppmv		2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv		0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv		4.8%
005F 0401.D	185-1-12.02	Zero Air			
009F 0501.D	202-S011	147 ppmv	265 mg/m ³		
009F 0501.D	202-S011	145 ppmv	260 mg/m ³		
009F 0501.D	202-S011	140 ppmv	252 mg/m ³		
		Average	260 mg/m ³		

VS006- 202-S011
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv		19.6%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1280 ppmv		2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv		2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv		4.0%
005F 0401.D	185-1-12.02	Zero Air			
009F 0501.D	202-S011	0 ppmv	0 mg/m ³		
009F 0501.D	202-S011	0 ppmv	0 mg/m ³		
009F 0501.D	202-S011	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS006- 202-S011
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
Data File: 3\590408
Instrument Method: 3\590331.MTH
Data Acquired on: 4/8/99
Analyst: L.A. Pingel
Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	179 ppmv		7.3%
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1145 ppmv		8.4%
003R 0302.D	CCVS Dup	1250 Dup	1164 ppmv		6.9%
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	4714 ppmv		5.7%
005R 0401.D	185-1-12.02	Zero Air			
009R 0501.D	202-S011	0 ppmv	0 mg/m ³		
009R 0502.D	202-S011	0 ppmv	0 mg/m ³		
009R 0503.D	202-S011	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS006- 202-S011
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv	0.9%	
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv	1.2%	
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv	5.2%	
012F 0301.D	5-1-12.02	Zero Air			
021F 0301.D	202-S011	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VS006- 212-S028
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3/590319
 Instrument Method: 3/590318.mth
 Data Acquired on: 3/19/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0101.D	185-1-12.02	Zero Air			
002R 0101.D	Low CCVS	167 ICVS/CCVS	146 ppmv		12.5%
003R 0201.D	Mid CCVS	1250 ICVS/CCVS	1274 ppmv		1.9%
003R 0202.D	CCVS Dup	1250 Dup	1280 ppmv		2.4%
004R 0301.D	Hi CCVS	5000 ICVS/CCVS	5150 ppmv		3.0%
005R 0401.D	185-1-12.02	Zero Air			
009R 0501.D	212-S028	23 ppmv	1.8 mg/m ³		
009R 0502.D	212-S028	27 ppmv	2.2 mg/m ³		
009R 0503.D	212-S028	14 ppmv	1.1 mg/m ³		
		Average	1.7 mg/m ³		

VS006- 212-S028
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv	0.2%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1283 ppmv	2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv	0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv	4.8%
005F 0401.D	185-1-12.02	Zero Air		
007F 0501.D	212-S028	41 ppmv	75 mg/m ³	
007F 0502.D	212-S028	40 ppmv	72 mg/m ³	
007F 0503.D	212-S028	49 ppmv	88 mg/m ³	
		Average	78 mg/m ³	

VS006- 212-S028
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv		19.6%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1280 ppmv		2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv		2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv		4.0%
005F 0401.D	185-1-12.02	Zero Air			
007F 0501.D	212-S028	90 ppmv	162 mg/m ³		
007F 0502.D	212-S028	89 ppmv	161 mg/m ³		
007F 0503.D	212-S028	86 ppmv	154 mg/m ³		
		Average	160 mg/m ³		

VS006- 212-S028
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3/590319
 Instrument Method: 3/590318.mth
 Data Acquired on: 3/19/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0101.D	185-1-12.02	Zero Air			
002R 0101.D	Low CCVS	167 ICVS/CCVS	141 ppmv		15.7%
003R 0201.D	Mid CCVS	1250 ICVS/CCVS	1251 ppmv		0.1%
003R 0202.D	CCVS Dup	1250 Dup	1263 ppmv		1.0%
004R 0301.D	Hi CCVS	5000 ICVS/CCVS	5060 ppmv		1.2%
005R 0401.D	185-1-12.02	Zero Air			
009R 0501.D	212-S028	0 ppmv	0 mg/m ³		
009R 0502.D	212-S028	0 ppmv	0 mg/m ³		
009R 0503.D	212-S028	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS006- 212-S028
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv		0.9%
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv		1.2%
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv		5.2%
012F 0301.D	5-1-12.02	Zero Air			
023F 0301.D	212-S028	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VS006- 222-S039
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590319
 Instrument Method: 3/590318.mth
 Data Acquired on: 3/19/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1 pages

Run #	Analyzed Concentrations				%D
001R 0101.D	185-1-12.02	Zero Air			
002R 0101.D	Low CCVS	167 ICVS/CCVS	146 ppmv	12.5%	
003R 0201.D	Mid CCVS	1250 ICVS/CCVS	1274 ppmv	1.9%	
003R 0202.D	CCVS Dup	1250 Dup	1280 ppmv	2.4%	
004R 0301.D	Hi CCVS	5000 ICVS/CCVS	5150 ppmv	3.0%	
005R 0401.D	185-1-12.02	Zero Air			
008R 0501.D	222-S039	56 ppmv	4.6 mg/m ³		
008R 0502.D	222-S039	64 ppmv	5.3 mg/m ³		
008R 0503.D	222-S039	54 ppmv	4.4 mg/m ³		
		Average	4.7 mg/m ³		

VS006- 222-S039
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1 pages

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv		0.2%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1283 ppmv		2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv		0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv		4.8%
005F 0401.D	185-1-12.02	Zero Air			
006F 0501.D	222-S039	7 ppmv	12 mg/m ³		
006F 0502.D	222-S039	0 ppmv	0 mg/m ³		
006F 0503.D	222-S039	0 ppmv	0 mg/m ³		
Average			4 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS006- 222-S039
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1 pages

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv	19.6%	
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1280 ppmv	2.4%	
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv	2.8%	
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv	4.0%	
005F 0401.D	185-1-12.02	Zero Air			
006F 0501.D	222-S039	324 ppmv	583 mg/m ³		
006F 0502.D	222-S039	315 ppmv	567 mg/m ³		
006F 0503.D	222-S039	312 ppmv	562 mg/m ³		
		Average	570 mg/m ³		

VS006- 222-S039
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590319
 Instrument Method: 3/590318.mth
 Data Acquired on: 3/19/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001R 0101.D	185-1-12.02	Zero Air		
002R 0101.D	Low CCVS	167 ICVS/CCVS	141 ppmv	15.7%
003R 0201.D	Mid CCVS	1250 ICVS/CCVS	1251 ppmv	0.1%
003R 0202.D	CCVS Dup	1250 Dup	1263 ppmv	1.0%
004R 0301.D	Hi CCVS	5000 ICVS/CCVS	5060 ppmv	1.2%
005R 0401.D	185-1-12.02	Zero Air		
008R 0501.D	222-S039	0 ppmv	0 mg/m ³	
008R 0502.D	222-S039	0 ppmv	0 mg/m ³	
008R 0503.D	222-S039	0 ppmv	0 mg/m ³	
		Average	0 mg/m ³	

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS006- 222-S039
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414.MTH
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				
					%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv		0.9%
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv		1.2%
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv		5.2%
012F 0301.D	5-1-12.02	Zero Air			
020F 0301.D	222-S039	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VS006- 232-S056
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3/590319
 Instrument Method: 3/590319.mth
 Data Acquired on: 3/19/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0101.D	185-1-12.02	Zero Air			
002R 0101.D	Low CCVS	167 ICVS/CCVS	146 ppmv	12.5%	
003R 0201.D	Mid CCVS	1250 ICVS/CCVS	1274 ppmv	1.9%	
003R 0202.D	CCVS Dup	1250 Dup	1280 ppmv	2.4%	
004R 0301.D	Hi CCVS	5000 ICVS/CCVS	5150 ppmv	3.0%	
005R 0401.D	185-1-12.02	Zero Air			
007R 0501.D	232-S056	46 ppmv	3.8 mg/m ³		
007R 0502.D	232-S056	61 ppmv	5.0 mg/m ³		
007R 0503.D	232-S056	52 ppmv	4.2 mg/m ³		
		Average	4.3 mg/m ³		

VS006- 232-S056
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590331
 Instrument Method: 1/590331.mth
 Data Acquired on: 3/31/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv	0.2%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1283 ppmv	2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv	0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv	4.8%
005F 0401.D	185-1-12.02	Zero Air		
015R 0201.D	232-S056	62 ppmv	111 mg/m ³	
015R 0202.D	232-S056	15 ppmv	26 mg/m ³	
015R 0203.D	232-S056	15 ppmv	27 mg/m ³	
		Average	55 mg/m ³	

VS006- 232-S056

Project Number: C-106, II

Nitrous Oxide

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590331
 Instrument Method: 1/590331.mth
 Data Acquired on: 3/31/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv		19.6%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1280 ppmv		2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv		2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv		4.0%
005F 0401.D	185-1-12.02	Zero Air			
015R 0201.D	232-S056	349 ppmv	628 mg/m ³		
015R 0202.D	232-S056	366 ppmv	658 mg/m ³		
015R 0203.D	232-S056	353 ppmv	635 mg/m ³		
		Average	640 mg/m ³		

VS006- 232-S056

Project Number: C-106, II

Methane

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3/590319
 Instrument Method: 3/590319.mth
 Data Acquired on: 3/19/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001R 0101.D	185-1-12.02	Zero Air		
002R 0101.D	Low CCVS	167 ICVS/CCVS	141 ppmv	15.7%
003R 0201.D	Mid CCVS	1250 ICVS/CCVS	1251 ppmv	0.1%
003R 0202.D	CCVS Dup	1250 Dup	1263 ppmv	1.0%
004R 0301.D	Hi CCVS	5000 ICVS/CCVS	5060 ppmv	1.2%
005R 0401.D	185-1-12.02	Zero Air		
007R 0501.D	232-S056	0 ppmv	0 mg/m ³	
007R 0502.D	232-S056	0 ppmv	0 mg/m ³	
007R 0503.D	232-S056	0 ppmv	0 mg/m ³	
		Average	0 mg/m ³	

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS006- 232-S056
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590331
 Instrument Method: 1/590331.mth
 Data Acquired on: 3/31/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv	0.9%	
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv	1.2%	
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv	5.2%	
012F 0301.D	5-1-12.02	Zero Air			
024F 0301.D	232-S056	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VS006- 237-S071
Hydrogen

Project Number: C-106, II

Instrument #5: Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3/590319
 Instrument Method: 3/590318.mth
 Data Acquired on: 3/19/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0101.D	185-1-12.02	Zero Air			
002R 0101.D	Low CCVS	167 ICVS/CCVS	146 ppmv	12.5%	
003R 0201.D	Mid CCVS	1250 ICVS/CCVS	1274 ppmv	1.9%	
003R 0202.D	CCVS Dup	1250 Dup	1280 ppmv	2.4%	
004R 0301.D	Hi CCVS	5000 ICVS/CCVS	5150 ppmv	3.0%	
005R 0401.D	185-1-12.02	Zero Air			
006R 0501.D	237-S071	52 ppmv	4.3 mg/m ³		
006R 0502.D	237-S071	51 ppmv	4.2 mg/m ³		
006R 0503.D	237-S071	51 ppmv	4.2 mg/m ³		
		Average	4.2 mg/m ³		

VS006- 237-S071
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590331
 Instrument Method: 1/590331.mth
 Data Acquired on: 3/31/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv		0.2%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1283 ppmv		2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv		0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv		4.8%
005F 0401.D	185-1-12.02	Zero Air			
014R 0201.D	237-S071	20 ppmv	36 mg/m ³		
014R 0202.D	237-S071	23 ppmv	41 mg/m ³		
014R 0203.D	237-S071	30 ppmv	55 mg/m ³		
		Average	44 mg/m ³		

VS006- 237-S071
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590331
 Instrument Method: 1/590331.mth
 Data Acquired on: 3/31/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv	19.6%	
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1280 ppmv	2.4%	
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv	2.8%	
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv	4.0%	
005F 0401.D	185-1-12.02	Zero Air			
014R 0201.D	237-S071	372 ppmv	670 mg/m ³		
014R 0202.D	237-S071	377 ppmv	679 mg/m ³		
014R 0203.D	237-S071	397 ppmv	715 mg/m ³		
		Average	690 mg/m ³		

VS006- 237-S071
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3/590319
 Instrument Method: 3/590318.mth
 Data Acquired on: 3/19/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0101.D	185-1-12.02	Zero Air			
002R 0101.D	Low CCVS	167 ICVS/CCVS	141 ppmv		15.7%
003R 0201.D	Mid CCVS	1250 ICVS/CCVS	1251 ppmv		0.1%
003R 0202.D	CCVS Dup	1250 Dup	1263 ppmv		1.0%
004R 0301.D	Hi CCVS	5000 ICVS/CCVS	5060 ppmv		1.2%
005R 0401.D	185-1-12.02	Zero Air			
006R 0501.D	237-S071	0 ppmv	0 mg/m ³		
006R 0502.D	237-S071	0 ppmv	0 mg/m ³		
006R 0503.D	237-S071	0 ppmv	0 mg/m ³		
Average			0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS006- 237-S071
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590331
 Instrument Method: 1/590331.mth
 Data Acquired on: 3/31/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv	0.9%	
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv	1.2%	
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv	5.2%	
012F 0301.D	5-1-12.02	Zero Air			
025F 0301.D	237-S071	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VSAMB- 201-S017
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001R 0102.D	185-1-12.02	Zero Air		
002R 0201.D	Low CCVS	167 ICVS/CCVS	175 ppmv	4.6%
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1227 ppmv	1.9%
003R 0302.D	CCVS Dup	1250 Dup	1247 ppmv	0.3%
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	5088 ppmv	1.8%
005R 0401.D	185-1-12.02	Zero Air		
008R 0501.D	201-S017	0 ppmv	0.0 mg/m ³	
008R 0502.D	201-S017	0 ppmv	0.0 mg/m ³	
008R 0503.D	201-S017	0 ppmv	0.0 mg/m ³	
		Average	0.0 mg/m ³	

VSAMB- 201-S017
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv		0.2%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1283 ppmv		2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv		0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv		4.8%
005F 0401.D	185-1-12.02	Zero Air			
008F 0501.D	201-S017	208 ppmv	375 mg/m ³		
008F 0502.D	201-S017	161 ppmv	290 mg/m ³		
008F 0503.D	201-S017	157 ppmv	283 mg/m ³		
		Average	320 mg/m ³		

VSAMB- 201-S017
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv	19.6%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1280 ppmv	2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv	2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv	4.0%
005F 0401.D	185-1-12.02	Zero Air		
008F 0501.D	201-S017	0 ppmv	0 mg/m ³	
008F 0502.D	201-S017	0 ppmv	0 mg/m ³	
008F 0503.D	201-S017	0 ppmv	0 mg/m ³	
		Average	0 mg/m ³	

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 201-S017
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
Data File: 3\590408
Instrument Method: 3\590331.MTH
Data Acquired on: 4/8/99
Analyst: L.A. Pingel
Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	179 ppmv	7.3%	
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1145 ppmv	8.4%	
003R 0302.D	CCVS Dup	1250 Dup	1164 ppmv	6.9%	
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	4714 ppmv	5.7%	
005R 0401.D	185-1-12.02	Zero Air			
008R 0501.D	201-S017	0 ppmv	0 mg/m ³		
008R 0502.D	201-S017	0 ppmv	0 mg/m ³		
008R 0503.D	201-S017	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 201-S017
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv	0.9%	
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv	1.2%	
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv	5.2%	
012F 0301.D	5-1-12.02	Zero Air			
022F 0301.D	201-S017	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VSAMB- 205-S044
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	176 ppmv	5.4%	
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1228 ppmv	1.7%	
003R 0302.D	CCVS Dup	1250 Dup	1247 ppmv	0.2%	
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	5048 ppmv	1.0%	
005R 0401.D	185-1-12.02	Zero Air			
010R 0501.D	205-S044	0 ppmv	0.0 mg/m ³		
010R 0502.D	205-S044	0 ppmv	0.0 mg/m ³		
010R 0503.D	205-S044	0 ppmv	0.0 mg/m ³		
		Average	0.0 mg/m ³		

VSAMB- 205-S044
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1 pages

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low C CVS	167 ICVS/C CVS	167 ppmv	0.2%
003F 0301.D	Mid C CVS	1250 ICVS/C CVS	1283 ppmv	2.6%
003F 0302.D	C CVS Dup	1250 Dup	1261 ppmv	0.9%
004F 0401.D	Hi C CVS	5000 ICVS/C CVS	5240 ppmv	4.8%
005F 0401.D	185-1-12.02	Zero Air		
010F 0501.D	205-S044	142 ppmv	255 mg/m ³	
010F 0502.D	205-S044	142 ppmv	255 mg/m ³	
010F 0503.D	205-S044	142 ppmv	256 mg/m ³	
		Average	260 mg/m ³	

VSAMB- 205-S044
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv		19.6%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1280 ppmv		2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv		2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv		4.0%
005F 0401.D	185-1-12.02	Zero Air			
010F 0501.D	205-S044	0 ppmv	0 mg/m ³		
010F 0502.D	205-S044	0 ppmv	0 mg/m ³		
010F 0503.D	205-S044	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 205-S044
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
Data File: 3\590408
Instrument Method: 3\590331.MTH
Data Acquired on: 4/8/99
Analyst: L.A. Pingel
Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	179 ppmv	7.3%	
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1145 ppmv	8.4%	
003R 0302.D	CCVS Dup	1250 Dup	1164 ppmv	6.9%	
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	4714 ppmv	5.7%	
005R 0401.D	185-1-12.02	Zero Air			
010R 0501.D	205-S044	0 ppmv	0 mg/m ³		
010R 0502.D	205-S044	0 ppmv	0 mg/m ³		
010R 0503.D	205-S044	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 205-S044
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv	0.9%	
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv	1.2%	
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv	5.2%	
019.D 0301.D	5-1-12.02	Zero Air			
019.D 0301.D	205-S044	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VSAMB- 206-S046
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	176 ppmv	5.4%	
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1228 ppmv	1.7%	
003R 0302.D	CCVS Dup	1250 Dup	1247 ppmv	0.2%	
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	5048 ppmv	1.0%	
005R 0401.D	185-1-12.02	Zero Air			
019R 0201.D	206-S046	-23 ppmv	-1.9 mg/m ³		
019R 0202.D	206-S046	-22 ppmv	-1.8 mg/m ³		
019R 0203.D	206-S046	-27 ppmv	-2.2 mg/m ³		
		Average	-2.0 mg/m ³		

VSAMB- 206-S046
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv		0.2%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1283 ppmv		2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv		0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv		4.8%
005F 0401.D	185-1-12.02	Zero Air			
020F 0201.D	206-S046	80 ppmv	144 mg/m ³		
020F 0202.D	206-S046	158 ppmv	284 mg/m ³		
020F 0203.D	206-S046	68 ppmv	122 mg/m ³		
		Average	180 mg/m ³		

VSAMB- 206-S046
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv	19.6%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1280 ppmv	2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv	2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv	4.0%
005F 0401.D	185-1-12.02	Zero Air		
020F 0201.D	206-S046	0 ppmv	0 mg/m ³	
020F 0202.D	206-S046	0 ppmv	0 mg/m ³	
020F 0203.D	206-S046	0 ppmv	0 mg/m ³	
		Average	0 mg/m ³	

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 206-S046
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low C CVS	167 ICVS/C CVS	179 ppmv		7.3%
003R 0301.D	Mid C CVS	1250 ICVS/C CVS	1145 ppmv		8.4%
003R 0302.D	C CVS Dup	1250 Dup	1164 ppmv		6.9%
004R 0401.D	Hi C CVS	5000 ICVS/C CVS	4714 ppmv		5.7%
005R 0401.D	185-1-12.02	Zero Air			
019R 0201.D	206-S046	0 ppmv	0 mg/m ³		
019R 0202.D	206-S046	0 ppmv	0 mg/m ³		
019R 0203.D	206-S046	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 206-S046
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv	0.9%	
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv	1.2%	
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv	5.2%	
012F 0301.D	5-1-12.02	Zero Air			
016F 0301.D	206-S046	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VSAMB- 207-S065
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	176 ppmv		5.4%
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1228 ppmv		1.7%
003R 0302.D	CCVS Dup	1250 Dup	1247 ppmv		0.2%
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	5048 ppmv		1.0%
005R 0401.D	185-1-12.02	Zero Air			
013R 0701.D	207-S065	0 ppmv	0.0 mg/m ³		
013R 0702.D	207-S065	0 ppmv	0.0 mg/m ³		
013R 0703.D	207-S065	0 ppmv	0.0 mg/m ³		
		Average	0.0 mg/m ³		

VSAMB- 207-S065
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv		0.2%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1283 ppmv		2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv		0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv		4.8%
005F 0401.D	185-1-12.02	Zero Air			
013F 0701.D	207-S065	148 ppmv	266 mg/m ³		
013F 0702.D	207-S065	138 ppmv	248 mg/m ³		
013F 0703.D	207-S065	133 ppmv	239 mg/m ³		
		Average	250 mg/m ³		

VSAMB- 207-S065
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv	19.6%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1280 ppmv	2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv	2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv	4.0%
005F 0401.D	185-1-12.02	Zero Air		
013F 0701.D	207-S065	0 ppmv	0 mg/m ³	
013F 0702.D	207-S065	0 ppmv	0 mg/m ³	
013F 0703.D	207-S065	0 ppmv	0 mg/m ³	
		Average	0 mg/m ³	

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 207-S065
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low C CVS	167 ICVS/C CVS	179 ppmv		7.3%
003R 0301.D	Mid C CVS	1250 ICVS/C CVS	1145 ppmv		8.4%
003R 0302.D	C CVS Dup	1250 Dup	1164 ppmv		6.9%
004R 0401.D	Hi C CVS	5000 ICVS/C CVS	4714 ppmv		5.7%
005R 0401.D	185-1-12.02	Zero Air			
013R 0701.D	207-S065	0 ppmv	0 mg/m ³		
013R 0702.D	207-S065	0 ppmv	0 mg/m ³		
013R 0703.D	207-S065	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 207-S065
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv	0.9%	
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv	1.2%	
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv	5.2%	
012F 0301.D	5-1-12.02	Zero Air			
015F 0301.D	207-S065	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VSAMB- 211-S067
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001R 0102.D	185-1-12.02	Zero Air		
002R 0201.D	Low CCVS	167 ICVS/CCVS	176 ppmv	5.4%
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1228 ppmv	1.7%
003R 0302.D	CCVS Dup	1250 Dup	1247 ppmv	0.2%
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	5048 ppmv	1.0%
005R 0401.D	185-1-12.02	Zero Air		
012R 0701.D	211-S067	-24 ppmv	-1.9 mg/m ³	
012R 0702.D	211-S067	0 ppmv	0.0 mg/m ³	
012R 0703.D	211-S067	0 ppmv	0.0 mg/m ³	
		Average	#NUM! mg/m ³	

VSAMB- 211-S067
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv	0.2%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1283 ppmv	2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv	0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv	4.8%
005F 0401.D	185-1-12.02	Zero Air		
012F 0701.D	211-S067	152 ppmv	273 mg/m ³	
012F 0702.D	211-S067	140 ppmv	252 mg/m ³	
012F 0703.D	211-S067	134 ppmv	241 mg/m ³	
		Average	260 mg/m ³	

VSAMB- 211-S067
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv	19.6%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1280 ppmv	2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv	2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv	4.0%
005F 0401.D	185-1-12.02	Zero Air		
012F 0701.D	211-S067	0 ppmv	0 mg/m ³	
012F 0702.D	211-S067	0 ppmv	0 mg/m ³	
012F 0703.D	211-S067	0 ppmv	0 mg/m ³	
		Average	0 mg/m ³	

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 211-S067
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	179 ppmv	7.3%	
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1145 ppmv	8.4%	
003R 0302.D	CCVS Dup	1250 Dup	1164 ppmv	6.9%	
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	4714 ppmv	5.7%	
005R 0401.D	185-1-12.02	Zero Air			
012R 0701.D	211-S067	-19.69 ppmv	-13 mg/m ³		
012R 0702.D	211-S067	-4.813 ppmv	-3 mg/m ³		
012R 0703.D	211-S067	0 ppmv	0 mg/m ³		
		Average	-5 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 211-S067
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				
					%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv		0.9%
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv		1.2%
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv		5.2%
012F 0301.D	5-1-12.02	Zero Air			
017F 0301.D	211-S067	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VSAMB- 212-S098
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	176 ppmv	5.4%	
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1228 ppmv	1.7%	
003R 0302.D	CCVS Dup	1250 Dup	1247 ppmv	0.2%	
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	5048 ppmv	1.0%	
005R 0401.D	185-1-12.02	Zero Air			
014R 0701.D	212-S098	0 ppmv	0.0 mg/m ³		
014R 0702.D	212-S098	0 ppmv	0.0 mg/m ³		
014R 0703.D	212-S098	0 ppmv	0.0 mg/m ³		
		Average	0.0 mg/m ³		

VSAMB- 212-S098
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv		0.2%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1283 ppmv		2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv		0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv		4.8%
005F 0401.D	185-1-12.02	Zero Air			
014F 0701.D	212-S098	136 ppmv	245 mg/m ³		
014F 0701.D	212-S098	142 ppmv	255 mg/m ³		
014F 0701.D	212-S098	139 ppmv	250 mg/m ³		
		Average	250 mg/m ³		

VSAMB- 212-S098
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low C CVS	167 ICVS/C CVS	200 ppmv		19.6%
003F 0301.d	Mid C CVS	1250 ICVS/C CVS	1280 ppmv		2.4%
003F 0302.D	C CVS Dup	1250 Dup	1285 ppmv		2.8%
004F 0401.D	Hi C CVS	5000 ICVS/C CVS	5199 ppmv		4.0%
005F 0401.D	185-1-12.02	Zero Air			
014F 0701.D	212-S098	0 ppmv	0 mg/m ³		
014F 0701.D	212-S098	0 ppmv	0 mg/m ³		
014F 0701.D	212-S098	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 212-S098
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low C CVS	167 ICVS/C CVS	179 ppmv		7.3%
003R 0301.D	Mid C CVS	1250 ICVS/C CVS	1145 ppmv		8.4%
003R 0302.D	C CVS Dup	1250 Dup	1164 ppmv		6.9%
004R 0401.D	Hi C CVS	5000 ICVS/C CVS	4714 ppmv		5.7%
005R 0401.D	185-1-12.02	Zero Air			
014R 0701.D	212-S098	0 ppmv	0 mg/m ³		
014R 0702.D	212-S098	0 ppmv	0 mg/m ³		
014R 0703.D	212-S098	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VSAMB- 212-S098
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				
					%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv		0.9%
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv		1.2%
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv		5.2%
012F 0301.D	5-1-12.02	Zero Air			
013F 0301.D	212-S098	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VS702- 202-S058
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	176 ppmv	5.4%	
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1228 ppmv	1.7%	
003R 0302.D	CCVS Dup	1250 Dup	1247 ppmv	0.2%	
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	5048 ppmv	1.0%	
005R 0401.D	185-1-12.02	Zero Air			
015R 0701.D	202-S058	7 ppmv	0.6 mg/m ³		
015R 0702.D	202-S058	4 ppmv	0.3 mg/m ³		
015R 0703.D	202-S058	-4 ppmv	-0.3 mg/m ³		
		Average	0.2 mg/m ³		

VS702- 202-S058
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv	0.2%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1283 ppmv	2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv	0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv	4.8%
005F 0401.D	185-1-12.02	Zero Air		
015F 0701.D	202-S058	103 ppmv	185 mg/m ³	
015F 0702.D	202-S058	101 ppmv	181 mg/m ³	
015F 0703.D	202-S058	104 ppmv	187 mg/m ³	
		Average	180 mg/m ³	

VS702- 202-S058

Project Number: C-106, II

Nitrous Oxide

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations			
				%D
001F 0101.D	185-1-12.02	Zero Air		
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv	19.6%
003F 0301.d	Mid CCVS	1250 ICVS/CCVS	1280 ppmv	2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv	2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv	4.0%
005F 0401.D	185-1-12.02	Zero Air		
015F 0701.D	202-S058	0 ppmv	0 mg/m ³	
015F 0702.D	202-S058	0 ppmv	0 mg/m ³	
015F 0703.D	202-S058	0 ppmv	0 mg/m ³	
		Average	0 mg/m ³	

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS702- 202-S058
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	179 ppmv		7.3%
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1145 ppmv		8.4%
003R 0302.D	CCVS Dup	1250 Dup	1164 ppmv		6.9%
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	4714 ppmv		5.7%
005R 0401.D	185-1-12.02	Zero Air			
015R 0701.D	202-S058	0 ppmv	0 mg/m ³		
015R 0702.D	202-S058	0 ppmv	0 mg/m ³		
015R 0703.D	202-S058	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS702- 202-S058
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				
					%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv		0.9%
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv		1.2%
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv		5.2%
012F 0301.D	5-1-12.02	Zero Air			
014F 0301.D	202-S058	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

VS702- 204-S079
Hydrogen

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 3\590408
 Instrument Method: 3\590331.MTH
 Data Acquired on: 4/8/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	176 ppmv	5.4%	
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1228 ppmv	1.7%	
003R 0302.D	CCVS Dup	1250 Dup	1247 ppmv	0.2%	
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	5048 ppmv	1.0%	
005R 0401.D	185-1-12.02	Zero Air			
016R 0701.D	204-S079	5 ppmv	0.4 mg/m ³		
016R 0702.D	204-S079	10 ppmv	0.8 mg/m ³		
016R 0703.D	204-S079	9 ppmv	0.8 mg/m ³		
		Average	0.7 mg/m ³		

VS702- 204-S079
Carbon Dioxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	167 ppmv		0.2%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1283 ppmv		2.6%
003F 0302.D	CCVS Dup	1250 Dup	1261 ppmv		0.9%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5240 ppmv		4.8%
005F 0401.D	185-1-12.02	Zero Air			
016F 0101.D	204-S079	103 ppmv	185 mg/m ³		
016F 0102.D	204-S079	101 ppmv	181 mg/m ³		
016F 0103.D	204-S079	104 ppmv	187 mg/m ³		
		Average	180 mg/m ³		

VS702- 204-S079
Nitrous Oxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1/590407
 Instrument Method: 1/590331.mth
 Data Acquired on: 4/7/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001F 0101.D	185-1-12.02	Zero Air			
002F 0201.D	Low CCVS	167 ICVS/CCVS	200 ppmv		19.6%
003F 0301.D	Mid CCVS	1250 ICVS/CCVS	1280 ppmv		2.4%
003F 0302.D	CCVS Dup	1250 Dup	1285 ppmv		2.8%
004F 0401.D	Hi CCVS	5000 ICVS/CCVS	5199 ppmv		4.0%
005F 0401.D	185-1-12.02	Zero Air			
016F 0101.D	204-S079	0 ppmv	0 mg/m ³		
016F 0102.D	204-S079	0 ppmv	0 mg/m ³		
016F 0103.D	204-S079	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS702- 204-S079
Methane

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
Data File: 3\590408
Instrument Method: 3\590331.MTH
Data Acquired on: 4/8/99
Analyst: L.A. Pingel
Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
001R 0102.D	185-1-12.02	Zero Air			
002R 0201.D	Low CCVS	167 ICVS/CCVS	179 ppmv		7.3%
003R 0301.D	Mid CCVS	1250 ICVS/CCVS	1145 ppmv		8.4%
003R 0302.D	CCVS Dup	1250 Dup	1164 ppmv		6.9%
004R 0401.D	Hi CCVS	5000 ICVS/CCVS	4714 ppmv		5.7%
005R 0401.D	185-1-12.02	Zero Air			
016R 0701.D	204-S079	0 ppmv	0 mg/m ³		
016R 0702.D	204-S079	0 ppmv	0 mg/m ³		
016R 0703.D	204-S079	0 ppmv	0 mg/m ³		
Average			0 mg/m ³		

0 is used as a mathematical place holder when no analyte is detected above the instrument detection limit.

VS702- 204-S079
Carbon Monoxide

Project Number: C-106, II

Instrument #5. Permanent Gas GC, located in Analysis Trailer #2
 Data File: 1\590415
 Instrument Method: 1\590414
 Data Acquired on: 4/15/99
 Analyst: L.A. Pingel
 Laboratory Notebook: HNF-N-125, 1

Run #	Analyzed Concentrations				%D
008F 0101.D	5-1-12.02	Zero Air			
010F 0201.D	CCVS	1250 ICVS/CCVS	1238 ppmv		0.9%
010F 0202.D	CVS Dup	1250 ICVS/CCVS	1265 ppmv		1.2%
011F 0301.D	Hi CCVS	5000 ICVS/CCVS	4740 ppmv		5.2%
012F 0301.D	5-1-12.02	Zero Air			
018F 0301.D	204-S079	0 ppmv	0 mg/m ³		
		Average	0 mg/m ³		

2.5.4 Supporting Data

This section contains chromatograms and quantitation reports for all analyses including waste tank samples, calibration verifications, blanks, and initial calibration data. This section is organized by analysis.

 External Standard Report

Data File Name	: C:\HPCHEM\3\DATA\590408\005R0401.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 5
Instrument	: HYDROGEN	Injection Number	: 1
Sample Name	: 185-1-12.02	Sequence Line	: 4
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 09:53 AM	Analysis Method	: 590331.MTH
Report Created on:	11 May 99 11:19 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\005R0401.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

 External Standard Report

Data File Name	: C:\HPCHEM\3\DATA\590408\002R0201.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 2
Instrument	: HYDROGEN	Injection Number	: 1
Sample Name	: 200 ppm std	Sequence Line	: 2
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 09:14 AM	Analysis Method	: 590331.MTH
Report Created on:	: 11 May 99 11:20 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\002R0201.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.825	1912	BV	0.111	1	176.049	hydrogen
7.535	873	BBA	0.149	1	179.155	methane

External Standard Report

```

=====
Data File Name       : C:\HPCHEM\3\DATA\590408\003R0302.D
Operator            : L.A. Pingel
Instrument           : HYDROGEN
Sample Name         : 1200 ppm std
Run Time Bar Code   :
Acquired on         : 08 Apr 99 09:35 AM
Report Created on   : 11 May 99 11:20 AM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier          : 1

Page Number         : 1
Vial Number         : 3
Injection Number    : 2
Sequence Line       : 3
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 2 in C:\HPCHEM\3\DATA\590408\003R0302.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.817	11738	BV	0.114	1	1247.087	hydrogen
7.518	5189	BBA	0.153	1	1163.999	methane

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\003R0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 3
Instrument	: HYDROGEN	Injection Number	: 1
Sample Name	: 1200 ppm std	Sequence Line	: 3
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 09:23 AM	Analysis Method	: 590331.MTH
Report Created on:	: 11 May 99 11:19 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\003R0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.823	11564	BV	0.114	1	1228.167	hydrogen
7.529	5106	BBA	0.153	1	1145.134	methane

=====

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590408\004R0401.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : 5000 ppm std
Run Time Bar Code  :
Acquired on        : 08 Apr 99 09:44 AM
Report Created on   : 11 May 99 11:18 AM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier         : 1
Page Number        : 1
Vial Number        : 4
Injection Number    : 1
Sequence Line      : 4
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 2 in C:\HPCHEM\3\DATA\590408\004R0401.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.820	46614	BBA	0.113	1	5048.441	hydrogen
7.502	20745	BBA	0.147	1	4713.519	methane

 External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590408\019R0201.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : VSAMB-206-S046
Run Time Bar Code  :
Acquired on        : 08 Apr 99 02:01 PM
Report Created on  : 08 Apr 99 02:09 PM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier         : 1
Page Number        : 1
Vial Number        : 19
Injection Number    : 1
Sequence Line      : 2
Instrument Method   : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Fig. 2 in C:\HPCHEM\3\DATA\590408\019R0201.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.756	83	BBA	0.094	1	-23.275	hydrogen	
7.650	* not found *					1	methane

not all calibrated peaks were found

External Standard Report

Data File Name : C:\HPCHEM\3\DATA\590408\019R0202.D		Page Number : 1
Operator : L.A. Pingel		Vial Number : 19
Instrument : HYDROGEN		Injection Number : 2
Sample Name : VSAMB-206-S046		Sequence Line : 2
Run Time Bar Code:		Instrument Method: 590331.MTH
Acquired on : 08 Apr 99 02:09 PM		Analysis Method : 590331.MTH
Report Created on: 08 Apr 99 02:18 PM		Sample Amount : 0
Last Recalib on : 16 MAR 99 12:41 PM		ISTD Amount :
Multiplier : 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\019R0202.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.763	94	BBA	0.122	1	-22.025	hydrogen
7.650	* not found *					methane

Not all calibrated peaks were found

=====

External Standard Report

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Data File Name	: C:\HPCHEM\3\DATA\590408\019R0203.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 19
Instrument	: HYDROGEN	Injection Number	: 3
Sample Name	: VSAMB-206-S046	Sequence Line	: 2
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 02:18 PM	Analysis Method	: 590331.MTH
Report Created on:	: 08 Apr 99 02:26 PM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\019R0203.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.753	53	BV	0.091	1	-26.557	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

=====

External Standard Report

Data File Name : C:\HPCHEM\3\DATA\590408\016R0701.D	Page Number : 1
Operator : L.A. Pingel	Vial Number : 16
Instrument : HYDROGEN	Injection Number : 1
Sample Name : VS702-204-S079	Sequence Line : 7
Run Time Bar Code:	Instrument Method: 590331.MTH
Acquired on : 08 Apr 99 01:10 PM	Analysis Method : 590331.MTH
Report Created on: 08 Apr 99 01:18 PM	Sample Amount : 0
Last Recalib on : 16 MAR 99 12:41 PM	ISTD Amount :
Multiplier : 1	

Sig. 2 in C:\HPCHEM\3\DATA\590408\016R0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.789	344	BV	0.124	1	5.176	hydrogen
7.650	* not found *					
				1		methane

Not all calibrated peaks were found

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\016R0702.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 16
Instrument	: HYDROGEN	Injection Number	: 2
Sample Name	: VS702-204-S079	Sequence Line	: 7
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 01:18 PM	Analysis Method	: 590331.MTH
Report Created on:	: 08 Apr 99 01:27 PM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\016R0702.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.784	390	BBA	0.099	1	10.257	hydrogen
7.650	* not found *					
				1		methane

Not all calibrated peaks were found

=====

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590408\016R0703.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : VS702-204-S079
Run Time Bar Code  :
Acquired on        : 08 Apr 99 01:27 PM
Report Created on  : 08 Apr 99 01:35 PM
Last Recalib on   : 16 MAR 99 12:41 PM
Multiplier         : 1
Page Number        : 1
Vial Number        : 16
Injection Number   : 3
Sequence Line      : 7
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 2 in C:\HPCHEM\3\DATA\590408\016R0703.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.789	382	BV	0.099	1	9.342	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

External Standard Report

Data File Name : C:\HPCHEM\3\DATA\590408\015R0701.D	Page Number : 1
Operator : L.A. Pingel	Vial Number : 15
Instrument : HYDROGEN	Injection Number : 1
Sample Name : VS702-202-S058	Sequence Line : 7
Run Time Bar Code:	Instrument Method: 590331.MTH
Acquired on : 08 Apr 99 12:44 PM	Analysis Method : 590331.MTH
Report Created on: 08 Apr 99 12:52 PM	Sample Amount : 0
Last Recalib on : 16 MAR 99 12:41 PM	ISTD Amount :
Multiplier : 1	

Fig. 2 in C:\HPCHEM\3\DATA\590408\015R0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.763	359	BBA	0.121	1	6.871	hydrogen
7.650	* not found *					

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590408\015R0702.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : VS702-202-S058
Run Time Bar Code  :
Acquired on        : 08 Apr 99 12:53 PM
Report Created on   : 08 Apr 99 01:01 PM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier         : 1

Page Number        : 1
Vial Number        : 15
Injection Number    : 2
Sequence Line      : 7
Instrument Method   : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 2 in C:\HPCHEM\3\DATA\590408\015R0702.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.773	329	BBA	0.123	1	3.580	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590408\015R0703.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : VS702-202-S058
Run Time Bar Code  :
Acquired on        : 08 Apr 99 01:01 PM
Report Created on   : 08 Apr 99 01:09 PM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier         : 1
Page Number        : 1
Vial Number        : 15
Injection Number    : 3
Sequence Line      : 7
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 2 in C:\HPCHEM\3\DATA\590408\015R0703.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.785	259	BBA	0.104	1	-4.086	hydrogen
7.650	* not found *					

Not all calibrated peaks were found

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\014R0701.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 14
Instrument	: HYDROGEN	Injection Number	: 1
Sample Name	: VSAMB-212-S098	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 12:19 PM	Analysis Method	: 590331.MTH
Report Created on:	08 Apr 99 12:27 PM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\014R0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

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External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\014R0702.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 14
Instrument	: HYDROGEN	Injection Number	: 2
Sample Name	: VSAMB-212-S098	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 12:27 PM	Analysis Method	: 590331.MTH
Report Created on:	08 Apr 99 12:35 PM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\014R0702.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\014R0703.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 14
Instrument	: HYDROGEN	Injection Number	: 3
Sample Name	: VSAMB-212-S098	Sequence Line	: 7
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 12:36 PM	Analysis Method	: 590331.MTH
Report Created on:	: 08 Apr 99 12:44 PM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\014R0703.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

=====

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590408\013R0701.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : VSAMB-207-S065
Run Time Bar Code  :
Acquired on        : 08 Apr 99  11:53 AM
Report Created on   : 08 Apr 99  12:01 PM
Last Recalib on    : 16 MAR 99  12:41 PM
Multiplier         : 1
Page Number        : 1
Vial Number        : 13
Injection Number    : 1
Sequence Line      : 7
Instrument Method   : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 2 in C:\HPCHEM\3\DATA\590408\013R0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\013R0702.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 13
Instrument	: HYDROGEN	Injection Number	: 2
Sample Name	: VSAMB-207-S065	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 12:02 PM	Analysis Method	: 590331.MTH
Report Created on:	08 Apr 99 12:10 PM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Fig. 2 in C:\HPCHEM\3\DATA\590408\013R0702.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

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External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\013R0703.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 13
Instrument	: HYDROGEN	Injection Number	: 3
Sample Name	: VSAMB-207-S065	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 12:10 PM	Analysis Method	: 590331.MTH
Report Created on:	08 Apr 99 12:18 PM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\013R0703.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\012R0701.D		
Operator	: L.A. Pingel	Page Number	: 1
Instrument	: HYDROGEN	Vial Number	: 12
Sample Name	: VSAMB-211-S067	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 08 Apr 99 11:27 AM	Instrument Method:	590331.MTH
Report Created on:	08 Apr 99 11:36 AM	Analysis Method	: 590331.MTH
Last Recalib on	: 16 MAR 99 12:41 PM	Sample Amount	: 0
Multiplier	: 1	ISTD Amount	:

Sig. 2 in C:\HPCHEM\3\DATA\590408\012R0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.751	79	BV	0.071	1	-23.732	hydrogen
7.662	1	BBA	0.543	1	-19.690	methane

 External Standard Report

Data File Name	: C:\HPCHEM\3\DATA\590408\012R0702.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 12
Instrument	: HYDROGEN	Injection Number	: 2
Sample Name	: VSAMB-211-S067	Sequence Line	: 7
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 11:36 AM	Analysis Method	: 590331.MTH
Report Created on:	: 08 Apr 99 11:44 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\012R0702.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.602	66 BV	0.079	1	-4.813		methane

Not all calibrated peaks were found

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External Standard Report

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Data File Name	: C:\HPCHEM\3\DATA\590408\012R0703.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 12
Instrument	: HYDROGEN	Injection Number	: 3
Sample Name	: VSAMB-211-S067	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 11:44 AM	Analysis Method	: 590331.MTH
Report Created on:	08 Apr 99 11:53 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\012R0703.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

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External Standard Report

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Data File Name	: C:\HPCHEM\3\DATA\590408\010R0501.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 10
Instrument	: HYDROGEN	Injection Number	: 1
Sample Name	: VSAMB-205-S044	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 10:53 AM	Analysis Method	: 590331.MTH
Report Created on:	: 08 Apr 99 11:01 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\010R0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

=====

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External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\010R0502.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 10
Instrument	: HYDROGEN	Injection Number	: 2
Sample Name	: VSAMB-205-S044	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 11:02 AM	Analysis Method	: 590331.MTH
Report Created on:	: 08 Apr 99 11:10 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\010R0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

=====

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External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\010R0503.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 10
Instrument	: HYDROGEN	Injection Number	: 3
Sample Name	: VSAMB-205-S044	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 11:10 AM	Analysis Method	: 590331.MTH
Report Created on:	08 Apr 99 11:18 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\010R0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

=====

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External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\009R0501.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 9
Instrument	: HYDROGEN	Injection Number	: 1
Sample Name	: VS006-202-S011	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 10:27 AM	Analysis Method	: 590331.MTH
Report Created on:	: 08 Apr 99 10:36 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Fig. 2 in C:\HPCHEM\3\DATA\590408\009R0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.772	350	BBA	0.150	1	5.811	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

=====

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External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\009R0502.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 9
Instrument	: HYDROGEN	Injection Number	: 2
Sample Name	: VS006-202-S011	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 10:36 AM	Analysis Method	: 590331.MTH
Report Created on:	08 Apr 99 10:44 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\009R0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.770	226	BV	0.142	1	-7.674	hydrogen
7.650	* not found *					
				1		methane

Not all calibrated peaks were found

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External Standard Report

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```

Data File Name      : C:\HPCHEM\3\DATA\590408\009R0503.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : VS006-202-S011
Run Time Bar Code  :
Acquired on        : 08 Apr 99 10:44 AM
Report Created on   : 08 Apr 99 10:53 AM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier         : 1
Page Number        : 1
Vial Number        : 9
Injection Number    : 3
Sequence Line      : 5
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Fig. 2 in C:\HPCHEM\3\DATA\590408\009R0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.792	60	BV	0.075	1	-25.716	hydrogen	
7.650	* not found *					1	methane

Not all calibrated peaks were found

=====

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External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\008R0501.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 8
Instrument	: HYDROGEN	Injection Number	: 1
Sample Name	: VSAMB-201-S017	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 08 Apr 99 10:02 AM	Analysis Method	: 590331.MTH
Report Created on:	: 08 Apr 99 10:10 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\008R0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\008R0502.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 8
Instrument	: HYDROGEN	Injection Number	: 2
Sample Name	: VSAMB-201-S017	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 10:10 AM	Analysis Method	: 590331.MTH
Report Created on:	08 Apr 99 10:18 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\008R0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.650	* not found *			1		methane

Not all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590408\008R0503.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 8
Instrument	: HYDROGEN	Injection Number	: 3
Sample Name	: VSAMB-201-S017	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 08 Apr 99 10:19 AM	Analysis Method	: 590331.MTH
Report Created on:	08 Apr 99 10:27 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590408\008R0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.750	* not found *			1		hydrogen
7.736	87 BV		0.658	1	-0.128	methane

Not all calibrated peaks were found

=====

11 May 99 11:27 AM

page 1

Method: C:\HPCHEM\3\METHODS\590318.MTH

Integration Events

Events:	Value:	Time:
Initial Area Reject	1	INITIAL
Initial Peak Width	0.300	INITIAL
Shoulder Detection	OFF	INITIAL
Initial Threshold	-4	INITIAL
Integrator OFF		0.010
Integrator ON		5.500
Integrator OFF		6.000
Integrator ON		7.400

Calibration Table

Pk#	RT	Lvl	ppm	Amt/Area	Ref Istd I#	Name
1	5.750	1	50.0	8.6132e-002	1	hydrogen
		2	100.0	9.1688e-002		
		3	250.0	9.8296e-002		
		4	500.0	0.10628		
		5	1000.0	0.10517		
		6	2500.0	0.10385		
		7	5000.0	0.10929		
		8	1250.0	0.10566		
2	7.650	1	50.0	0.14557	1	methane
		2	100.0	0.23594		
		3	250.0	0.21063		
		4	500.0	0.24025		
		5	1000.0	0.2211		
		6	2500.0	0.22139		
		7	5000.0	0.22869		
		8	1250.0	0.22081		

Calibration Settings

Title:
Hydrogen/Methane

Reference window:	5.000 %
Non-reference window:	5.000 %
Units of amount:	ppm
Multiplier:	1.0
RF uncal peaks:	0.0
Sample Amount:	0.0

Sample ISTD Information

No Sample ISTD Amounts

Multilevel Information

Fit: Linear
Origin: Ignore

hydrogen

methane

External Standard Report

```

Data File Name   : C:\HPCHEM\3\DATA\590319\001R0101.D
Operator        : L.A. Pingel
Instrument       : HYDROGEN
Sample Name     : 185-1-12.02
Run Time Bar Code :
Acquired on    : 19 Mar 99 08:52 AM
Report Created on : 11 May 99 11:30 AM
Last Recalib on : 16 MAR 99 12:41 PM
Multiplier     : 1
Page Number    : 1
Vial Number    : 1
Injection Number : 1
Sequence Line  : 1
Instrument Method : 590318.MTH
Analysis Method  : 590318.MTH
Sample Amount   : 0
ISTD Amount     :
  
```

Sig. 2 in C:\HPCHEM\3\DATA\590319\001R0101.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.820	59	BBA	0.101	1	-25.825	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

External Standard Report

Data File Name	: C:\HPCHEM\3\DATA\590319\002R0101.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 2
Instrument	: HYDROGEN	Injection Number	: 1
Sample Name	: 185-1-16.01	Sequence Line	: 1
Run Time Bar Code:		Instrument Method	: 590318.MTH
Acquired on	: 19 Mar 99 09:01 AM	Analysis Method	: 590318.MTH
Report Created on:	: 11 May 99 11:29 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 2 in C:\HPCHEM\3\DATA\590319\002R0101.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.814	1637	BBA	0.125	1	146.121	hydrogen
7.668	705	BV	0.135	1	140.792	methane

External Standard Report

```

Data File Name   : C:\HPCHEM\3\DATA\590319\003R0201.D
Operator        : L.A. Pingel
Instrument       : HYDROGEN
Sample Name     : 185-1-16.02
Run Time Bar Code:
Acquired on    : 19 Mar 99 09:10 AM
Report Created on: 11 May 99 11:30 AM
Last Recalib on : 16 MAR 99 12:41 PM
Multiplier     : 1
Page Number    : 1
Vial Number    : 3
Injection Number : 1
Sequence Line  : 2
Instrument Method: 590318.MTH
Analysis Method : 590318.MTH
Sample Amount   : 0
ISTD Amount     :
  
```

Fig. 2 in C:\HPCHEM\3\DATA\590319\003R0201.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.816	11984	BBA	0.122	1	1273.953	hydrogen
7.665	5571	BBA	0.135	1	1251.209	methane

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590319\003R0202.D
Operator            : L.A. Pingel
Instrument           : HYDROGEN
Sample Name         : 185-1-16.02
Run Time Bar Code   :
Acquired on         : 19 Mar 99 09:19 AM
Report Created on   : 11 May 99 11:30 AM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier          : 1
Page Number         : 1
Vial Number         : 3
Injection Number    : 2
Sequence Line       : 2
Instrument Method    : 590318.MTH
Analysis Method     : 590318.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Fig. 2 in C:\HPCHEM\3\DATA\590319\003R0202.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.806	12041	BBA	0.121	1	1280.097	hydrogen
7.652	5622	BBA	0.137	1	1262.761	methane

External Standard Report

```

Data File Name   : C:\HPCHEM\3\DATA\590319\004R0301.D
Operator        : L.A. Pingel
Instrument       : HYDROGEN
Sample Name     : 185-1-16.03
Run Time Bar Code:
Acquired on    : 19 Mar 99 09:28 AM
Report Created on: 11 May 99 11:31 AM
Last Recalib on : 16 MAR 99 12:41 PM
Multiplier    : 1

Page Number      : 1
Vial Number     : 4
Injection Number : 1
Sequence Line   : 3
Instrument Method: 590318.MTH
Analysis Method : 590318.MTH
Sample Amount   : 0
ISTD Amount     :
  
```

Sig. 2 in C:\HPCHEM\3\DATA\590319\004R0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.813	47543	BBA	0.122	1	5149.716	hydrogen
7.643	22264	BBA	0.134	1	5060.017	methane

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590319\005R0402.D
Operator            : L.A. Pingel
Instrument           : HYDROGEN
Sample Name         : 185-1-12.02
Run Time Bar Code   :
Acquired on         : 19 Mar 99  10:09 AM
Report Created on   : 11 May 99  11:31 AM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier          : 1
Page Number         : 1
Vial Number         : 5
Injection Number    : 2
Sequence Line       : 4
Instrument Method    : 590318.MTH
Analysis Method     : 590318.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 2 in C:\HPCHEM\3\DATA\590319\005R0402.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.726	15	BBA	0.056	1	-30.642	hydrogen	
7.650	* not found *					1	methane

Not all calibrated peaks were found

External Standard Report

```

=====
Data File Name      : C:\HPCHEM\3\DATA\590319\009R0501.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : 125-1-15.04 VS006 212 S028
Run Time Bar Code  :
Acquired on       : 19 Mar 99 11:41 AM
Report Created on : 19 Mar 99 11:49 AM
Last Recalib on  : 16 MAR 99 12:41 PM
Multiplier        : 1
Sample Info       : VS006-212-S028

Page Number       : 1
Vial Number      : 9
Injection Number  : 1
Sequence Line    : 5
Instrument Method : 590318.MTH
Analysis Method  : 590318.MTH
Sample Amount    : 0
ISTD Amount      :
  
```

Fig. 2 in C:\HPCHEM\3\DATA\590319\009R0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.773	503	BBA	0.116	1	22.507	hydrogen	
7.650	* not found *					1	methane

Not all calibrated peaks were found

=====

External Standard Report

=====

File Name	: C:\HPCHEM\3\DATA\590319\009R0502.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 9
Instrument	: HYDROGEN	Injection Number	: 2
Sample Name	: 125-1-15.04	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590318.MTH
Acquired on	: 19 Mar 99 11:49 AM	Analysis Method	: 590318.MTH
Report Created on	: 19 Mar 99 11:57 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: VS006-212-S028		

Fig. 2 in C:\HPCHEM\3\DATA\590319\009R0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.774	549	BV	0.119	1	27.492	hydrogen
7.650	* not found *					

not all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590319\009R0503.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 9
Instrument	: HYDROGEN	Injection Number	: 3
Sample Name	: 125-1-15.04	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	590318.MTH
Acquired on	: 19 Mar 99 11:58 AM	Analysis Method	: 590318.MTH
Report Created on:	19 Mar 99 12:06 PM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: VS006-212-S028		

Fig. 2 in C:\HPCHEM\3\DATA\590319\009R0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.771	422	BBA	0.106	1	13.695	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590319\008R0501.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 8
Instrument	: HYDROGEN	Injection Number	: 1
Sample Name	: 125-1-15.03 VS006-222-S039	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590318.MTH
Acquired on	: 19 Mar 99 11:15 AM	Analysis Method	: 590318.MTH
Report Created on:	: 19 Mar 99 11:23 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: VS006-222-S039		

Sig. 2 in C:\HPCHEM\3\DATA\590319\008R0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.781	809	BBA	0.127	1	55.901	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590319\008R0502.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : 125-1-15.03
Run Time Bar Code  :
Acquired on        : 19 Mar 99  11:23 AM
Report Created on   : 19 Mar 99  11:31 AM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier         : 1
Sample Info        : VS006-222-S039

Page Number        : 1
Vial Number        : 8
Injection Number    : 2
Sequence Line      : 5
Instrument Method   : 590318.MTH
Analysis Method     : 590318.MTH
Sample Amount       : 0
ISTD Amount         :

```

Sig. 2 in C:\HPCHEM\3\DATA\590319\008R0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.776	887	BBA	0.129	1	64.415	hydrogen
7.650	* not found *					

Not all calibrated peaks were found

 External Standard Report

Data File Name	: C:\HPCHEM\3\DATA\590319\008R0503.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 8
Instrument	: HYDROGEN	Injection Number	: 3
Sample Name	: 125-1-15.03	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590318.MTH
Acquired on	: 19 Mar 99 11:32 AM	Analysis Method	: 590318.MTH
Report Created on:	19 Mar 99 11:40 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: VS006-222-S039		

Sig. 2 in C:\HPCHEM\3\DATA\590319\008R0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.780	789	BV	0.121	1	53.665	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590319\007R0501.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : 125-1-15.02 VS006-232-S056
Run Time Bar Code  :
Acquired on        : 19 Mar 99 10:44 AM
Report Created on  : 19 Mar 99 10:52 AM
Last Recalib on   : 16 MAR 99 12:41 PM
Multiplier         : 1
Sample Info        : VS006-232-S056

Page Number        : 1
Vial Number        : 7
Injection Number    : 1
Sequence Line      : 5
Instrument Method   : 590318.MTH
Analysis Method     : 590318.MTH
Sample Amount       : 0
ISTD Amount         :

```

Sig. 2 in C:\HPCHEM\3\DATA\590319\007R0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.778	720	BBA	0.114	1	46.154	hydrogen
7.650	* not found *					

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590319\007R0502.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : 125-1-15.02
Run Time Bar Code  :
Acquired on        : 19 Mar 99  10:52 AM
Report Created on   : 19 Mar 99  11:01 AM
Last Recalib on    : 16 MAR 99 12:41 PM
Multiplier         : 1
Sample Info        : VS006-232-S056

Page Number        : 1
Vial Number        : 7
Injection Number    : 2
Sequence Line      : 5
Instrument Method   : 590318.MTH
Analysis Method     : 590318.MTH
Sample Amount       : 0
ISTD Amount         :

```

Sig. 2 in C:\HPCHEM\3\DATA\590319\007R0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.777	858	BBA	0.131	1	61.204	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590319\007R0503.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : 125-1-15.02
Run Time Bar Code  :
Acquired on        : 19 Mar 99  11:05 AM
Report Created on  : 19 Mar 99  11:14 AM
Last Recalib on   : 16 MAR 99 12:41 PM
Multiplier         : 1
Sample Info        : VS006-232-S056

Page Number        : 1
Vial Number        : 7
Injection Number   : 3
Sequence Line      : 5
Instrument Method   : 590318.MTH
Analysis Method    : 590318.MTH
Sample Amount      : 0
ISTD Amount        :

```

Sig. 2 in C:\HPCHEM\3\DATA\590319\007R0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.781	770	BBA	0.122	1	51.578	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590319\006R0501.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : 125-1-15.01 V5006-237-S071
Run Time Bar Code  :
Acquired on        : 19 Mar 99 10:18 AM
Report Created on  : 19 Mar 99 10:26 AM
Last Recalib on   : 16 MAR 99 12:41 PM
Multiplier         : 1
Sample Info        : vs006-237-S071

Page Number        : 1
Vial Number        : 6
Injection Number   : 1
Sequence Line      : 5
Instrument Method   : 590318.MTH
Analysis Method    : 590318.MTH
Sample Amount      : 0
ISTD Amount        :

```

Sig. 2 in C:\HPCHEM\3\DATA\590319\006R0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.788	774	BBA	0.116	1	52.028	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\3\DATA\590319\006R0502.D
Operator           : L.A. Pingel
Instrument          : HYDROGEN
Sample Name        : 125-1-15.01
Run Time Bar Code  :
Acquired on        : 19 Mar 99  10:26 AM
Report Created on  : 19 Mar 99  10:35 AM
Last Recalib on   : 16 MAR 99 12:41 PM
Multiplier         : 1
Sample Info        : vs006-237-S071

Page Number        : 1
Vial Number        : 6
Injection Number   : 2
Sequence Line     : 5
Instrument Method  : 590318.MTH
Analysis Method    : 590318.MTH
Sample Amount      : 0
ISTD Amount        :

```

Sig. 2 in C:\HPCHEM\3\DATA\590319\006R0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.785	763	BBA	0.119	1	50.901	hydrogen	
7.650	* not found *					1	methane

Not all calibrated peaks were found

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\3\DATA\590319\006R0503.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 6
Instrument	: HYDROGEN	Injection Number	: 3
Sample Name	: 125-1-15.01	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	590318.MTH
Acquired on	: 19 Mar 99 10:35 AM	Analysis Method	: 590318.MTH
Report Created on:	19 Mar 99 10:43 AM	Sample Amount	: 0
Last Recalib on	: 16 MAR 99 12:41 PM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: vs006-237-S071		

Sig. 2 in C:\HPCHEM\3\DATA\590319\006R0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.780	769	BBA	0.116	1	51.485	hydrogen	
7.650	* not found *						methane

Not all calibrated peaks were found

=====

11 May 99 11:14 AM

page 1

Method: C:\HPCHEM\3\METHODS\590331.MTH

Integration Events

Events:	Value:	Time:
Initial Area Reject	1	INITIAL
Initial Peak Width	0.300	INITIAL
Shoulder Detection	OFF	INITIAL
Initial Threshold	-4	INITIAL
Integrator OFF		0.010
Integrator ON		5.500
Integrator OFF		6.000
Integrator ON		7.400

Calibration Table

Pk#	RT	Lvl	ppm	Amt/Area	Ref Istd I#	Name
1	5.750	1	50.0	8.6132e-002	1	hydrogen
		2	100.0	9.1688e-002		
		3	250.0	9.8296e-002		
		4	500.0	0.10628		
		5	1000.0	0.10517		
		6	2500.0	0.10385		
		7	5000.0	0.10929		
		8	1250.0	0.10566		
2	7.650	1	50.0	0.14557	1	methane
		2	100.0	0.23594		
		3	250.0	0.21063		
		4	500.0	0.24025		
		5	1000.0	0.2211		
		6	2500.0	0.22139		
		7	5000.0	0.22869		
		8	1250.0	0.22081		

Calibration Settings

Title:
Hydrogen/Methane

Reference window: 5.000 %
 Non-reference window: 5.000 %
 Units of amount: ppm
 Multiplier: 1.0
 F uncal peaks: 0.0
 Sample Amount: 0.0

Sample ISTD Information

No Sample ISTD Amounts

Multilevel Information

Fit: Linear
 Origin: Ignore

hydrogen

methane

External Standard Report

```

Data File Name       : C:\HPCHEM\1\DATA\590331\013F0101.D
Operator            : L.A. Pingel
Instrument          : PERMANENT
Sample Name         : 185-1-12.02
Run Time Bar Code   :
Acquired on        : 31 Mar 99  10:07 AM
Report Created on   : 11 May 99  10:47 AM
Last Recalib on    : 31 MAR 99  08:42 AM
Multiplier         : 1

Page Number         : 1
Vial Number        : 13
Injection Number    : 1
Sequence Line      : 1
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590331\013F0101.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.602	468	PB	0.046	1	-20.651	Carbon Dioxide	
6.180	* not found *					1	Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

```

Data File Name       : C:\HPCHEM\1\DATA\590331\008F0701.D
Operator              : L.A. Pingel
Instrument             : PERMANENT
Sample Name           : 185-1-15.03
Run Time Bar Code    :
Acquired on           : 31 Mar 99 08:24 AM
Report Created on     : 11 May 99 10:49 AM
Last Recalib on      : 31 MAR 99 08:42 AM
Multiplier            : 1
Page Number           : 1
Vial Number           : 8
Injection Number      : 1
Sequence Line         : 7
Instrument Method      : 590330.MTH
Analysis Method       : 590331.MTH
Sample Amount         : 0
ISTD Amount           :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590331\008F0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.645	73434	PV	0.137	1	2483.798	Carbon Dioxide
6.180	75456	PB	0.141	1	2484.404	Nitrous Oxide

External Standard Report

```

Data File Name   : C:\HPCHEM\1\DATA\590331\009F0101.D
Operator        : L.A. Pingel
Instrument       : PERMANENT
Sample Name     : 185-1-12.02 LAP 5/11/99
Run Time Bar Code : 2500 ppm Std
Acquired on    : 31 Mar 99 08:47 AM
Report Created on : 11 May 99 12:37 PM
Last Recalib on : 31 MAR 99 08:42 AM
Multiplier     : 1
Page Number    : 1
Vial Number    : 9
Injection Number : 1
Sequence Line  : 1
Instrument Method : 590331.MTH
Analysis Method  : 590331.MTH
Sample Amount   : 0
ISTD Amount     :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590331\009F0101.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.651	73228	BV	0.138	1	2476.760	Carbon Dioxide
6.189	75503	PV	0.141	1	2485.949	Nitrous Oxide

=====

External Standard Report

=====

Data File Name : C:\HPCHEM\1\DATA\590331\014F0201.D
 Operator : L.A. Pingel Page Number : 1
 Instrument : PERMANENT Vial Number : 14
 Sample Name : 125-1-15.01 *VS006-237-S071* Injection Number : 1
 Run Time Bar Code: Sequence Line : 2
 Acquired on : 31 Mar 99 10:18 AM Instrument Method: 590331.MTH
 Report Created on: 31 Mar 99 10:28 AM Analysis Method : 590331.MTH
 Last Recalib on : 31 MAR 99 08:42 AM Sample Amount : 0
 Multiplier : 1 ISTD Amount :
 Sample Info : Set #7
 VS006-237-S071
 296-C-006 Stack

Sig. 1 in C:\HPCHEM\1\DATA\590331\014F0201.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.621	1646	BV	0.096	1	19.756	Carbon Dioxide
6.195	11796	PV	0.119	1	372.041	Nitrous Oxide

=====

External Standard Report

```

=====
Data File Name      : C:\HPCHEM\1\DATA\590331\014F0202.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : 125-1-15.01 VS006-237-S071
Run Time Bar Code  :
Acquired on       : 31 Mar 99 10:28 AM
Report Created on : 31 Mar 99 10:38 AM
Last Recalib on  : 31 MAR 99 08:42 AM
Multiplier        : 1
Sample Info       : Set #7
                   : VS006-237-S071
                   : 296-C-006 Stack
Page Number       : 1
Vial Number       : 14
Injection Number  : 2
Sequence Line     : 2
Instrument Method : 590331.MTH
Analysis Method   : 590331.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590331\014F0202.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.630	1737	PV	0.137	1	22.906	Carbon Dioxide
6.177	11954	BV	0.143	1	377.262	Nitrous Oxide

External Standard Report

```

=====
Data File Name       : C:\HPCHEM\1\DATA\590331\014F0203.D
Operator            : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : 125-1-15.01
Run Time Bar Code  :
Acquired on       : 31 Mar 99  10:39 AM
Report Created on : 31 Mar 99  10:49 AM
Last Recalib on  : 31 MAR 99 08:42 AM
Multiplier       : 1
Sample Info      : Set #7
                  VS006-237-S071
                  296-C-006 Stack
Page Number       : 1
Vial Number      : 14
Injection Number  : 3
Sequence Line    : 2
Instrument Method : 590331.MTH
Analysis Method  : 590331.MTH
Sample Amount    : 0
ISTD Amount      :
=====

```

Fig. 1 in C:\HPCHEM\1\DATA\590331\014F0203.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.614	1955	BV	0.125	1	30.388	Carbon Dioxide
6.181	12554	PB	0.149	1	397.187	Nitrous Oxide

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590331\015F0201.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : 125-1-15.02
Run Time Bar Code  :
Acquired on       : 31 Mar 99  10:50 AM
Report Created on : 31 Mar 99  11:00 AM
Last Recalib on  : 31 MAR 99 08:42 AM
Multiplier        : 1
Sample Info       : Set #6
                   VS006-232-S056
                   296-C-006 Stack
Page Number       : 1
Vial Number       : 15
Injection Number  : 1
Sequence Line     : 2
Instrument Method : 590331.MTH
Analysis Method   : 590331.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590331\015F0201.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.593	2864	BB	0.098	1	61.588	Carbon Dioxide
6.185	11101	BV	0.141	1	348.985	Nitrous Oxide

External Standard Report

```

=====
Data File Name       : C:\HPCHEM\1\DATA\590331\015F0202.D
Operator            : L.A. Pingel
Instrument           : PERMANENT
Sample Name         : 125-1-15.02
Run Time Bar Code   :
Acquired on         : 31 Mar 99  11:00 AM
Report Created on   : 31 Mar 99  11:10 AM
Last Recalib on    : 31 MAR 99  08:42 AM
Multiplier          : 1
Sample Info         : Set #6
                     : VS006-232-S056
                     : 296-C-006 Stack
Page Number         : 1
Vial Number         : 15
Injection Number    : 2
Sequence Line       : 2
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
=====

```

Sig. 1 in C:\HPCHEM\1\DATA\590331\015F0202.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.656	1495	BV	0.100	1	14.587	Carbon Dioxide
6.180	11607	BV	0.125	1	365.761	Nitrous Oxide

=====

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\1\DATA\590331\015F0203.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : 125-1-15.02
Run Time Bar Code  :
Acquired on       : 31 Mar 99  11:11 AM
Report Created on  : 31 Mar 99  11:21 AM
Last Recalib on   : 31 MAR 99  08:42 AM
Multiplier        : 1
Sample Info       : Set #6
                   VS006-232-S056
                   296-C-006 Stack
Page Number        : 1
Vial Number        : 15
Injection Number    : 3
Sequence Line      : 2
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590331\015F0203.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.656	1499	BV	0.097	1	14.730	Carbon Dioxide
6.177	11217	BV	0.139	1	352.834	Nitrous Oxide

=====

 External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\001F0101.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : 185-1-12.02
Run Time Bar Code  :
Acquired on        : 07 Apr 99 08:47 AM
Report Created on  : 07 Apr 99 08:56 AM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 1
Injection Number   : 1
Sequence Line      : 1
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\001F0101.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.645	* not found *			1		Carbon Dioxide
6.180	* not found *			1		Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

```

=====
Data File Name      : C:\HPCHEM\1\DATA\590407\002F0201.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : 200 ppm std
Run Time Bar Code  :
Acquired on       : 07 Apr 99 09:06 AM
Report Created on : 07 Apr 99 09:15 AM
Last Recalib on  : 31 MAR 99 08:42 AM
Multiplier        : 1
Page Number       : 1
Vial Number       : 2
Injection Number  : 1
Sequence Line     : 2
Instrument Method : 590331.MTH
Analysis Method   : 590331.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\002F0201.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.638	5926	BV	0.105	1	166.683	Carbon Dioxide
6.185	6602	PV	0.127	1	199.671	Nitrous Oxide

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\1\DATA\590407\003F0301.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : 1200 ppm std
Run Time Bar Code  :
Acquired on       : 07 Apr 99 09:15 AM
Report Created on : 07 Apr 99 09:24 AM
Last Recalib on  : 31 MAR 99 08:42 AM
Multiplier        : 1
Page Number       : 1
Vial Number       : 3
Injection Number  : 1
Sequence Line     : 3
Instrument Method : 590331.MTH
Analysis Method   : 590331.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\003F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.628	38445	BV	0.147	1	1282.842	Carbon Dioxide
6.166	39164	PV	0.148	1	1280.162	Nitrous Oxide

=====

External Standard Report

```

=====
Data File Name       : C:\HPCHEM\1\DATA\590407\003F0302.D
Operator            : L.A. Pingel
Instrument           : PERMANENT
Sample Name          : 1200 ppm std
Run Time Bar Code    :
Acquired on          : 07 Apr 99 09:25 AM
Report Created on    : 07 Apr 99 09:34 AM
Last Recalib on      : 31 MAR 99 08:42 AM
Multiplier           : 1
Page Number          : 1
Vial Number          : 3
Injection Number     : 2
Sequence Line        : 3
Instrument Method     : 590331.MTH
Analysis Method      : 590331.MTH
Sample Amount        : 0
ISTD Amount          :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\003F0302.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.619	37806	BV	0.145	1	1260.904	Carbon Dioxide
6.159	39324	PV	0.146	1	1285.470	Nitrous Oxide

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\004F0401.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : 5000 ppm std
Run Time Bar Code  :
Acquired on       : 07 Apr 99 09:34 AM
Report Created on : 07 Apr 99 09:43 AM
Last Recalib on  : 31 MAR 99 08:42 AM
Multiplier        : 1
Page Number       : 1
Vial Number       : 4
Injection Number  : 1
Sequence Line     : 4
Instrument Method : 590331.MTH
Analysis Method   : 590331.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\004F0401.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.591	153723	BV	0.141	1	5239.670	Carbon Dioxide
6.123	157265	PV	0.148	1	5198.985	Nitrous Oxide

=====

External Standard Report

=====

```

Data File Name       : C:\HPCHEM\1\DATA\590407\005F0401.D
Operator            : L.A. Pingel
Instrument           : PERMANENT
Sample Name         : 185-1-12.02
Run Time Bar Code   :
Acquired on         : 07 Apr 99 09:57 AM
Report Created on   : 07 Apr 99 10:06 AM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier          : 1
Page Number         : 1
Vial Number         : 5
Injection Number    : 1
Sequence Line       : 4
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\005F0401.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.645	* not found *			1		Carbon Dioxide
6.180	* not found *			1		Nitrous Oxide

Not all calibrated peaks were found

=====

External Standard Report

```

=====
Data File Name       : C:\HPCHEM\1\DATA\590407\006F0501.D
Operator            : L.A. Pingel
Instrument          : PERMANENT
Sample Name         : Set #4 V5006-222-5039
Run Time Bar Code   :
Acquired on         : 07 Apr 99 10:12 AM
Report Created on   : 07 Apr 99 10:21 AM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier          : 1

Page Number         : 1
Vial Number         : 6
Injection Number    : 1
Sequence Line       : 5
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\006F0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.599	1270	BV	0.125	1	6.868	Carbon Dioxide
6.154	10348	PB	0.147	1	323.971	Nitrous Oxide

External Standard Report

```

Data File Name   : C:\HPCHEM\1\DATA\590407\006F0502.D
Operator        : L.A. Pingel
Instrument       : PERMANENT
Sample Name     : Set #4 V5006-222-2039
Run Time Bar Code:
Acquired on    : 07 Apr 99 10:21 AM
Report Created on: 07 Apr 99 10:30 AM
Last Recalib on : 31 MAR 99 08:42 AM
Multiplier     : 1
Page Number    : 1
Vial Number    : 6
Injection Number : 2
Sequence Line  : 5
Instrument Method: 590331.MTH
Analysis Method : 590331.MTH
Sample Amount   : 0
ISTD Amount     :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\006F0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.645	* not found *			1		Carbon Dioxide
6.145	10072	BB	0.127	1	314.819	Nitrous Oxide

Not all calibrated peaks were found

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\1\DATA\590407\006F0503.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : Set #4 V5006-222-5039
Run Time Bar Code  :
Acquired on        : 07 Apr 99 10:31 AM
Report Created on   : 07 Apr 99 10:40 AM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 6
Injection Number    : 3
Sequence Line      : 5
Instrument Method   : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\006F0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.645	* not found *			1		Carbon Dioxide
6.152	9992	PV	0.144	1	312.169	Nitrous Oxide

ot all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590407\007F0501.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 7
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VS006-212-S028	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 07 Apr 99 10:40 AM	Analysis Method	: 590331.MTH
Report Created on:	07 Apr 99 10:49 AM	Sample Amount	: 0
Last Recalib on	: 31 MAR 99 08:42 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SET#2		

Sig. 1 in C:\HPCHEM\1\DATA\590407\007F0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.601	2277	BB	0.143	1	41.431	Carbon Dioxide
6.144	3290	BV	0.127	1	89.773	Nitrous Oxide

=====

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\007F0502.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS006-212-S028
Run Time Bar Code  :
Acquired on       : 07 Apr 99 10:50 AM
Report Created on : 07 Apr 99 10:59 AM
Last Recalib on  : 31 MAR 99 08:42 AM
Multiplier        : 1
Sample Info       : SET#2

Page Number        : 1
Vial Number        : 7
Injection Number   : 2
Sequence Line      : 5
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :

```

Sig. 1 in C:\HPCHEM\1\DATA\590407\007F0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.610	2235	BB	0.111	1	39.994	Carbon Dioxide
6.157	3280	BB	0.111	1	89.464	Nitrous Oxide

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590407\007F0503.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 7
Instrument	: PERMANENT	Injection Number	: 3
Sample Name	: VS006-212-S028	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 07 Apr 99 10:59 AM	Analysis Method	: 590331.MTH
Report Created on:	: 07 Apr 99 11:08 AM	Sample Amount	: 0
Last Recalib on	: 31 MAR 99 08:42 AM	ISTD Amount	:
Multiplier	: 1		
Sample Info	: SET#2		

Sig. 1 in C:\HPCHEM\1\DATA\590407\007F0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.600	2491	PV	0.113	1	48.764	Carbon Dioxide
6.151	3161	BV	0.139	1	85.515	Nitrous Oxide

=====

 External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\008F0501.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-201-S017
Run Time Bar Code  :
Acquired on       : 07 Apr 99 11:15 AM
Report Created on  : 07 Apr 99 11:24 AM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier        : 1

Page Number        : 1
Vial Number        : 8
Injection Number   : 1
Sequence Line      : 5
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\008F0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.616	7144	BV	0.140	1	208.472	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\008F0502.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-201-S017
Run Time Bar Code  :
Acquired on        : 07 Apr 99  11:25 AM
Report Created on   : 07 Apr 99  11:34 AM
Last Recalib on    : 31 MAR 99  08:42 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 8
Injection Number    : 2
Sequence Line      : 5
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\008F0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.604	5769	BB	0.128	1	161.282	Carbon Dioxide
6.180	* not found *					

Not all calibrated peaks were found

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\1\DATA\590407\008F0503.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-201-S017
Run Time Bar Code  :
Acquired on        : 07 Apr 99  11:34 AM
Report Created on  : 07 Apr 99  11:43 AM
Last Recalib on    : 31 MAR 99  08:42 AM
Multiplier         : 1

Page Number        : 1
Vial Number        : 8
Injection Number   : 3
Sequence Line      : 5
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\008F0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.606	5655	BV	0.143	1	157.355	Carbon Dioxide	
6.180	* not found *					1	Nitrous Oxide

Not all calibrated peaks were found

=====

 External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\009F0501.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS006-202-S011
Run Time Bar Code  :
Acquired on        : 07 Apr 99  11:44 AM
Report Created on  : 07 Apr 99  11:53 AM
Last Recalib on    : 31 MAR 99  08:42 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 9
Injection Number    : 1
Sequence Line      : 5
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\009F0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.606	5363	BB	0.122	1	147.341	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\1\DATA\590407\009F0502.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS006-202-S011
Run Time Bar Code  :
Acquired on        : 07 Apr 99 12:11 PM
Report Created on  : 07 Apr 99 12:20 PM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier         : 1

Page Number        : 1
Vial Number        : 9
Injection Number   : 2
Sequence Line      : 5
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\009F0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.602	5286	BV	0.125	1	144.689	Carbon Dioxide	
6.180	* not found *					1	Nitrous Oxide

Not all calibrated peaks were found

=====

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\009F0503.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS006-202-S011
Run Time Bar Code  :
Acquired on        : 07 Apr 99 12:20 PM
Report Created on  : 07 Apr 99 12:29 PM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 9
Injection Number   : 3
Sequence Line      : 5
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\009F0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.603	5150	BV	0.120	1	140.039	Carbon Dioxide
6.180	* not found *					

Not all calibrated peaks were found

External Standard Report

```

=====
Data File Name      : C:\HPCHEM\1\DATA\590407\010F0501.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-205-S044
Run Time Bar Code  :
Acquired on        : 07 Apr 99 12:30 PM
Report Created on  : 07 Apr 99 12:39 PM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier         : 1

Page Number        : 1
Vial Number        : 10
Injection Number   : 1
Sequence Line      : 5
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\010F0501.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.605	5202	BV	0.141	1	141.828	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590407\010F0502.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 10
Instrument	: PERMANENT	Injection Number	: 2
Sample Name	: VSAMB-205-S044	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 590331.MTH
Acquired on	: 07 Apr 99 12:39 PM	Analysis Method	: 590331.MTH
Report Created on:	: 07 Apr 99 12:48 PM	Sample Amount	: 0
Last Recalib on	: 31 MAR 99 08:42 AM	ISTD Amount	:
Multiplier	: 1		

Fig. 1 in C:\HPCHEM\1\DATA\590407\010F0502.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.610	5196	BB	0.120	1	141.621	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

=====

 External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\010F0503.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-205-S044
Run Time Bar Code  :
Acquired on        : 07 Apr 99 12:49 PM
Report Created on  : 07 Apr 99 12:58 PM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier         : 1

Page Number        : 1
Vial Number        : 10
Injection Number   : 3
Sequence Line      : 5
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\010F0503.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.598	5217	BV	0.121	1	142.341	Carbon Dioxide	
6.180	* not found *					1	Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\012F0701.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-211-S067
Run Time Bar Code  :
Acquired on        : 07 Apr 99 01:08 PM
Report Created on  : 07 Apr 99 01:17 PM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 12
Injection Number   : 1
Sequence Line      : 7
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\012F0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.613	5491	BV	0.139	1	151.726	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\012F0702.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-211-S067
Run Time Bar Code  :
Acquired on        : 07 Apr 99 01:17 PM
Report Created on  : 07 Apr 99 01:26 PM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier         : 1

Page Number        : 1
Vial Number        : 12
Injection Number   : 2
Sequence Line      : 7
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\012F0702.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.601	5145	BV	0.121	1	139.856	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\012F0703.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-211-S067
Run Time Bar Code  :
Acquired on       : 07 Apr 99 01:27 PM
Report Created on : 07 Apr 99 01:36 PM
Last Recalib on  : 31 MAR 99 08:42 AM
Multiplier        : 1
Page Number       : 1
Vial Number       : 12
Injection Number  : 3
Sequence Line     : 7
Instrument Method : 590331.MTH
Analysis Method   : 590331.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\012F0703.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.606	4964	BB	0.133	1	133.657	Carbon Dioxide	
6.180	* not found *					1	Nitrous Oxide

Not all calibrated peaks were found

=====

External Standard Report

=====

```

Data File Name   : C:\HPCHEM\1\DATA\590407\013F0701.D
Operator        : L.A. Pingel
Instrument       : PERMANENT
Sample Name     : VSAMB-207-S065
Run Time Bar Code:
Acquired on    : 07 Apr 99 01:36 PM
Report Created on: 07 Apr 99 01:45 PM
Last Recalib on : 31 MAR 99 08:42 AM
Multiplier    : 1
Page Number    : 1
Vial Number    : 13
Injection Number : 1
Sequence Line  : 7
Instrument Method: 590331.MTH
Analysis Method : 590331.MTH
Sample Amount  : 0
ISTD Amount    :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\013F0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.602	5375	BV	0.139	1	147.745	Carbon Dioxide	
6.180	* not found *					1	Nitrous Oxide

Not all calibrated peaks were found

=====

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\1\DATA\590407\013F0702.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-207-S065
Run Time Bar Code  :
Acquired on        : 07 Apr 99 01:45 PM
Report Created on  : 07 Apr 99 01:55 PM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier         : 1

Page Number        : 1
Vial Number        : 13
Injection Number   : 2
Sequence Line      : 7
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\013F0702.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.609	5092	BV	0.117	1	138.037	Carbon Dioxide
6.180	* not found *					

Not all calibrated peaks were found

=====

 External Standard Report

```

Data File Name       : C:\HPCHEM\1\DATA\590407\013F0703.D
Operator            : L.A. Pingel
Instrument           : PERMANENT
Sample Name         : VSAMB-207-S065
Run Time Bar Code   :
Acquired on         : 07 Apr 99 01:55 PM
Report Created on   : 07 Apr 99 02:04 PM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier          : 1
Page Number         : 1
Vial Number         : 13
Injection Number    : 3
Sequence Line       : 7
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\013F0703.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.602	4932	BB	0.130	1	132.545	Carbon Dioxide	
6.180	* not found *					1	Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\014F0701.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-212-S098
Run Time Bar Code  :
Acquired on        : 07 Apr 99 02:04 PM
Report Created on  : 07 Apr 99 02:13 PM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 14
Injection Number    : 1
Sequence Line      : 7
Instrument Method   : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\014F0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.599	5043	BB	0.131	1	136.367	Carbon Dioxoide
6.180	* not found *					

Not all calibrated peaks were found

 External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\014F0702.D
Operator            : L.A. Pingel
Instrument           : PERMANENT
Sample Name         : VSAMB-212-S098
Run Time Bar Code   :
Acquired on         : 07 Apr 99 02:14 PM
Report Created on   : 07 Apr 99 02:23 PM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier          : 1

Page Number         : 1
Vial Number         : 14
Injection Number    : 2
Sequence Line       : 7
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\014F0702.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.603	5202	BV	0.137	1	141.817	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590407\014F0703.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 14
Instrument	: PERMANENT	Injection Number	: 3
Sample Name	: VSAMB-212-S098	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	590331.MTH
Acquired on	: 07 Apr 99 02:23 PM	Analysis Method	: 590331.MTH
Report Created on:	07 Apr 99 02:32 PM	Sample Amount	: 0
Last Recalib on	: 31 MAR 99 08:42 AM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590407\014F0703.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.599	5116	BV	0.137	1	138.862	Carbon Dioxide
6.180	* not found *					

Not all calibrated peaks were found

=====

External Standard Report

```

=====
Data File Name      : C:\HPCHEM\1\DATA\590407\015F0701.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS702-202-S058
Run Time Bar Code  :
Acquired on        : 07 Apr 99 02:32 PM
Report Created on  : 07 Apr 99 02:41 PM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier         : 1

Page Number        : 1
Vial Number        : 15
Injection Number   : 1
Sequence Line      : 7
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\015F0701.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.603	4064	BV	0.134	1	102.770	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

Data File Name : C:\HPCHEM\1\DATA\590407\015F0702.D		Page Number : 1
Operator : L.A. Pingel		Vial Number : 15
Instrument : PERMANENT		Injection Number : 2
Sample Name : VS702-202-S058		Sequence Line : 7
Run Time Bar Code:		Instrument Method: 590331.MTH
Acquired on : 07 Apr 99 02:42 PM		Analysis Method : 590331.MTH
Report Created on: 07 Apr 99 02:51 PM		Sample Amount : 0
Last Recalib on : 31 MAR 99 08:42 AM		ISTD Amount :
Multiplier : 1		

Sig. 1 in C:\HPCHEM\1\DATA\590407\015F0702.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.601	4000	BB	0.134	1	100.563	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

 External Standard Report

```

Data File Name       : C:\HPCHEM\1\DATA\590407\015F0703.D
Operator            : L.A. Pingel
Instrument           : PERMANENT
Sample Name         : VS702-202-S058
Run Time Bar Code   :
Acquired on         : 07 Apr 99 02:51 PM
Report Created on   : 07 Apr 99 03:00 PM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier          : 1

Page Number         : 1
Vial Number         : 15
Injection Number    : 3
Sequence Line       : 7
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\015F0703.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.598	4104	BB	0.118	1	104.126	Carbon Dioxide
6.180	* not found *					
				1		Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\016F0101.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS702-204-S079
Run Time Bar Code  :
Acquired on       : 07 Apr 99 03:18 PM
Report Created on : 07 Apr 99 03:27 PM
Last Recalib on  : 31 MAR 99 08:42 AM
Multiplier        : 1

Page Number        : 1
Vial Number        : 16
Injection Number   : 1
Sequence Line      : 1
Instrument Method   : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\016F0101.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.614	4358	BV	0.139	1	112.861	Carbon Dioxide
6.180	* not found *					
				1		Nitrous Oxide

Not all calibrated peaks were found

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\1\DATA\590407\016F0102.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS702-204-S079
Run Time Bar Code  :
Acquired on        : 07 Apr 99  03:28 PM
Report Created on   : 07 Apr 99  03:37 PM
Last Recalib on    : 31 MAR 99  08:42 AM
Multiplier         : 1

Page Number        : 1
Vial Number        : 16
Injection Number    : 2
Sequence Line      : 1
Instrument Method   : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\016F0102.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.625	4425	BB	0.141	1	115.157	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

=====

 External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\016F0103.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS702-204-S079
Run Time Bar Code  :
Acquired on        : 07 Apr 99 03:38 PM
Report Created on   : 07 Apr 99 03:47 PM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier         : 1

Page Number        : 1
Vial Number        : 16
Injection Number    : 3
Sequence Line      : 1
Instrument Method   : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590407\016F0103.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.614	4424	BV	0.126	1	115.131	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

 External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\590407\020F0201.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 20
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VSAMB-204-S046	Sequence Line	: 2
Run Time Bar Code:	106 LAP 4/7/99	Instrument Method	: 590331.MTH
Acquired on	: 07 Apr 99 04:33 PM	Analysis Method	: 590331.MTH
Report Created on:	07 Apr 99 04:42 PM	Sample Amount	: 0
Last Recalib on	: 31 MAR 99 08:42 AM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590407\020F0201.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.672	14582	PV	0.162	1	463.787	Carbon Dioxide
6.217	3918	VV	0.121	1	110.630	Nitrous Oxide

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\1\DATA\590407\020F0201.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-204-S046
Run Time Bar Code  : 206 4/8/99
Acquired on       : 07 Apr 99 04:33 PM
Report Created on  : 07 Apr 99 05:03 PM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier        : 1

Page Number        : 1
Vial Number        : 20
Injection Number    : 1
Sequence Line      : 2
Instrument Method   : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\020F0201.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.671	3399	MM	0.088	1	79.937	Carbon Dioxide	
6.180	* not found *					1	Nitrous Oxide

Not all calibrated peaks were found

User Modified

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External Standard Report

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```

Data File Name       : C:\HPCHEM\1\DATA\590407\020F0202.D
Operator            : L.A. Pingel
Instrument           : PERMANENT
Sample Name         : VSAMB-284-S046
Run Time Bar Code   : 206 CAP 4/7/99
Acquired on        : 07 Apr 99 04:43 PM
Report Created on   : 07 Apr 99 05:06 PM
Last Recalib on    : 31 MAR 99 08:42 AM
Multiplier         : 1

Page Number         : 1
Vial Number         : 20
Injection Number    : 2
Sequence Line       : 2
Instrument Method    : 590331.MTH
Analysis Method     : 590331.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\020F0202.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
5.646	5675	PV	0.137	1	158.073	Carbon Dioxide
6.258	266	PV	0.127	1	-10.548	Nitrous Oxide

=====

 External Standard Report

Data File Name	: C:\HPCHEM\1\DATA\590407\020F0203.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 20
Instrument	: PERMANENT	Injection Number	: 3
Sample Name	: VSAMB-204-S046	Sequence Line	: 2
Run Time Bar Code:	206 LAP 4/7/99	Instrument Method	: 590331.MTH
Acquired on	: 07 Apr 99 04:52 PM	Analysis Method	: 590331.MTH
Report Created on:	07 Apr 99 05:01 PM	Sample Amount	: 0
Last Recalib on	: 31 MAR 99 08:42 AM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590407\020F0203.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.672	2015	BV	0.072	1	32.445	Carbon Dioxide	
6.180	* not found *					1	Nitrous Oxide

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590407\020F0203.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-204-S046
Run Time Bar Code  : 206 LRP 4/7/99
Acquired on       : 07 Apr 99 04:52 PM
Report Created on  : 07 Apr 99 05:07 PM
Last Recalib on   : 31 MAR 99 08:42 AM
Multiplier        : 1
Page Number       : 1
Vial Number       : 20
Injection Number   : 3
Sequence Line     : 2
Instrument Method  : 590331.MTH
Analysis Method    : 590331.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590407\020F0203.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
5.669	3041	MM	0.088	1	67.661	Carbon Dioxide	
6.180	* not found *						Nitrous Oxide

Not all calibrated peaks were found

User Modified

Method: C:\HPCHEM\1\METHODS\590331.MTH

Integration Events

Events:	Value:	Time:
Initial Area Reject	0	INITIAL
Initial Peak Width	0.090	INITIAL
Shoulder Detection	OFF	INITIAL
Initial Threshold	0	INITIAL
Integrator OFF		0.010
Integrator ON		5.020
Integrator OFF		7.000

Calibration Table

Pk#	RT	Lvl	ppm	Amt/Area	Ref Istd I#	Name
1	5.645	1	50.0	2.0784e-002		1 Carbon Dioxide
		2	100.0	2.8582e-002		
		4	500.0	3.2446e-002		
		5	1000.0	3.1911e-002		
		6	1250.0	3.3192e-002		
		7	2500.0	3.4044e-002		
2	6.180	1	50.0	2.8616e-002		1 Nitrous Oxide
		2	100.0	2.8723e-002		
		4	500.0	3.2597e-002		
		5	1000.0	0.03175		
		6	1250.0	0.03228		
		7	2500.0	3.3132e-002		

Calibration Settings

Title:
Permanent Gases

Reference window:	5.000 %
Non-reference window:	5.000 %
Units of amount:	ppm
Multiplier:	1.0
RF uncal peaks:	0.0
Sample Amount:	0.0

Sample ISTD Information

No Sample ISTD Amounts

Multilevel Information

Fit: Linear
Origin: Ignore

Carbon Dioxide

Nitrous Oxide

=====

External Standard Report

=====

```

Data File Name   : C:\HPCHEM\1\DATA\590415\008F0101.D
Operator        : L.A. Pingel
Instrument       : PERMANENT
Sample Name     : 185-1-12.02
Run Time Bar Code:
Acquired on    : 15 Apr 99 08:34 AM
Report Created on: 15 Apr 99 08:43 AM
Last Recalib on : 14 APR 99 03:54 PM
Multiplier     : 1
Page Number    : 1
Vial Number    : 8
Injection Number : 1
Sequence Line  : 1
Instrument Method: 590414.MTH
Analysis Method : 590414.MTH
Sample Amount   : 0
ISTD Amount     :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590415\008F0101.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.826	* not found *			1		Carbon Dioxide
4.198	* not found *			1		Nitrous Oxide
7.463	* not found *			1		Carbon Monoxide

Not all calibrated peaks were found

=====

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590415\010F0201.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : 185-1-16.02
Run Time Bar Code  :
Acquired on        : 15 Apr 99 08:44 AM
Report Created on  : 15 Apr 99 08:53 AM
Last Recalib on   : 14 APR 99 03:54 PM
Multiplier         : 1

Page Number        : 1
Vial Number        : 10
Injection Number   : 1
Sequence Line      : 2
Instrument Method   : 590414.MTH
Analysis Method    : 590414.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590415\010F0201.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.834	38509	BV	0.079	1	1242.341	Carbon Dioxide
4.196	39920	PBA	0.080	1	1258.217	Nitrous Oxide
7.430	30639	BV	0.195	1	1238.209	Carbon Monoxide

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External Standard Report

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Data File Name	: C:\HPCHEM\1\DATA\590415\010F0202.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 10
Instrument	: PERMANENT	Injection Number	: 2
Sample Name	: 185-1-16.02	Sequence Line	: 2
Run Time Bar Code:		Instrument Method	: 590414.MTH
Acquired on	: 15 Apr 99 09:07 AM	Analysis Method	: 590414.MTH
Report Created on:	15 Apr 99 09:16 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\010F0202.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.835	39236	BV	0.081	1	1265.788	Carbon Dioxide
4.198	40943	PBA	0.082	1	1290.265	Nitrous Oxide
7.434	31311	BV	0.198	1	1265.040	Carbon Monoxide

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External Standard Report

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Data File Name	: C:\HPCHEM\1\DATA\590415\011F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 11
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: 185-1-16.03	Sequence Line	: 3
Run Time Bar Code:		Instrument Method	: 590414.MTH
Acquired on	: 15 Apr 99 09:17 AM	Analysis Method	: 590414.MTH
Report Created on:	: 15 Apr 99 09:26 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\011F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.818	150996	BV	0.076	1	4869.279	Carbon Dioxide
4.177	153631	PBA	0.080	1	4821.104	Nitrous Oxide
7.417	118374	BV	0.223	1	4740.497	Carbon Monoxide

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External Standard Report

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Data File Name	: C:\HPCHEM\1\DATA\590415\012F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 12
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: 185-1-12.02	Sequence Line	: 3
Run Time Bar Code:		Instrument Method	: 590414.MTH
Acquired on	: 15 Apr 99 09:26 AM	Analysis Method	: 590414.MTH
Report Created on:	: 15 Apr 99 09:35 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\012F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.826	* not found *			1		Carbon Dioxide
4.198	* not found *			1		Nitrous Oxide
7.463	* not found *			1		Carbon Monoxide

Not all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590415\013F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 13
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VSAMB-212-S098	Sequence Line	: 3
Run Time Bar Code:		Instrument Method	: 590414.MTH
Acquired on	: 15 Apr 99 09:36 AM	Analysis Method	: 590414.MTH
Report Created on:	15 Apr 99 09:45 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\013F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.839	5202	BB	0.076	1	168.422	Carbon Dioxide
4.198	* not found *			1		Nitrous Oxide
7.463	* not found *			1		Carbon Monoxide

Not all calibrated peaks were found

=====

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590415\014F0301.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS702-202-S058
Run Time Bar Code  :
Acquired on        : 15 Apr 99 09:46 AM
Report Created on  : 15 Apr 99 09:55 AM
Last Recalib on   : 14 APR 99 03:54 PM
Multiplier         : 1
Page Number        : 1
Vial Number        : 14
Injection Number   : 1
Sequence Line      : 3
Instrument Method   : 590414.MTH
Analysis Method    : 590414.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590415\014F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.839	4621	BB	0.079	1	149.686	Carbon Dioxide
4.198	* not found *			1		Nitrous Oxide
7.463	* not found *			1		Carbon Monoxide

Not all calibrated peaks were found

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590415\015F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 15
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VSAMB-207-S065	Sequence Line	: 3
Run Time Bar Code:		Instrument Method	: 590414.MTH
Acquired on	: 15 Apr 99 09:55 AM	Analysis Method	: 590414.MTH
Report Created on:	15 Apr 99 10:04 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\015F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.833	6332	BB	0.074	1	204.862	Carbon Dioxide
4.198	* not found *					
7.463	* not found *					

Not all calibrated peaks were found

=====

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External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590415\016F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 16
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VSAMB-206-S046	Sequence Line	: 3
Run Time Bar Code:		Instrument Method	: 590414.MTH
Acquired on	: 15 Apr 99 10:09 AM	Analysis Method	: 590414.MTH
Report Created on:	15 Apr 99 10:18 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\016F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.833	5210	BB	0.077	1	168.669	Carbon Dioxide
4.198	* not found *			1		Nitrous Oxide
7.463	* not found *			1		Carbon Monoxide

Not all calibrated peaks were found

=====

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External Standard Report

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Data File Name	: C:\HPCHEM\1\DATA\590415\017F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 17
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VSAMB-211-S067	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	590414.MTH
Acquired on	: 15 Apr 99 10:18 AM	Analysis Method	: 590414.MTH
Report Created on:	15 Apr 99 10:27 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Fig. 1 in C:\HPCHEM\1\DATA\590415\017F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.835	5532	BV	0.079	1	179.055	Carbon Dioxide
4.198	* not found *			1		Nitrous Oxide
7.463	* not found *			1		Carbon Monoxide

Not all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590415\018F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 18
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VS702-204-S079	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	590414.MTH
Acquired on	: 15 Apr 99 10:28 AM	Analysis Method	: 590414.MTH
Report Created on:	15 Apr 99 10:37 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\018F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
3.838	4431	BV	0.074	1	143.574	Carbon Dioxide	
4.198	* not found *						Nitrous Oxide
7.463	* not found *						Carbon Monoxide

Not all calibrated peaks were found

=====

=====

External Standard Report

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```

Data File Name      : C:\HPCHEM\1\DATA\590415\019F0301.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VSAMB-205-S044
Run Time Bar Code  :
Acquired on        : 15 Apr 99  10:37 AM
Report Created on  : 15 Apr 99  10:46 AM
Last Recalib on   : 14 APR 99  03:54 PM
Multiplier         : 1

Page Number        : 1
Vial Number        : 19
Injection Number   : 1
Sequence Line      : 3
Instrument Method   : 590414.MTH
Analysis Method    : 590414.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590415\019F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
3.831	4781	BB	0.073	1	154.845	Carbon Dioxide	
4.198	* not found *						Nitrous Oxide
7.463	* not found *						Carbon Monoxide

Not all calibrated peaks were found

=====

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590415\020F0301.D
Operator            : L.A. Pingel
Instrument           : PERMANENT
Sample Name         : VS006-222-S039
Run Time Bar Code   :
Acquired on        : 15 Apr 99 10:47 AM
Report Created on   : 15 Apr 99 10:56 AM
Last Recalib on    : 14 APR 99 03:54 PM
Multiplier         : 1

Page Number         : 1
Vial Number         : 20
Injection Number    : 1
Sequence Line       : 3
Instrument Method    : 590414.MTH
Analysis Method     : 590414.MTH
Sample Amount       : 0
ISTD Amount         :

```

Fig. 1 in C:\HPCHEM\1\DATA\590415\020F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
3.829	2442	BV	0.065	1	79.429	Carbon Dioxide	
4.198	8344	PBA	0.073	1	268.843	Nitrous Oxide	
7.463	* not found *						Carbon Monoxide

Not all calibrated peaks were found

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\1\DATA\590415\021F0301.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS006-202-S011
Run Time Bar Code  :
Acquired on        : 15 Apr 99  10:56 AM
Report Created on  : 15 Apr 99  11:05 AM
Last Recalib on   : 14 APR 99  03:54 PM
Multiplier         : 1
Page Number        : 1
Vial Number        : 21
Injection Number    : 1
Sequence Line      : 3
Instrument Method   : 590414.MTH
Analysis Method    : 590414.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Fig. 1 in C:\HPCHEM\1\DATA\590415\021F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name
3.831	5758	BB	0.077	1	186.354	Carbon Dioxide
4.198	* not found *			1		Nitrous Oxide
7.463	* not found *			1		Carbon Monoxide

ot all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590415\022F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 22
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VSAMB-201-S017	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	590414.MTH
Acquired on	: 15 Apr 99 11:05 AM	Analysis Method	: 590414.MTH
Report Created on:	15 Apr 99 11:14 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\022F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
3.830	6018	BB	0.077	1	194.737	Carbon Dioxoide	
4.198	* not found *						Nitrous Oxide
7.463	* not found *						Carbon Monoxide

Not all calibrated peaks were found

=====

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590415\023F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 23
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VS006-212-S028	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	590414.MTH
Acquired on	: 15 Apr 99 11:15 AM	Analysis Method	: 590414.MTH
Report Created on:	15 Apr 99 11:24 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\023F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
3.829	2300	BB	0.074	1	74.846	Carbon Dioxide	
4.199	2994	BB	0.075	1	101.239	Nitrous Oxide	
7.463	* not found *						Carbon Monoxide

Not all calibrated peaks were found

=====

External Standard Report

```

Data File Name      : C:\HPCHEM\1\DATA\590415\024F0301.D
Operator           : L.A. Pingel
Instrument          : PERMANENT
Sample Name        : VS006-232-S056
Run Time Bar Code  :
Acquired on        : 15 Apr 99  11:26 AM
Report Created on  : 15 Apr 99  11:35 AM
Last Recalib on   : 14 APR 99  03:54 PM
Multiplier         : 1

Page Number        : 1
Vial Number        : 24
Injection Number   : 1
Sequence Line      : 3
Instrument Method   : 590414.MTH
Analysis Method    : 590414.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\1\DATA\590415\024F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
3.840	2638	BV	0.077	1	85.748	Carbon Dioxoide	
4.199	11172	PBA	0.080	1	357.459	Nitrous Oxide	
7.463	* not found *						Carbon Monoxide

Not all calibrated peaks were found

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\1\DATA\590415\025F0301.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 25
Instrument	: PERMANENT	Injection Number	: 1
Sample Name	: VS006-237-S071	Sequence Line	: 3
Run Time Bar Code:		Instrument Method	: 590414.MTH
Acquired on	: 15 Apr 99 11:35 AM	Analysis Method	: 590414.MTH
Report Created on:	: 15 Apr 99 11:44 AM	Sample Amount	: 0
Last Recalib on	: 14 APR 99 03:54 PM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\1\DATA\590415\025F0301.D

Ret Time	Area	Type	Width	Ref#	ppm	Name	
3.813	3151	PV	0.063	1	102.299	Carbon Dioxoide	
4.202	11645	PBA	0.081	1	372.278	Nitrous Oxide	
7.463	* not found *						Carbon Monoxide

Not all calibrated peaks were found

=====

Method: C:\HPCHEM\1\METHODS\590414.MTH

Integration Events

Events:	Value:	Time:
Initial Area Reject	0	INITIAL
Initial Peak Width	0.090	INITIAL
Shoulder Detection	OFF	INITIAL
Initial Threshold	0	INITIAL
Integrator OFF		0.010
Integrator ON		3.660
Baseline Now		3.700
Integrator OFF		4.380
Integrator ON		6.800
Integrator OFF		8.500

Calibration Table

Pk#	RT	Lvl	ppm	Amt/Area	Ref Istd I#	Name
1	7.463	1	50.0	3.8493e-002	1	Carbon Monoxide
		2	100.0	5.0553e-002		
		4	500.0	3.9954e-002		
		5	1000.0	4.0851e-002		
		6	1250.0	4.1627e-002		
		7	2500.0	3.9871e-002		

Calibration Settings

Title:

Permanent Gases

Reference window:	5.000 %
Non-reference window:	5.000 %
Units of amount:	ppm
Multiplier:	1.0
RF uncal peaks:	0.0
Sample Amount:	0.0

Sample ISTD Information

No Sample ISTD Amounts

Multilevel Information

Fit: Linear
Origin: Ignore

Carbon Monoxide

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

Section 3 of 5

Document Information			
Document #	HNF-4440	Revision	0
Title	TANK VAPOR SAMPLING & ANALYSIS DATA PACKAGE FOR TANK 241C106 WASTE RETRIEVAL SLUICING SYS PROCESS TEST PHASE 2 SAMPLED 03/07/1999		
Date	05/25/1999		
Originator	LOCKREM LL	Originator Co.	NHC
Recipient		Recipient Co.	
References	EDT-620356		
Keywords			
Projects			
Other Information	2.0 ANALYSES SEC 2.3 VOLATILE ORGANIC COMPOUNDS IN TRIPLE SORBENT TRAP SAMPLES & 2.4 TOTAL NONMETHANE ORGANIC COMPOUNDS IN SUMMA SAMPLES (TO-12 METHOD)		

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2.3 Volatile Organic Compounds in Triple Sorbent Trap Samples

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2.3.1 Narrative

This section contains descriptions of the analytical method and quality assurance used during analysis.

2.3.1.1 Determination of Volatile Organic Compounds in Triple Sorbent Trap Samples

The volatile organic compounds (VOCs) in triple sorbent trap (TST) samples are determined by GC-MS. TSTs capture VOCs from the tank headspace vapor on carbon-based adsorbents. The first step in the analysis of the TST samples is to "focus" the trapped VOCs onto a narrow-bore thermal desorption tube. This is accomplished by using the technique of thermal desorption. The TST is rapidly heated with a constant purge of helium gas flowing through the tube. The VOCs desorb from the TST and are subsequently trapped on the narrow-bore thermal desorption tube. Focusing improves the efficiency of the injection into a gas chromatograph. The thermal desorption tube is then heated to inject the VOCs into a gas chromatograph equipped with a fused silica column and mass-selective detector. The VOCs are separated on the column and detected by means of a mass-selective detector.

The instrumentation consists of a Hewlett-Packard model 5890 Series II gas chromatograph equipped with a 0.53-mm inside diameter by 105-m long RTX -502.2 fused-silica column with a 3 micron film thickness and a Hewlett-Packard model 5972 mass-selective detector.

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2.3.1.2 Triple Sorbent Trap Volatile Organic Compounds Analytical Quality Assurance

Headspace samples collected on triple sorbent traps (TSTs) were analyzed following procedures LA-549-404, Rev. A-1, and LA-523-408, Rev. A-1. Standard and sample preparation is documented in logbook WHC-N-1411-1, pages 137-138 and pages 141-143. The thermal desorption GC/MS instrument maintenance and run log is documented in logbook WHC-N-943-1, pages 34-37.

The GC/MS system was tuned and calibrated prior to sample analysis. The tune and calibration were then checked daily against criteria established in LA-523-408. Due to instrument maintenance during the sample run, the samples in this set were analyzed using two different instrument calibrations. The two calibrations, the associated quality control requirements and the results of the analysis are discussed separately in this narrative.

The GC/MS was first calibrated on 3/20/99. The initial calibration (ICAL) consisted of a 6-point calibration with 70, 100, 200, 400, 600 and 1000 nanogram (ng) standards prepared on TST tubes. Calibration standards at 2000 and 4000 ng were also run to expand the calibration range.

The calibration was performed using the internal standard method. The average response factor, over the range of calibration, and the percent relative standard deviation (%RSD) of the set of standards was calculated for each target compound. Procedure LA-523-408 requires a 5-point calibration curve with a %RSD of less than 25 %. The results are tabulated in the Response Factor Report.

Twenty-seven of the 33 target list analytes met the initial calibration requirements using the average response factor method of calculation. Compounds with chains of 8 or more carbon atoms exhibited a trend toward higher response factors, however, those compounds fit a linear regression with a coefficient of determination (r^2) of 0.991 or better. As a further check on the linear regression calibration, the calibration standards were processed as samples and the results were used to calculate the recovery of each analyte compared to the amount in the standard. The results are tabulated in the Linear Calibration Verification Table.

Two of the hydrocarbons (dodecane, and tridecane) did not meet the requirements for average response factor or linear curve fit. Results for those compounds were flagged to indicate that calibration requirements were not met.

CCVSs were analyzed daily to monitor instrument response. Procedure LA-523-408 requires that the daily response factor for each analyte be within 25 % of the average response factor established in the initial calibration. For compounds calibrated by the linear regression method, a recovery based on the known amount in the CCVS was calculated. With the exception of acetonitrile, n-dodecane, and n-tridecane all the target analytes were within acceptable limits. The response factor deviations and analyte recoveries are tabulated in the TST Continuing Calibration Table.

A laboratory control sample (LCS) prepared with standards from an independent source was analyzed in duplicate. LA-523-408 requires that the recovery of each LCS analyte be within 65 - 135 % and the relative percent difference (RPD) be within 35 %. All of the LCS analytes met the requirement. The results are tabulated in the Laboratory Control Sample Results Table.

LA-523-408 requires that the internal standard area counts for samples must be within 50 - 150 % of the area counts for the daily CCVSs. The area counts of the internal standards were within acceptable limits. Internal standard area counts for samples and CCVSs are tabulated in the TST Internal Standards Area Counts Table.

A second calibration from 200 to 4000 nanograms was established for compounds that were found in high concentrations in the samples. Heptane, nonane, decane and undecane were calibrated in that range using average response factors. Dodecane and tridecane failed to meet calibration requirements in the 200 to 4000 nanogram range and results are flagged for those compounds to indicate that quality control requirements were not met.

The GC/MS was recalibrated on 4/13/99. The results were similar to the previous calibration. Both average response factors and linear regressions used to calculate sample results. Linear regressions had a coefficient of determination (r^2) of 0.996 or better. Dodecane and tridecane did not meet the calibration requirements and consequently the sample results were flagged for those compounds. A second calibration at higher concentration levels was established for compounds that exceeded the concentration range of the initial calibration. Heptane, nonane, decane and undecane were calculated using average response factors in high concentration samples.

A set of LCS standards was run with the 4/13/99 calibration and all of the analytes were within acceptable limits. With the exception of dodecane and tridecane all of the analytes were within acceptable limits in the daily CCVS calibration check.

The internal standard area counts for samples analyzed using the 4/13/99 calibration were within acceptable limits with the exception of benzene-d6 in sample VS006-213-TS09 (154% with a 150% upper limit). The high benzene-d6 response affects analytes up to nonane in the elution order. Those analytes are flagged to indicate the results do not meet quality control requirements.

Due to the high concentration of volatile organic compounds on the sorbent tubes, the samples were split 1:10 prior to injection into the chromatograph. Due to the 1:10 sample split, the lower detection limit also had to be raised by a factor of 10. Sample splits were performed on a Dynatherm ACEM 900. One-tenth of the sample was focused on a focusing tube then analyzed in the usual manner. To check on splitting efficiency, a 2000 nanogram standard was split and analyzed. The recoveries, based on a 1:10 split, are tabulated in the Split Efficiency Table. With the exception of acetonitrile, undecane, dodecane and tridecane the recoveries are within 20%. The results of split samples are flagged with a "D".

Surrogates were added to TST tubes prior to sample collection. The surrogate recoveries for samples that were split were calculated from a single point calibration then corrected for the split, a technique that potentially increases the error in surrogate recovery calculations. All surrogate

recoveries were within acceptable limits with the exception of toluene-d8 in VS006-238-TS32 (65%). Surrogate recoveries for samples and blanks are tabulated in the Surrogate Compounds Results Table.

A method performance blank, trip blank, and field blank were analyzed with the sample set. Target analytes were not observed in the blanks at concentrations greater than one-half the VPRQL, the action limit (0.075 mg/m^3). Results for the blank analysis are tabulated in the TST Blank Summary Table.

A large number of tentatively identified compounds (TICs) at high concentration levels were observed in this sample set. In some cases the TIC peaks interfered with the identification and quantitation of target peaks. n-Hexane co-eluted with 1-hexene and n-octane co-eluted with 3-methylene heptane, TICs which contain the ions used to quantitate n-hexane and n-octane. Since there were no ions unique to the target analytes that were satisfactory for quantitative analysis, n-hexane and n-octane were not quantitated or reported above their VPRQLs. In some cases 1-butanol could not be accurately quantitated because its detector response was not sufficiently resolved from the high response to n-heptane. n-Hexane, n-octane and 1-butanol were flagged with an "*" in the Sample Summary Tables to indicate a difficulty encountered in quantitating these analytes.

A computer search was run to match the mass spectra of the TICs to library spectra of standard compounds. The concentrations of the TICs were calculated based on a response factor of 1 relative to hexafluorobenzene. TICs with an area count greater than 10% of the area of hexafluorobenzene were reported.

The TICs in sample VS006-233-TS31 were analyzed in detail in an attempt to identify and estimate the concentrations of as many TICs as possible. Twenty of the largest TIC peaks from VS006-233-TS31 were selected and concentration estimates were determined for those compounds in the remaining samples.

The TIC Library Search Reports in Section 2.3.4 list the 5 highest quality, computerized library search matches. The results listed in the TIC Summary Tables were based on the judgement of the analyst using both the computerized library search and manual search techniques to tentatively identify the non-target compounds.

TICs with responses greater than 10% of the nearest internal standard were not detected in the field blank, trip blank, method performance blank, or baseline ambient air samples.

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2.3.2 TST Result Summary Tables

The result summary tables are organized by sample. All reported values have been corrected to 25 °C and 1 atmosphere pressure. The following are included:

- Sample Summary Tables for target analytes
- TIC Summary Tables
- Blank Summary Table.

Phase II 296-C-006 Stack Target Analyte Concentrations for Triple Sorbent Tube Analyses				Sample Number		VS006-203-TS04			
				Analysis Date		4/19/99			
				Analysis Time		12:34			
				Primary Dilution File ID		39041318.D			
				Secondary Dilution File ID					
Target Analyte Name	CAS #	Mol Wt	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Methanol	67-56-1	32	8.3	110	0.15	0.15	110	M	43 Days
Ethanol	64-17-5	46	9.7	80	0.15	0.15	80	Q	43 Days
Acetone	67-64-1	58	11.2	63	0.15	0.15	63	Q	43 Days
Acetonitrile	75-05-8	41	11.6	89	0.15	0.15	89	Q	43 Days
Dichloromethane	75-09-2	84	12.3	43	0.15	0.15	43	M	43 Days
1-Propanol	71-23-8	60	12.7	61	0.15	0.15	61	Q	43 Days
n-Hexane	110-54-3	86	13.0	43	0.15	0.15	43	*	43 Days
Butanal	123-72-8	72	14.1	51	0.15	0.15	51	Q	43 Days
Propanenitrile	107-12-0	55	14.4	67	0.15	0.15	67	M	43 Days
Chloroform	67-66-3	120	15.0	31	0.15	0.15	31	M	43 Days
Tetrahydrofuran	109-99-9	72	15.3	51	0.15	0.15	51	Q	43 Days
1-Butanol	71-36-3	74	16.0	49	0.15	0.22	74		43 Days
n-Heptane	142-82-5	100	16.2	37	0.15	0.15	37	Q	43 Days
Tetrachloromethane	56-23-5	152	16.2	24	0.15	0.15	24	M	43 Days
Benzene	71-43-2	78	16.4	47	0.15	0.15	47	M	43 Days
2-Pentanone	107-87-9	86	17.1	43	0.15	0.15	43	Q	43 Days
Butanenitrile	109-74-0	69	17.3	53	0.15	0.15	53	Q	43 Days
n-Octane	111-65-9	114	19.0	32	0.15	0.15	32	*	43 Days
Toluene	108-88-3	92	19.6	40	0.15	0.15	40	Q	43 Days
2-Hexanone	591-78-6	100	20.0	37	0.15	0.15	37	M	43 Days
Pentanenitrile	110-59-8	83	20.2	44	0.15	0.15	44	M	43 Days
Tetrachloroethylene	127-18-4	164	20.8	22	0.15	0.15	22	M	43 Days
n-Nonane	111-84-2	128	21.7	29	0.15	0.15	29	Q	43 Days
2-Heptanone	110-43-0	114	22.6	32	0.15	0.15	32	Q	43 Days
Hexanenitrile	628-73-9	97	22.9	38	0.15	0.15	38	M	43 Days
o-Xylene	95-47-6	106	23.3	34	0.15	0.15	34	M	43 Days
n-Decane	124-18-5	142	24.1	26	0.15	0.19	33		43 Days
2-Octanone	111-13-7	128	25.0	29	0.15	0.15	29	M	43 Days
Heptanenitrile	629-08-3	111	25.3	33	0.15	0.15	33	M	43 Days
1,2,4-Trimethylbenzene	95-63-6	120	25.6	30	0.15	0.15	30	M	43 Days
n-Undecane	1120-21-4	156	26.3	23	0.15	0.39	61	*	43 Days
n-Dodecane	112-40-3	170	28.4	22	0.15	0.53	76	*	43 Days
n-Tridecane	629-50-5	184	30.4	20	0.15	0.62	83	*	43 Days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)
² Data Flags:
 * (Asterisk): Data did not meet quality control requirements; refer to data package case narrative.
 B: Target analyte was detected in laboratory blank
 D: Target analyte reported is the result of a secondary dilution
 F: Target analyte was found in field blank
 M: Target analyte was absent (not detected) in sample
 Q: Target analyte was detected, but at concentrations less than VPRQL

Phase II 296-C-006 Stack Target Analyte Concentrations for Triple Sorbent Tube Analyses				Sample Number		VS006-213-TS09				VS006-223-TS23			
				Analysis Date		4/19/99				4/21/99			
				Analysis Time		16:17				11:37			
				Primary Dilution File ID		39041323.D				39041327.D			
				Secondary Dilution File ID						1:10 Split			
Target Analyte Name	CAS #	Mol Wt.	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Methanol	67-56-1	32	8.3	110	0.15	0.15	110	M	43 Days	1.5	1100	D, M	45 Days
Ethanol	64-17-5	46	9.7	80	0.15	0.15	80	Q	43 Days	1.5	800	D, Q	45 Days
Acetone	67-64-1	58	11.2	63	0.15	0.21	88	*	43 Days	1.5	630	D, Q	45 Days
Acetonitrile	75-05-8	41	11.6	89	0.15	0.15	89	M	43 Days	1.5	890	D, M	45 Days
Dichloromethane	75-09-2	84	12.3	43	0.15	0.15	43	M	43 Days	1.5	430	D, M	45 Days
1-Propanol	71-23-8	60	12.7	61	0.15	0.15	61	Q	43 Days	1.5	610	D, Q	45 Days
n-Hexane	110-54-3	86	13.0	43	0.15	0.15	43	*	43 Days	1.5	430	D, *	45 Days
Butanal	123-72-8	72	14.1	51	0.15	0.15	51	M	43 Days	1.5	510	D, Q	45 Days
Propanenitrile	107-12-0	55	14.4	67	0.15	0.15	67	M	43 Days	1.5	670	D, M	45 Days
Chloroform	67-66-3	120	15.0	31	0.15	0.15	31	M	43 Days	1.5	310	D, M	45 Days
Tetrahydrofuran	109-99-9	72	15.3	51	0.15	0.15	51	M	43 Days	1.5	510	D, M	45 Days
1-Butanol	71-36-3	74	16.0	49	0.15	0.37	120	*	43 Days	1.4	460	D, *	45 Days
n-Heptane	142-82-5	100	16.2	37	0.15	8.4	2100	E, D	43 Days	48	12000	D, E	45 Days
Tetrachloromethane	56-23-5	152	16.2	24	0.15	0.15	24	M	43 Days	1.5	240	D, M	45 Days
Benzene	71-43-2	78	16.4	47	0.15	0.15	47	M	43 Days	1.5	470	D, M	45 Days
2-Pentanone	107-87-9	86	17.1	43	0.15	0.15	43	D, M	43 Days	1.5	430	D, M	45 Days
Butanenitrile	109-74-0	69	17.3	53	0.15	0.15	53	M	43 Days	1.5	530	D, M	45 Days
n-Octane	111-65-9	114	19.0	32	0.15	0.15	32	*	43 Days	1.5	320	D, *	45 Days
Toluene	108-88-3	92	19.6	40	0.15	0.35	93	*	43 Days	1.5	400	D, Q	45 Days
2-Hexanone	591-78-6	100	20.0	37	0.15	0.27	65	*	43 Days	1.5	370	D, Q	45 Days
Pentanenitrile	110-59-8	83	20.2	44	0.15	0.15	44	M	43 Days	1.5	440	D, M	45 Days
Tetrachloroethylene	127-18-4	164	20.8	22	0.15	0.15	22	M	43 Days	1.5	220	D, M	45 Days
n-Nonane	111-84-2	128	21.7	29	0.15	2.0	390	*	43 Days	6.7	1300	D	45 Days
2-Heptanone	110-43-0	114	22.6	32	0.15	2.2	470	E	43 Days	12	2500	D	45 Days
Hexanenitrile	628-73-9	97	22.9	38	0.15	0.15	38	M	43 Days	1.5	380	D, M	45 Days
o-Xylene	95-47-6	106	23.3	34	0.15	0.15	34	M	43 Days	1.5	340	D, M	45 Days
n-Decane	124-18-5	142	24.1	26	0.15	5.7	980	E	43 Days	17	2900	D	45 Days
2-Octanone	111-13-7	128	25.0	29	0.15	0.24	46		43 Days	1.5	290	D	45 Days
Heptanenitrile	629-08-3	111	25.3	33	0.15	0.61	130		43 Days	2.1	450	D	45 Days
1,2,4-Trimethylbenzene	95-63-6	120	25.6	30	0.15	0.15	30	M	43 Days	1.5	300	D, M	45 Days
n-Undecane	1120-21-4	156	26.3	23	0.15	10	1600	E	43 Days	31	4800	D	45 Days
n-Dodecane	112-40-3	170	28.4	22	0.15	12	1700	E, *	43 Days	53	7600	D, E	45 Days
n-Tridecane	629-50-5	184	30.4	20	0.15	14	1800	E, *	43 Days	65	8600	D, E	45 Days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)² Data Flags:

* (Asterisk): Data did not meet quality control requirements; refer to data package case narrati

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of a secondary dilution

F: Target analyte was found in field blank

M Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

Phase II 296-C-006 Stack Target Analyte Concentrations for Triple Sorbent Tube Analyses				Sample Number		VS006-233-TS31				VS006-238-TS32			
				Analysis Date		3/23/99				4/21/99			
				Analysis Time		16:48				12:22			
				Primary Dilution File ID		39032921.D				39041328.D			
				Secondary Dilution File ID		1:10 Split				1:10 Split			
Target Analyte Name	CAS #	Mol Wt	Ret Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Methanol	67-56-1	32	8.3	110	0.15	1.5	1100	D, M	16 Days	1.5	1100	D, M	45 Days
Ethanol	64-17-5	46	9.7	80	0.15	1.5	800	D, Q	16 Days	1.5	800	D, Q	45 Days
Acetone	67-64-1	58	11.2	63	0.15	1.6	700	D	16 Days	1.5	630	D, Q	45 Days
Acetonitrile	75-05-8	41	11.6	89	0.15	1.5	890	D, M	16 Days	1.5	890	D, Q	45 Days
Dichloromethane	75-09-2	84	12.3	43	0.15	1.5	430	D, M	16 Days	1.5	430	D, M	45 Days
1-Propanol	71-23-8	60	12.7	61	0.15	1.5	610	D, Q	16 Days	1.5	610	D, Q	45 Days
n-Hexane	110-54-3	86	13.0	43	0.15	1.5	430	D, *	16 Days	1.5	430	D, *	45 Days
Butanal	123-72-8	72	14.1	51	0.15	1.5	510	D, M	16 Days	1.5	510	D, M	45 Days
Propanenitrile	107-12-0	55	14.4	67	0.15	1.5	670	D, Q	16 Days	1.5	670	D, M	45 Days
Chloroform	67-66-3	120	15.0	31	0.15	1.5	310	D, M	16 Days	1.5	310	D, M	45 Days
Tetrahydrofuran	109-99-9	72	15.3	51	0.15	1.5	510	D, M	16 Days	1.5	510	D, M	45 Days
1-Butanol	71-36-3	74	16.0	49	0.15	1.7	560	D	16 Days	1.5	490	D, Q	45 Days
n-Heptane	142-82-5	100	16.2	37	0.15	62	15000	D	16 Days	74	18000	D, E	45 Days
Tetrachloromethane	56-23-5	152	16.2	24	0.15	1.5	240	D, M	16 Days	1.5	240	D, M	45 Days
Benzene	71-43-2	78	16.4	47	0.15	1.5	470	D, M	16 Days	1.5	470	D, M	45 Days
2-Pentanone	107-87-9	86	17.1	43	0.15	1.5	430	D, Q	16 Days	1.5	430	D, M	45 Days
Butanenitrile	109-74-0	69	17.3	53	0.15	1.6	530	D	16 Days	2.4	860	D	45 Days
n-Octane	111-65-9	114	19.0	32	0.15	1.5	320	D, *	16 Days	1.5	320	D, *	45 Days
Toluene	108-88-3	92	19.6	40	0.15	1.6	420	D	16 Days	1.5	400	D, Q	45 Days
2-Hexanone	591-78-6	100	20.0	37	0.15	2.6	640	D	16 Days	1.5	370	D, Q	45 Days
Pentanenitrile	110-59-8	83	20.2	44	0.15	2.9	860	D	16 Days	1.5	440	D, M	45 Days
Tetrachloroethylene	127-18-4	164	20.8	22	0.15	1.5	220	D, M	16 Days	1.5	220	D, M	45 Days
n-Nonane	111-84-2	128	21.7	29	0.15	11	2200	D	16 Days	18	3500	D	45 Days
2-Heptanone	110-43-0	114	22.6	32	0.15	15	3200	D	16 Days	19	4100	D	45 Days
Hexanenitrile	628-73-9	97	22.9	38	0.15	4.7	1200	D	16 Days	1.5	380	D, M	45 Days
m-Xylene	95-47-6	106	23.3	34	0.15	1.5	340	D, M	16 Days	1.5	340	D, M	45 Days
n-Decane	124-18-5	142	24.1	26	0.15	21	3700	D	16 Days	26	4400	D	45 Days
2-Octanone	111-13-7	128	25.0	29	0.15	1.8	350	D	16 Days	1.6	310	D	45 Days
Heptanenitrile	629-08-3	111	25.3	33	0.15	3.0	650	D	16 Days	3.1	690	D	45 Days
1,2,4-Trimethylbenzene	95-63-6	120	25.6	30	0.15	1.5	300	D, M	16 Days	1.5	300	D, M	45 Days
n-Undecane	1120-21-4	156	26.3	23	0.15	31	4800	D	16 Days	43	6700	D	45 Days
n-Dodecane	112-40-3	170	28.4	22	0.15	43	6200	D, *	16 Days	66	9500	D, E, *	45 Days
n-Tridecane	629-50-5	184	30.4	20	0.15	47	6200	D, *	16 Days	75	10000	D, E, *	45 Days

mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)² Data Flags:

* (Asterisk): Data did not meet quality control requirements; refer to data package case narrati

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of a secondary dilution

F: Target analyte was found in field blank

N: Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

Phase II 296-C-006 Stack Target Analyte Concentrations for Triple Sorbent Tube Analyses				Sample Number		VSAMB-202-TS64				VSAMB-208-TS65			
				Analysis Date		4/19/99				4/19/99			
				Analysis Time		13:19				14:03			
				Primary Dilution File ID		39041319.D				39041320.D			
Target Analyte Name	CAS #	Mol Wt	Ret. Time	VPRQL ppbv	VPRQL mg/m ³	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time	(mg/m ³) ¹	ppbv	Flag ²	Elapsed Hold Time
Methanol	67-56-1	32	8.3	110	0.15	0.15	110	M	43 Days	0.15	110	M	43 Days
Ethanol	64-17-5	46	9.7	80	0.15	0.15	80	M	43 Days	0.15	80	M	43 Days
Acetone	67-64-1	58	11.2	63	0.15	0.15	63	Q	43 Days	0.15	63	Q	43 Days
Acetonitrile	75-05-8	41	11.6	89	0.15	0.15	89	Q	43 Days	0.15	89	Q	43 Days
Dichloromethane	75-09-2	84	12.3	43	0.15	0.15	43	M	43 Days	0.15	43	M	43 Days
1-Propanol	71-23-8	60	12.7	61	0.15	0.15	61	M	43 Days	0.15	61	M	43 Days
n-Hexane	110-54-3	86	13.0	43	0.15	0.15	43	M	43 Days	0.15	43	M	43 Days
Butanal	123-72-8	72	14.1	51	0.15	0.15	51	M	43 Days	0.15	51	M	43 Days
Propanenitrile	107-12-0	55	14.4	67	0.15	0.15	67	Q	43 Days	0.15	67	M	43 Days
Chloroform	67-66-3	120	15.0	31	0.15	0.15	31	M	43 Days	0.15	31	M	43 Days
Tetrahydrofuran	109-99-9	72	15.3	51	0.15	0.15	51	M	43 Days	0.15	51	M	43 Days
1-Butanol	71-36-3	74	16.0	49	0.15	0.15	49	M	43 Days	0.15	49	M	43 Days
n-Heptane	142-82-5	100	16.2	37	0.15	0.15	37	M	43 Days	0.15	37	M	43 Days
Tetrachloromethane	56-23-5	152	16.2	24	0.15	0.15	24	M	43 Days	0.15	24	M	43 Days
Benzene	71-43-2	78	16.4	47	0.15	0.15	47	M	43 Days	0.15	47	Q	43 Days
2-Pentanone	107-87-9	86	17.1	43	0.15	0.15	43	M	43 Days	0.15	43	M	43 Days
Butanenitrile	109-74-0	69	17.3	53	0.15	0.15	53	M	43 Days	0.15	53	M	43 Days
n-Octane	111-65-9	114	19.0	32	0.15	0.15	32	M	43 Days	0.15	32	M	43 Days
Toluene	108-88-3	92	19.6	40	0.15	0.15	40	Q	43 Days	0.15	40	M	43 Days
2-Hexanone	591-78-6	100	20.0	37	0.15	0.15	37	M	43 Days	0.15	37	M	43 Days
Pentanenitrile	110-59-8	83	20.2	44	0.15	0.15	44	M	43 Days	0.15	44	M	43 Days
Tetrachloroethylene	127-18-4	164	20.8	22	0.15	0.15	22	M	43 Days	0.15	22	M	43 Days
n-Nonane	111-84-2	128	21.7	29	0.15	0.15	29	M	43 Days	0.15	29	M	43 Days
2-Heptanone	110-43-0	114	22.6	32	0.15	0.15	32	M	43 Days	0.15	32	M	43 Days
Hexanenitrile	628-73-9	97	22.9	38	0.15	0.15	38	M	43 Days	0.15	38	M	43 Days
m-Xylene	95-47-6	106	23.3	34	0.15	0.15	34	M	43 Days	0.15	34	M	43 Days
n-Decane	124-18-5	142	24.1	26	0.15	0.15	26	M	43 Days	0.15	26	M	43 Days
2-Octanone	111-13-7	128	25.0	29	0.15	0.15	29	M	43 Days	0.15	29	M	43 Days
Heptanenitrile	629-08-3	111	25.3	33	0.15	0.15	33	M	43 Days	0.15	33	M	43 Days
1,2,4-Trimethylbenzene	95-63-6	120	25.6	30	0.15	0.15	30	M	43 Days	0.15	30	M	43 Days
n-Undecane	1120-21-4	156	26.3	23	0.15	0.15	23	M	43 Days	0.15	23	M	43 Days
n-Dodecane	112-40-3	170	28.4	22	0.15	0.15	22	M	43 Days	0.15	22	M	43 Days
n-Tridecane	629-50-5	184	30.4	20	0.15	0.15	20	M	43 Days	0.15	20	M	43 Days

¹ mg/m³ calculated at 25°C and 101.3 kPa (1 atmosphere)

² Data Flags:

B: Target analyte was detected in laboratory blank

D: Target analyte reported is the result of a secondary dilution

F: Target analyte was found in field blank

M: Target analyte was absent (not detected) in sample

Q: Target analyte was detected, but at concentrations less than VPRQL

Phase II 296-C-006 Stack Tentatively Identified Compounds For Triple Sorbent Tube Analyses		Sample Number: VS006-203-TS04 Analysis Date: 4/13/99 Data File ID: 39041318.D			
Retention Time (min)	Tentative ID	Compound ID Number	Molecular Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
10.19	Unknown C5 Alkene/Cycloalkane	UAE005-02*	70	0.089	31
22.44	3-Heptanone	106-35-4	114	0.084	18

Notes: Estimation based on hexafluorobenzene internal standard
 TICs are reported above 1 ppmv
 *Unique identification number assigned by PNNL personnel to compounds without CAS#. Necessary for Tank Vapor Database purposes.

Phase II 296-C-006 Stack Tentatively Identified Compounds For Triple Sorbent Tube Analyses		Sample Number: VS006-213-TS09 Analysis Date: 4/13/99 Data File ID: 39041323.D			
Retention Time (min)	Tentative ID	Compound ID Number	Molecular Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
8.50	1-Propene, 2-methyl-	115-11-7	56	2.0	890
10.32	Unknown C5 Alkene/Cycloalkane	UAE005-02*	70	1.3	460
13.07	1-Hexene	592-41-6	84	4.7	1400
15.47	3-Heptene	592-78-9	98	0.72	180
16.36	3-Heptene	592-78-9	98	11	2700
16.91	2-Heptene	592-77-8	98	11	2600
17.17	Cyclopropane, Butyl	930-57-4	98	1.8	440
17.31	Cyclopentene, 1,5-dimethyl	16491-15-9	96	0.70	180
18.35	Heptane, 3-methyl-	589-81-1	114	9.3	2000
18.52	2,3-Hexadiene, 2-methyl-	29212-09-7	96	6.4	1600
19.02	Heptane, 3-methylene	1632-16-2	112	10	2200
19.18	2-Heptyne	1119-65-9	96	3.5	880
19.60	Unknown C8 Alkene/Cycloalkane	UAE008-02*	112	1.9	420
19.73	Trans-1-butyl-2-methylcyclopropane	38851-70-6	112	1.2	260
20.98	Heptane, 3-ethyl	15869-80-4	128	0.83	160
21.64	Butane, 1, 1-oxybis	142-96-1	130	5.1	960
22.05	4-Heptanone	123-19-3	114	4.0	850
22.46	3-Heptanone	106-35-4	114	8.0	1700
23.51	Unknown	U00000-03*	na	0.68	na
23.63	1,3-Diethyl-1,4-Epoxybutane	UHC000-14*	128	3.1	590
23.75	Furan, 2,5-Diethyltetrahydro	41239-48-9	128	3.6	700
23.96	Multiple Peaks	U00000-03M*	na	3.1	na
24.28	Unknown	U00000-03*	na	3.9	na
24.58	Decane, 4-methyl-	2847-72-5	156	1.6	260
25.35	Unknown	U00000-03*	na	0.88	na
25.69	1-Hexanol, 2-ethyl-	104-76-7	130	6.7	1300
25.86	2-Azabicyclo[2.2.1]heptane	279-24-3	97	4.3	1100
26.91	C-12 Hydrocarbon	U00012-01*	170	0.87	130
27.30	Naphthalene, decahydro-& others	1008-80-6M	138	1.6	290
28.24	Unknown	U00000-03*	na	1.1	na
28.61	Undecane, 2,6-dimethyl-	17301-23-4	184	2.2	300
28.94	Naphthalene, decahydro-2-methyl-	2958-76-1	152	1.3	210
29.45	Naphthalene, decahydro-2,6-dimethyl	1618-22-0	166	0.76	110
29.75	Tridecane, 7-methyl-	26730-14-3	198	0.76	93
29.89	Naphthalene, decahydro-2,6-dimethyl	1618-220	166	0.91	130
30.29	Unknown Alkene/Cycloalkane	UAE000-05*	na	0.72	na

Notes: Estimation based on hexafluorobenzene internal standard
 *Unique identification number assigned by PNNL personnel to compounds without CAS#. Necessary for Tank Vapor Database purposes.

Phase II 296-C-006 Stack Tentatively Identified Compounds For Triple Sorbent Tube Analyses		Sample Number: VS006-223-TS23 Analysis Date: 4/13/99 Data File ID: 39041327.D			
Retention Time (min)	Tentative ID	Compound ID Number	Molecular Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
8.41	1-Propene, 2-methyl-	115-11-7	56	10	4500
12.99	1-Hexene	592-41-6	84	4.7	1400
16.34	3-Heptene	592-78-9	98	36	8900
16.56	2-Heptene	592-77-8	98	59	15000
16.91	2-Heptene	592-77-8	98	28	6900
18.34	Heptane, 3-methyl-	589-81-4	114	26	5600
18.53	2,3,-Hexadiene, 2-methyl	2670905	96	9.2	2400
19.02	Heptane, 3-methylene	1632-16-2	112	35	7700
19.19	2-Heptyne	1119-65-9	96	5.1	1300
19.61	Unknown C8 Alkene/Cycloalkane	UAE008-02*	112	3.5	760
21.66	Butane, 1,1-oxybis	142-96-1	130	8.3	1600
22.07	4-Heptanone	123-19-3	114	11	2400
22.47	3-Heptanone	106-35-4	114	29	6100
23.65	1,3-Diethyl-1,4-Epoxybutane	UHC000-14*	128	3.7	710
23.76	Furan, 2,5-Diethyltetrahydro	1239-48-9	128	4.8	920
24.29	Unknown	U00000-03*	na	5.3	na
25.70	1-Hexanol, 2-ethyl-	104-76-7	132	7.4	1400
25.86	2-Azabicyclo[2.2.1]heptane	279-24-3	97	5.8	1500

Notes:

Estimation based on hexafluorobenzene internal standard

*Unique identification number assigned by PNNL personnel to compounds without CAS#. Necessary for Tank Vapor Database purposes.

Phase II 296-C-006 Stack Tentatively Identified Compounds For Triple Sorbent Tube Analyses		Sample Number: VS006-233-TS31 Analysis Date: 3/23/99 Data File ID: 39032921.D			
Retention Time (min)	Tentative ID	Compound ID Number	Molecular Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
7.54	1-Propene	115-07-1	42	7.6	4400
8.40	1-Propene, 2-methyl-	115-11-7	56	34	15000
8.93	1-Propene, 2-methyl-	115-11-7	56	3.5	1500
10.25	Unknown C5 Alkene/Cycloalkane	UAE005-02*	70	11	3900
10.99	1-Pentene	109-67-1	70	0.76	260
12.10	Unknown C6 Alkene/Cycloalkane	UAE006-02*	84	1.2	360
13.03	1-Hexene	592-41-6	84	31	9000
13.48	2-Hexene	4050-45-7	84	1.3	370
15.10	Unknown C7 Alkene/Cycloalkane	UAE007-03*	98	2.5	630
15.48	3-Heptene	592-78-9	98	5.7	1400
15.64	1-Heptene	592-76-7	98	0.68	170
16.37	3-Heptene	592-78-9	98	97	24000
16.58	2-Heptene	592-77-8	98	140	36000
16.93	2-Heptene	592-77-8	98	83	21000
17.19	Cyclopropane, Butyl	930-57-4	98	11	2700
17.32	Cyclopentene, 1,5-dimethyl	16491-15-9	96	4.2	1100
17.64	3,4-Heptadiene	2454-31-1	96	0.74	190
17.76	Unknown	U00000-03*	na	4.3	na
18.37	Heptane, 3-methyl-	589-81-1	114	78	17000
18.55	2,3-Hexadiene, 2-methyl-	29212-09-7	96	44	11000
19.04	Heptane, 3-methylene	1632-16-2	112	89	19000
19.21	2-Heptyne	1119-65-9	96	20	5100
19.63	Unknown C8 Alkene/Cycloalkane	UAE008-02*	112	17	3700
19.76	Trans-1-butyl-2-methylcyclopropane	38851-70-6	112	9.9	2100
20.26	1,6-Octadiene	3710-41-6	110	3.8	850
20.75	Heptane, 2,3-dimethyl	3074-71-3	128	2.1	400
21.02	Heptane, 3-ethyl	15869-80-4	128	7.8	1500
21.20	Unknown	U00000-03*	na	2.1	na
21.59	Butane, 1, 1-oxybis (unresolved)	142-96-1	130	2.1	410
22.10	4-Heptanone	123-19-3	114	42	8900
22.50	3-Heptanone	106-35-4	114	71	15000
23.16	Alkane	UAK000-01*	na	2.9	na
23.27	Multiple Peak	U00000-03M*	na	12	na
23.55	Unknown	U00000-03*	na	8.6	na
23.67	1,3-Diethyl-1,4-Epoxybutane	UHC000-14*	128	16	3100
23.79	Furan, 2,5-Diethyltetrahydro	41239-48-9	128	21	3900
24.01	Multiple Peak	U00000-03M*	na	21	na
24.32	Unknown	U00000-03*	na	20	na
24.62	Decane, 4-methyl-	2847-72-5	156	7.9	1200
25.11	Unknown	U00000-03*	na	2.7	na
25.29	Unknown	U00000-03*	na	2.5	na
25.54	Unknown	U00000-03*	na	2.6	na

Phase II 296-C-006 Stack Tentatively Identified Compounds For Triple Sorbent Tube Analyses		Sample Number: VS006-233-TS31 Analysis Date: 3/23/99 Data File ID: 39032921.D			
Retention Time (min)	Tentative ID	Compound ID Number	Molecular Weight	Estimated Concentration (mg/m ³)	Estimated Concentration (ppbv)
25.73	1-Hexanol, 2-ethyl-	104-76-7	130	32	6100
25.88	2-Azabicyclo[2.2.1]heptane	279-24-3	97	23	5700
26.55	Cyclohexanone, 5-methyl-2-(1-methylethyl)	4941-53-1	154	1.3	210
26.66	C-12 Hydrocarbon	U00012-01*	170	1.7	250
26.95	C-12 Hydrocarbon	U00012-01*	170	4.2	610
27.35	Naphthalene, decahydro-& others	1008-80-6M	138	11	1900
27.96	Unknown	U00000-03*	na	1.7	na
28.10	Cyclohexane, pentyl-	4292-92-6	154	1.6	250
28.27	Unknown	U00000-03*	na	7.7	na
28.61	Undecane, 2,6-dimethyl-	17301-23-4	184	3.9	520
28.77	Unknown	U00000-03*	na	2.4	na
28.95	Naphthalene, decahydro-2-methyl-	2958-76-1	152	5.2	840
29.44	Naphthalene, decahydro-2,6-dimethyl	1618-22-0	166	2.7	390
29.74	Tridecane, 7-methyl-	26730-14-3	198	2.9	360
29.87	Naphthalene, decahydro-2,6-dimethyl	1618-220	166	3.4	490
30.09	Naphthalene, decahydro-1,6-dimethyl	1750-51-2	166	1.2	180
30.26	Unknown Alkene/Cycloalkane	UAE000-05*	na	1.9	na
32.33	Tetradecane	629-59-4	198	4.8	590

Notes: Estimation based on hexafluorobenzene internal standard
TICs with areas >10% of the internal standard are tabulated
*Unique identification number assigned by PNNL personnel to compounds without CAS#. Necessary for Tank Vapor Database purposes.

Phase II 296-C-006 Stack Tentatively Identified Compounds For Triple Sorbent Tube Analyses		Sample Number: VS006-238-TS32 Analysis Date: 4/21/99 Data File ID: 39041328.D			
Retention Time (min)	Tentative ID	Compound ID Number	Molecular Weight	Estimated Concentration (mg/m3)	Estimated Concentration (ppbv)
8.41	1-Propene, 2-methyl-	115-11-7	56	1.0	440
12.98	1-Hexene	592-41-6	84	0.61	180
16.55	2-Heptene	592-77-8	98	7.2	1800
16.90	2-Heptene	592-77-8	98	3.9	960
18.33	Heptane, 3-methyl-	589-81-1	114	4.2	900
18.52	2,3-Hexadiene, 2-methyl-	29212-09-7	96	1.5	390
19.02	Heptane, 3-methylene	1632-16-2	112	5.0	1100
19.18	2-Heptyne	1119-65-9	96	0.81	210
19.60	Unknown C8 Alkene/Cycloalkane	UAE008-02*	112	0.68	150
21.64	Butane, 1, 1-oxybis	142-96-1	130	1.5	280
22.06	4-Heptanone	123-19-3	114	1.7	360
22.46	3-Heptanone	106-35-4	114	3.8	820
23.63	1,3-Diethyl-1,4-Epoxybutane	UHC000-14*	128	0.66	130
23.74	Furan, 2,5-Diethyltetrahydro	41239-48-9	128	0.82	160
23.96	Multiple Peak	U00000-03M*	na	0.83	na
24.28	Unknown	U00000-03*	na	0.77	na
25.69	1-Hexanol, 2-ethyl-	104-76-7	130	1.6	300
25.85	2-Azabicyclo[2.2.1]heptane	279-24-3	97	0.89	220

Notes: Estimation based on hexafluorobenzene internal standard

*Unique identification number assigned by PNNL personnel to compounds without CAS#. Necessary for Tank Vapor Database purposes.

TST Blank Summary

SAS Laboratory
Instrument 3
D.B. Bonfoey

Sample I.D.: Sample Type:		VS006-MPB-TS66 Method Performance Blank			VS006-297-TS60 Trip Blank			VS006-300-TS61 Field Blank		
Analysis Date:		03/23/99			04/19/99			04/19/99		
Analysis Time:		5:22 PM			2:48 PM			3:33 PM		
Analyte	CAS Number	(mg/m ³)	ppbv	Flag	(mg/m ³)	ppbv	Flag	(mg/m ³)	ppbv	Flag
Methanol	67-56-1	0.15	110	M	0.15	110	M	0.15	110	Q
Ethanol	64-17-5	0.15	80	M	0.15	80	M	0.15	80	M
Acetone	67-64-1	0.15	63	M	0.15	63	M	0.15	63	Q
Acetonitrile	75-05-8	0.15	89	M	0.15	89	M	0.15	89	Q
Dichloromethane	75-09-2	0.15	43	M	0.15	43	M	0.15	43	M
1-Propanol	71-23-8	0.15	61	M	0.15	61	M	0.15	61	M
n-Hexane	110-54-3	0.15	43	M	0.15	43	M	0.15	43	M
Butanal	123-72-8	0.15	51	M	0.15	51	M	0.15	51	M
Propanenitrile	107-12-0	0.15	67	M	0.15	67	M	0.15	67	M
Chloroform	67-66-3	0.15	31	M	0.15	31	M	0.15	31	M
Tetrahydrofuran	109-99-9	0.15	51	M	0.15	51	M	0.15	51	M
1-Butanol	71-36-3	0.15	49	M	0.15	49	M	0.15	49	M
n-Heptane	142-82-5	0.15	37	M	0.15	37	M	0.15	37	M
Tetrachloromethane	56-23-5	0.15	24	M	0.15	24	M	0.15	24	M
Benzene	71-43-2	0.15	47	M	0.15	47	M	0.15	47	M
2-Pentanone	107-87-9	0.15	43	M	0.15	43	M	0.15	43	M
Butanenitrile	109-74-0	0.15	53	M	0.15	53	M	0.15	53	M
n-Octane	111-65-9	0.15	32	M	0.15	32	M	0.15	32	M
Toluene	108-88-3	0.15	40	M	0.15	40	M	0.15	40	M
2-Hexanone	591-78-6	0.15	37	M	0.15	37	M	0.15	37	M
Pentanenitrile	110-59-8	0.15	44	M	0.15	44	M	0.15	44	M
Tetrachloroethylene	127-18-4	0.15	22	M	0.15	22	M	0.15	22	M
n-Nonane	111-84-2	0.15	29	M	0.15	29	M	0.15	29	M
2-Heptanone	110-43-0	0.15	32	M	0.15	32	M	0.15	32	M
Hexanenitrile	628-73-9	0.15	38	M	0.15	38	M	0.15	38	M
o-Xylene	95-47-6	0.15	34	M	0.15	34	M	0.15	34	M
n-Decane	124-18-5	0.15	26	M	0.15	26	M	0.15	26	M
2-Octanone	111-13-7	0.15	29	M	0.15	29	M	0.15	29	M
Heptanenitrile	629-08-3	0.15	33	M	0.15	33	M	0.15	33	M
1,2,4-Trimethylbenzene	95-63-6	0.15	30	M	0.15	30	M	0.15	30	M
n-Undecane	1120-21-4	0.15	23	M	0.15	23	M	0.15	23	M
n-Dodecane	112-40-3	0.15	22	M	0.15	22	M	0.15	22	M
n-Tridecane	629-50-5	0.15	20	M	0.15	20	M	0.15	20	M

2.3.3 TST Quality Control Summary Tables

This section contains 5 tables that summarize the quality control parameters used during analysis. It includes the following tables:

- Laboratory Control Sample Results
- Internal Standards Area Counts
- Surrogate Compounds Results
- Continuing Calibration
- Linear Calibration Verification
- Split Verification.

TST Laboratory Control Sample Results Table

SAS Laboratory
Instrument 3
D.B. Bonfoey

3/20/99 Calibration

70-1000 ng

Date Analyzed: Time Analyzed: Data File:	LCS-1 03/20/99 7:37 PM 39032907.D		LCS-2 03/22/99 3:03 PM 39032914.D		
	Recovery		Recovery		Precision
	Compound	ng	%	ng	%
n-Hexane	171	86	178	89	3.4
Benzene	191	96	198	99	3.6
Pentanenitrile	152	76	173	86	12.3
2-Hexanone	168	84	185	92	9.60
2-Heptanone	146	73	170	85	15.2
n-Undecane	136	68	184	92	30.0

Acceptance Criteria: 65 - 135 % Recovery and RPD $\leq$ 35%

TST Laboratory Control Sample Results Table

SAS Laboratory
Instrument 3
D.B. Bonfoey

4/13/99 Calibration

70-1000 ng

Date Analyzed: Time Analyzed: Data File:	LCS-1 04/13/99 2:55 PM 39041307.D		LCS-2 04/19/99 11:42 AM 30941317.D		Precision RPD (%)
	Recovery		Recovery		
	Compound	ng	%	ng	
n-Hexane	190.10	95.1	183.66	91.8	3.45
Benzene	211.93	106.0	199.54	99.8	6.02
Pentanenitrile	177.81	88.9	163.84	81.9	8.18
2-Hexanone	189.99	95.0	174.82	87.4	8.32
2-Heptanone	182.58	91.3	167.50	83.8	8.62
n-Undecane	165.26	82.6	147.40	73.7	11.42

Acceptance Criteria: 65 - 135 % Recovery and RPD $\leq$ 35%

TST Internal Standards Area Counts Table

SAS Laboratory
Instrument 3
D.B. Bonfoey

3/20/99 Calibration

Benzene-d6 and Ethylbenzene-d10 were used for internal standards.

Sample ID	Benzene-d6 Area Counts	Ethylbenzene-d10 Area Counts	Analysis	Analysis	Data
	(% of CCVS)	(% of CCVS)	Date	Time	File
200 ng std 1411-1-138.04	9245704 (100%)	12549336 (100%)	03/22/99	2:17 PM	39032913.D
200 ng LCS 1411-1-138.05	8954055 (97%)	12599088 (100%)	03/22/99	3:03 PM	39032914.D
2000 ng std 1411-1-138.08	10148394 (110%)	13709831 (109%)	03/23/99	11:49 PM	39032918.D
2000 ng std 1411-1-138.10	10580532 (114%)	14496856 (116%)	03/23/99	3:11 PM	39032920.D
VS006-233-TS31	10604035 (115%)	14050685 (112%)	03/23/99	4:48 PM	390329.21D
VS006-MPB-TS66	10064426 (109%)	12927236 (103%)	03/23/99	5:22 PM	39032922.D
200 ng std 1411-1-138.12	10901832 (100%)	14734383 (100%)	03/24/99	10:59 AM	39032925.D
2000 ng std 1411-1-138.13	10978111 (101%)	14689193 (135%)	03/24/99	11:50 AM	390.2926.D

Acceptance Criteria: Area counts for samples within 50 - 150 % of area counts for daily CCVS

TST Internal Standards Area Counts Table

SAS Laboratory
Instrument 3
D.B. Bonfoey

4/13/99 Calibration

Benzene-d6 and Ethylbenzene-d10 were used for internal standards.

Sample ID	Benzene-d6 Area Counts (% of CCVS)	Ethylbenzene-d10 Area Counts (% of CCVS)	Analysis Date	Analysis Time	Data File
200 ng std 1411-1-142.17	7809354 (100%)	9624265 (100%)	04/19/99	10:48 AM	39041316.D
200 ng LCS 1411-1-142.18	8407237 (108%)	10602382 (110%)	04/19/99	11:42 AM	39041317.D
VS-006-203-TS04	8140282 (104%)	10243803 (106)	04/19/99	12:34 PM	39041318.D
VSAMB-202-TS64	7963305 (102%)	9541965 99%)	04/19/99	1:19 PM	39041319.D
VSAMB-208-TS65	7955390 (102%)	9562397 (99%)	04/19/99	2:03 PM	39041320.D
VS006-297-TS60	7867398 (101%)	9557997 (99%)	04/19/99	2:48 PM	39041321.D
VS006-300-TS61	7824288 (100%)	9784687 (102%)	04/19/99	3:33 PM	39041322.D
VS006-213-TS09	12004198 (154%)	12468832 (130%)	04/19/99	4:17 PM	39041323.D
200 ng std 1411-1-143.01	7723220 (100%)	8453900 (100%)	04/21/99	8:39 AM	39041325.D
2000 ng std 1411-1-143.02	7271257 (94%)	8369435 (99%)	04/21/99	10:27 AM	39041326.D
VS006-223-TS23	9710828 (126%)	9400157 (111%)	04/21/99	11:37 AM	39041327.D
VS006-238-TS32	9994332 (129%)	10060858 (119%)	04/21/99	12:22 PM	39041328.D

TST Surrogate Compounds Results Table

SAS Laboratory
Instrument 3
D.B. Bonfoey

Hexafluorobenzene at 322 nanograms, toluene-d8 at 376 nanograms, and bromobenzene-d5 at 308 nanograms were used as surrogates for this analysis.

Sample ID	Hexafluorobenzene Recovery (%)	Toluene-d8 Recovery (%)	Bromobenzene-d5 Recovery (%)	Analysis Date	Analysis Time	Data File
VS006-MPB-TS66	87	98	108	03/23/99	5:22 PM	39032922.D
VS006-233-TS31	97	102	120	03/23/99	4:48 PM	39032921.D
VS006-203-TS04	109	108	111	04/19/99	12:34 PM	39041318.D
VS006-202-TS64	107	107	119	04/19/99	1:19 PM	39041319.D
VS006-208-TS65	109	105	115	04/19/99	2:03 PM	39041320.D
VS006-297-TS60	113	108	120	04/19/99	2:48 PM	39041321.D
VS006-300-TS61	110	105	113	04/19/99	3:33 PM	39041322.D
VS006-213-TS09	72	82	103	04/19/99	4:17 PM	39041323.D
VS006-223-TS23	84	75	117	04/21/99	11:37 AM	39041327.D
VS006-238-TS32	74	65	109	04/21/99	12:22 PM	39041328.D

Acceptance Limit: 70 - 130 % Recovery

TST Continuing Calibration Table

3/20/99 Calibration

SAS Laboratory
Instrument 3
D.B. Bonfoey

Standard Identification:

Date of Analysis:

Time of Analysis:

Data File:

200 ng CCVS

1411-1-138.04

03/22/99

2:17pm

39032913.D

200 ng CCVS

1411-1-138.07

03/23/99

10:17 PM

39032916.D

Samples batched with the CCVS:

200 ng LCS 1411-1-138.05

2000 ng std split 1411-1-138.08

2000 ng std split 1411-1-138.09

2000 ng std split 1411-1-138.10

VS006-233-TS31 split

VS006-MPB-TS66

Analyte	Response Factor (% Deviation)	Linear Calibration (% Recovery)	Response Factor (% Deviation)	Linear Calibration (% Recovery)
Methanol	1.3		-3.6	
Ethanol	-2		-6.1	
Acetone	-20.7		-16.2	
Acetonitrile	-82.5		-62.7	
Dichloromethane	-47.8		-18.9	
1-Propanol	-6.0		-20.0	
n-Hexane	3.4		-3.4	
Hexafluorobenzene (S)	15.5		14.7	
Butanal	-14.2		-24.1	
Propanenitrile	-1.4		-5.3	
Chloroform	2.6		-0.2	
Tetrahydrofuran	-0.3		-5.2	
1-Butanol	5	97	-4.4	103
n-Heptane	4.6		1.2	
Tetrachloromethane	-11.8		-15.6	
Benzene	3.8		-1.4	
2-Pentanone	-0.8		-5.0	
Butanenitrile	4.7		-3.0	
n-Octane	3.4		-0.6	
Toluene-d8 (S)	8.8		9.4	
Toluene	2		0.3	
2-Hexanone	2.9		-3.8	
Pentanenitrile	6.8		1.8	
Tetrachloroethylene	7.6		6.3	
n-Nonane	8.2	93	4	86
2-Heptanone	-4.4	99	-14.6	108
Hexanenitrile	3	95	-3.7	101
o-Xylene	-1.6		-8.5	
n-Decane	9	91	1.7	97
Bromobenzene-d5 (S)	7.6		3.3	
2-Octanone	2.0	97	-7.6	103
Heptanenitrile	8.1	87	5.1	90
1,2,4-Trimethylbenzene	-0.5		-7.1	
n-Undecane	29.7	86	23.6	90
n-Dodecane	54.3	46	45.3	55.0
n-Tridecane	18.3	82	-26.7	127

(S) = Surrogate

Acceptance Criteria: ≤ 25 % Deviation (absolute) or 75 - 125 % Recovery

TST Continuing Calibration Table

SAS Laboratory
Instrument 3
D.B. Bonfoey

4/13/99 Calibration

Standard Identification:	200 ng CCVS 1411-1-142.17		200 ng CCVS 1411-1-143.01	
Date of Analysis:	04/19/99		04/21/99	
Time of Analysis:	10:48 AM		8:39 AM	
Data File:	39041316.D		39041325.D	
	Samples batched with the CCVS:			
	200 ng LCS 1411-1-142.18 VS006-203-TS04 VSAMB-202-TS64 VSAMB-208-TS65 VS006-297-TS60 VS006-300-TS61 VS006-213-TS09		2000 ng std split 1411-1-143.02 VS006-223-TS23 VS006-238-TS32	
	Response Factor (% Deviation)	Linear Calibration (% Recovery)	Response Factor (% Deviation)	Linear Calibration (% Recovery)
Analyte				
Methanol	-4.7		9.8	
Ethanol	-3.6		5.3	
Acetone	2.9		8.1	
Acetonitrile	0.1		6.5	
Dichloromethane	9.7		18.6	
1-Propanol	-4.1		-1.1	
n-Hexane	-1.6		0.4	
Hexafluorobenzene (S)	-9.1		-0.9	
Butanal	-10		-4	
Propanenitrile	7.7		11.0	
Chloroform	-0.3		7.2	
Tetrahydrofuran	3.7		6.1	
1-Butanol	6.2	95.1	7.3	94.3
n-Heptane	7.6		6.7	
Tetrachloromethane	-10.9		-4.9	
Benzene	-3.1		-1.2	
2-Pentanone	-5.5		-4.4	
Butanenitrile	1.5		5.1	
n-Octane	3.4		3.2	
Toluene-d8 (S)	-7.5		-1.4	
Toluene	-2.8		-0.2	
2-Hexanone	0.6		2.1	
Pentanenitrile	6.1		7.5	
Tetrachloroethylene	-4.9		-0.2	
n-Nonane	14.1	89.5	15.4	88.6
2-Heptanone	-2.4		-11.6	
Hexanenitrile	7.7	94.2	0.1	99.8
o-Xylene	-12.8		-21.8	
n-Decane	21.1	84.6	12.6	90.1
Bromobenzene-d5 (S)	-2.0		-6.1	
2-Octanone	22.2	80.6	14.6	85.6
Heptanenitrile	7.4	85.3	0.2	91.2
1,2,4-Trimethylbenzene	-8.3		-16.8	
n-Undecane	44.4	72.2	33.2	78.4
n-Dodecane	81.7	18.3	71.9	28.1
n-Tridecane	45.1	54.9	28.5	71.5

(S) = Surrogate

Acceptance Criteria: < 25 % Deviation (absolute) or 75 - 125 % Recovery

TST Linear Calibration Verification Table

SAS Laboratory
Instrument 3
D.B. Bonfoey

3/20/99 Calibration

70-1000 ng

Target Analyte	Percent Recoveries (%)					
	70 ng Std.	100 ng Std.	200 ng Std.	400 ng Std.	600 ng Std.	1000 ng Std.
1-Butanol	125	113	97	89	101	101
n-Nonane	118	105	95	94	102	100
2-Heptanone	86	89	95	101	110	96
Hexanenitrile	102	95	96	100	104	99
n-Decane	117	100	92	95	105	99
2-Octanone	125	98	94	94	104	100
Heptanenitrile	91	72	99	105	108	96
n-Undecane	148	104	94	93	110	98
n-Dodecane	76	56	67	100	182	147
n-Tridecane	149	111	96	78	200	138

TST Linear Calibration Verification Table

SAS Laboratory
Instrument 3
D.B. Bonfoey

4/13/99 Calibration

	Percent Recoveries (%)					
	70 ng Std	100 ng Std	200 ng Std	400 ng Std	600 ng Std	1000 ng Std
1-Butanol	119.5	109.8	96.1	93.3	103.2	100.8
n-Nonane	127.4	107.7	90.3	97.7	101.0	101.1
Hexanenitrile	121.7	110.4	95.9	94.2	98.7	101.4
n-Decane	127.9	104.7	88.7	93.5	104.7	99.6
2-Octanone	111.1	94.2	86.8	98.8	109.0	97.5
Heptanenitrile	70.0	75.9	96.6	110.4	109.3	95.5
n-Undecane	132.9	100.1	83.7	96.9	104.8	99.2
n-Dodecane	32.7	24.3	45.9	144.2	161.8	189.7
n-Tridecane	86.1	66.2	83.8	113.9	149.9	309.2

TST Split Verification Table

SAS Laboratory
Instrument 3
D.B. Bonfoey

Standard Identification:	2000 ng std	2000 ng std	2000 ng std	2000 ng std
	1411-1-138.08	1411-1-138.10	1411-1-138.13	1411-1-143.02
Date of Analysis:	3/23/99	3/23/99	3/24/99	4/21/99
Time of Analysis:	11:49 AM	3:11 PM	11:50 PM	10:27 AM
Data File:	39032918.D	39032920.D	39032926.D	39041326.D

Analyte	% Recovery	% Recovery	% Recovery	% Recovery
Methanol	85.0	96.6	95.4	107.5
Ethanol	67.8	86.8	83.4	114.0
Acetone	90.9	105.8	96.2	107.7
Acetonitrile	147.3	154.6	145.7	110.8
Dichloromethane	111.2	112.5	106.6	96.0
1-Propanol	74.8	104.6	96.7	127.4
n-Hexane	107.2	107.6	100.9	118.5
Butanal	69.7	109.1	104.7	126.2
Propanenitrile	103.2	113.4	102.8	105.4
Chloroform	102.7	101.4	95.4	108.1
Tetrahydrofuran	112.9	116.4	108.4	110.9
1-Butanol	83.4	120.9	113.8	117.0
n-Heptane	106.7	110.7	102.6	109.1
Tetrachloroethane	116.5	119.5	113.2	123.3
Benzene	106.4	107.9	100.7	116.5
2-Pentanone	105.8	117.5	108.0	123.4
Butanenitrile	109.5	113.4	105.3	112.8
n-Octane	109.6	111.9	105.3	109.5
Toluene	109.5	110.7	104.0	114.4
2-Hexanone	108.1	122.9	112.2	119.3
Pentanenitrile	110.5	114.0	104.0	108.4
Tetrachloroethylene	101.9	101.5	96.5	114.9
n-Nonane	109.2	112.8	106.5	100.4
2-Heptanone	108.0	122.5	114.8	135.4
Hexanenitrile	113.8	115.4	110.1	115.6
o-Xylene	116.9	115.5	111.3	138.9
n-Decane	117.1	120.3	117.5	108.9
2-Octanone	115.4	131.8	124.6	114.3
Heptanenitrile	112.7	120.8	115.3	133.7
1,2,4-Trimethylbenzene	126.8	127.6	123.8	152.3
n-Undecane	130.6	139.0	133.7	115.0
n-Dodecane	183.4	206.1	195.9	163.3
n-Tridecane	268.8	328.1	297.8	283.5

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2.3.4 TST Supporting Data

This section contains relevant supporting data used for the tuning and calibration of the instrument, and the analysis and quantitation of the organic compounds. The following are included:

- Response Factor and Compound List Reports
- Mass Spectrometer Tune Reports
- Sample Chromatograms and Quantitation Reports
- Library Search Compound Report
- Mass spectra of reported TICs.

HNF-4440 Rev. 0

Response Factor Report 5972 INST

Method : C:\HPCHEM\1\METHODS\390320CB.M
 Title :
 Last Update : Wed May 05 07:54:02 1999
 Response via : Initial Calibration

Calibration Files

200 =39032904.D 400 =39032905.D 600 =39032906.D
 100 =39032903.D 70 =39032902.D 1000 =39032908.D

Compound	200	400	600	100	70	1000	Avg	%RSD
----------	-----	-----	-----	-----	----	------	-----	------

1)	Benzene-d6	-----ISTD-----						
2)	Methanol	0.200	0.226	0.211	0.247	0.247	0.204	0.223 9.37
3)	Ethanol	0.376	0.360	0.368	0.321	0.352	0.375	0.359 5.79
4)	Acetone	0.781	0.761	0.740	0.629	0.663	0.750	0.721 8.39
5)	Acetonitrile	0.330	0.204	0.254	0.251	0.282	0.272	0.266 15.56
6)	Dichloromethane	0.258	0.208	0.205	0.253	0.236	0.207	0.228 10.64
7)	1-Propanol	0.378	0.345	0.398	0.333	0.276	0.417	0.358 14.29
8)	n-Hexane	0.329	0.310	0.339	0.304	0.268	0.345	0.316 8.96
9) S	Hexafluorobenzene	0.637	0.592	0.586	0.650	0.664	0.622	0.625 5.00
10)	Butanal	0.068	0.062	0.066	0.066	0.065	0.061	0.065 4.29
11)	Propanenitrile	0.262	0.260	0.273	0.248	0.219	0.275	0.256 8.15
12)	Chloroform	0.642	0.600	0.596	0.643	0.603	0.579	0.610 4.30
13)	Tetrahydrofuran	0.291	0.292	0.309	0.284	0.247	0.307	0.288 7.80
14)	1-Butanol	0.184	0.201	0.246	0.147	0.114	0.257	0.192 28.94
15)	n-Heptane	0.364	0.388	0.427	0.338	0.295	0.432	0.374 14.21
16)	Tetrachloroethane	0.539	0.550	0.535	0.493	0.402	0.508	0.505 10.76
17)	Benzene	0.933	0.907	0.949	0.899	0.820	0.900	0.901 4.95
18)	2-Pentanone	0.834	0.815	0.891	0.756	0.683	0.847	0.804 9.20
19)	Butanenitrile	0.484	0.492	0.515	0.450	0.432	0.512	0.481 6.99
20)	n-Octane	0.206	0.206	0.220	0.189	0.175	0.213	0.202 8.21
21) S	Toluene-d8	0.968	0.939	0.910	0.981	1.024	0.940	0.960 4.15
22)	Toluene	1.105	1.092	1.128	1.047	0.996	0.940	1.051 6.85
23)	2-Hexanone	0.618	0.637	0.730	0.550	0.483	0.719	0.623 15.40
24)	Pentanenitrile	0.365	0.389	0.418	0.351	0.329	0.420	0.379 9.70
25)	Tetrachloroethylene	0.472	0.436	0.439	0.484	0.455	0.412	0.450 5.84
26)	n-Nonane	0.344	0.388	0.441	0.300	0.279	0.442	0.366 19.02
27)	Ethylbenzene-d10	-----ISTD-----						
28)	2-Heptanone	0.543	0.610	0.673	0.451	0.388	0.596	0.544 19.59
29)	Hexanenitrile	0.270	0.300	0.317	0.232	0.224	0.307	0.275 14.50
30)	o-Xylene	0.900	0.916	0.885	0.874	0.782	0.698	0.842 10.08
31)	n-Decane	0.252	0.305	0.355	0.195	0.186	0.344	0.273 26.79
32) S	Bromobenzene-d5	0.380	0.377	0.355	0.384	0.372	0.350	0.370 3.73
33)	2-Octanone	0.274	0.339	0.405	0.168	0.172	0.401	0.293 36.36
34)	Heptanenitrile	0.411	0.444	0.460	0.281	0.348	0.412	0.393 17.00
35)	1,2,4-trimethylbenz	0.922	0.971	0.912	0.788	0.781	0.692	0.845 12.62
36)	n-Undecane	0.216	0.282	0.367	0.121		0.341	0.265 37.53
37)	n-Dodecane	0.137	0.225	0.398	0.101		0.322	0.236 52.61
38)	n-Tridecane	0.128	0.083	0.110	0.086		0.183	0.118 34.69

(#)= Out of Range

390320CB.M

Tue May 11 15:04:11 1999

2C-34

HNF-4440 Rev. 0

Compound List Report 5972 INST

Method : C:\HPCHEM\1\METHODS\390320CB.M
 Title :
 Last Update : Wed May 05 07:54:02 1999
 Response via : Initial Calibration
 Total Cpnds : 38

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	Benzene-d6	84	16.44	1.000	A	1	A	B
2	Methanol	31	8.51	0.518	A	1	A	B
3	Ethanol	31	9.83	0.598	A	2	A	B
4	Acetone	43	11.21	0.682	A	1	A	B
5	Acetonitrile	41	11.68	0.710	A	0	A	B
6	Dichloromethane	84	12.43	0.756	A	2	A	B
7	1-Propanol	31	12.69	0.772	A	2	A	B
8	n-Hexane	57	13.04	0.793	A	2	A	B
9 S	Hexafluorobenzene	186	13.76	0.837	A	2	A	B
10	Butanal	72	14.18	0.863	A	1	A	B
11	Propanenitrile	54	14.47	0.880	A	1	A	B
12	Chloroform	83	15.05	0.915	A	2	A	B
13	Tetrahydrofuran	42	15.41	0.938	A	2	A	B
14	1-Butanol	56	16.00	0.973	L	1	A	B
15	n-Heptane	43	16.17	0.984	A	2	A	B
16	Tetrachloroethane	117	16.26	0.989	A	2	A	B
17	Benzene	78	16.54	1.006	A	1	A	B
18	2-Pentanone	43	17.09	1.040	A	2	A	B
19	Butanenitrile	41	17.35	1.056	A	0	A	B
20	n-Octane	85	19.09	1.161	A	2	A	B
21 S	Toluene-d8	98	19.55	1.189	A	1	A	B
22	Toluene	91	19.69	1.198	A	1	A	B
23	2-Hexanone	43	20.01	1.218	A	2	A	B
24	Pentanenitrile	41	20.30	1.235	A	2	A	B
25	Tetrachloroethylene	166	20.88	1.270	A	2	A	B
26	n-Nonane	57	21.71	1.321	L	2	A	B
27	Ethylbenzene-d10	98	22.18	1.000	A	1	A	B
28	2-Heptanone	43	22.66	1.022	L	3	A	B
29	Hexanenitrile	41	23.01	1.037	L	2	A	B
30	o-Xylene	91	23.38	1.054	A	1	A	B
31	n-Decane	57	24.20	1.091	L	3	A	B
32 S	Bromobenzene-d5	82	24.93	1.124	A	2	A	B
33	2-Octanone	58	25.08	1.131	L	2	A	B
34	Heptanenitrile	82	25.42	1.146	L	2	A	B
35	1,2,4-trimethylbenzene	105	25.75	1.161	A	1	A	B
36	n-Undecane	57	26.39	1.190	L	3	A	B
37	n-Dodecane	57	28.44	1.282	A	3	A	B
38	n-Tridecane	57	30.46	1.373	A	3	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin

#Qual = number of qualifiers

A/H = Area or Height

ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

390320CB.M

Tue May 11 15:06:48 1999

2C-35

HNF-4440 Rev. 0

Response Factor Report 5972 INST

Method : C:\HPCHEM\2\METHODS\390329H2.M
 Title :
 Last Update : Mon May 03 11:21:34 1999
 Response via : Initial Calibration

Calibration Files

200 =39032904.D 400 =39032905.D 600 =39032906.D
 1000 =39032908.D 2000 =39032909.D 4000 =39032910.D

Compound	200	400	600	1000	2000	4000	Avg	%RSD
-----ISTD-----								
1) Benzene-d6								
2) n-Heptane	0.197	0.200	0.216	0.211	0.214	0.151	0.198	12.30
3) n-Nonane	0.149	0.156	0.171	0.161	0.158	0.106	0.150	15.06
-----ISTD-----								
4) Ethylbenzene-d10								
5) n-Decane	0.073	0.085	0.094	0.086	0.092	0.070	0.083	11.89
6) n-Undecane	0.069	0.086	0.105	0.094	0.103	0.080	0.089	15.25
7) n-Dodecane	0.050	0.078	0.130	0.104	0.126	0.103	0.098	30.51
8) n-Tridecane	0.036	0.041	0.096	0.068	0.105	0.106	0.075	42.19

(#) = Out of Range

390329H2.M

Mon May 03 11:34:28 1999

HNF-4440 Rev. 0

Compound List Report 5972 INST

Method : C:\HPCHEM\2\METHODS\390329H2.M
Title :
Last Update : Mon May 03 11:21:34 1999
Response via : Initial Calibration
Total Cpnds : 8

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	Benzene-d6	84	16.40	1.000	A	0	A	B
2	n-Heptane	71	16.17	0.986	A	2	A	B
3	n-Nonane	85	21.72	1.324	A	2	A	B
4	Ethylbenzene-d10	98	22.18	1.000	A	1	A	B
5	n-Decane	85	24.20	1.091	A	2	A	B
6	n-Undecane	85	26.39	1.190	A	2	A	B
7	n-Dodecane	85	28.28	1.275	L	2	A	B
8	n-Tridecane	85	30.22	1.362	L	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

390329H2.M

Mon May 03 11:34:45 1999

HNF-4440 Rev. 0

Response Factor Report 5972 INST

Method : C:\HPCHEM\1\METHODS\390413CB.M
 Title :
 Last Update : Wed May 05 09:51:40 1999
 Response via : Initial Calibration

Calibration Files

200 =39041304.D 400 =39041305.D 600 =39041306.D
 100 =39041303.D 70 =39041312.D 1000 =39041308.D

Compound	200	400	600	100	70	1000	Avg	%RSD
----------	-----	-----	-----	-----	----	------	-----	------

1)	Benzene-d6	-----ISTD-----						
2)	Methanol	0.272	0.226	0.238	0.288	0.256	0.222	0.250 10.45
3)	Ethanol	0.454	0.399	0.412	0.478	0.383	0.395	0.420 8.87
4)	Acetone	1.096	0.942	0.881	1.253	0.937	0.831	0.990 15.83
5)	Acetonitrile	0.459	0.338	0.332	0.508	0.531		0.433 21.63
6)	Dichloromethane	0.380	0.279	0.253	0.463	0.349		0.345 24.25
7)	1-Propanol	0.423	0.400	0.438	0.412	0.380	0.453	0.418 6.27
8)	n-Hexane	0.344	0.327	0.356	0.319	0.314	0.368	0.338 6.39
9) S	Hexafluorobenzene	0.788	0.738	0.627	0.810	0.713	0.645	0.720 10.28
10)	Butanal	0.078	0.070	0.071	0.078	0.076	0.071	0.074 5.28
11)	Propanenitrile	0.328	0.277	0.292	0.358	0.278	0.293	0.304 10.49
12)	Chloroform	0.811	0.719	0.655	0.879	0.684	0.634	0.731 13.11
13)	Tetrahydrofuran	0.317	0.285	0.307	0.336	0.288	0.313	0.308 6.18
14)	1-Butanol	0.200	0.223	0.253	0.174	0.149	0.262	0.210 21.04
15)	n-Heptane	0.329	0.378	0.415	0.319	0.294	0.460	0.366 17.35
16)	Tetrachloroethane	0.769	0.773	0.602	0.794	0.666	0.550	0.692 14.70
17)	Benzene	0.947	0.967	0.917	0.915	0.839	0.778	0.894 7.99
18)	2-Pentanone	0.819	0.935	0.862	0.763	0.730	0.671	0.797 11.92
19)	Butanenitrile	0.454	0.492	0.507	0.429	0.413	0.505	0.467 8.67
20)	n-Octane	0.180	0.198	0.200	0.163	0.144	0.211	0.182 14.06
21) S	Toluene-d8	0.939	0.987	0.828	0.921	0.918	0.830	0.904 6.99
22)	Toluene	1.004	1.159	0.909	0.868	0.799		0.948 14.70
23)	2-Hexanone	0.604	0.767	0.714	0.534	0.480	0.580	0.613 17.75
24)	Pentanenitrile	0.298	0.382	0.386	0.262	0.242	0.405	0.329 21.38
25)	Tetrachloroethylene	0.462	0.492	0.440	0.447	0.385	0.428	0.442 8.09
26)	n-Nonane	0.277	0.379	0.405	0.224	0.199	0.434	0.320 31.04
27)	Ethylbenzene-d10	-----ISTD-----						
28)	2-Heptanone	0.633	0.743	0.703	0.519	0.424	0.553	0.596 20.09
29)	Hexanenitrile	0.274	0.319	0.353	0.228	0.184	0.378	0.289 25.76
30)	o-Xylene	0.957	1.021	0.829	0.825	0.676	0.628	0.822 18.58
31)	n-Decane	0.236	0.329	0.402	0.159	0.134	0.399	0.276 42.59
32) S	Bromobenzene-d5	0.373	0.389	0.350	0.366	0.369	0.354	0.367 3.83
33)	2-Octanone	0.269	0.391	0.460	0.170	0.133	0.425	0.308 44.71
34)	Heptanenitrile	0.412	0.504	0.506	0.263	0.194	0.447	0.388 33.57
35)	1,2,4-trimethylbenz	0.938	1.037	0.797	0.683	0.535		0.798 24.99
36)	n-Undecane	0.184	0.329	0.392	0.074	0.063	0.392	0.239 63.79
37)	n-Dodecane	0.101	0.309	0.347	0.053	0.070	0.407	0.214 73.28
38)	n-Tridecane	0.077	0.104	0.138	0.061	0.079		0.092 32.72

(#) = Out of Range

390413CB.M

Wed May 05 09:54:28 1999

HNF-4440 Rev. 0

Compound List Report 5972 INST

Method : C:\HPCHEM\1\METHODS\390413CB.M
 Title :
 Last Update : Wed May 05 09:51:40 1999
 Response via : Initial Calibration
 Total Cpnds : 38

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	Benzene-d6	84	16.35	1.000	A	1	A	B
2	Methanol	31	8.45	0.517	A	1	A	B
3	Ethanol	31	9.78	0.598	A	2	A	B
4	Acetone	43	11.13	0.680	A	1	A	B
5	Acetonitrile	41	11.62	0.711	A	0	A	B
6	Dichloromethane	84	12.35	0.755	A	2	A	B
7	1-Propanol	31	12.63	0.772	A	2	A	B
8	n-Hexane	57	12.98	0.794	A	2	A	B
9	S Hexafluorobenzene	186	13.71	0.838	A	2	A	B
10	Butanal	72	14.12	0.863	A	1	A	B
11	Propanenitrile	54	14.39	0.880	A	1	A	B
12	Chloroform	83	14.97	0.915	A	2	A	B
13	Tetrahydrofuran	42	15.33	0.937	A	2	A	B
14	1-Butanol	56	15.92	0.973	L	1	A	B
15	n-Heptane	43	16.09	0.984	A	2	A	B
16	Tetrachloroethane	117	16.18	0.990	A	2	A	B
17	Benzene	78	16.45	1.006	A	1	A	B
18	2-Pentanone	43	17.01	1.040	A	2	A	B
19	Butanenitrile	41	17.27	1.056	A	0	A	B
20	n-Octane	85	19.00	1.162	A	2	A	B
21	S Toluene-d8	98	19.46	1.190	A	1	A	B
22	Toluene	91	19.60	1.199	A	1	A	B
23	2-Hexanone	43	19.92	1.218	A	2	A	B
24	Pentanenitrile	41	20.20	1.235	A	2	A	B
25	Tetrachloroethylene	166	20.79	1.271	A	2	A	B
26	n-Nonane	57	21.61	1.322	L	2	A	B
27	Ethylbenzene-d10	98	22.08	1.000	A	1	A	B
28	2-Heptanone	43	22.56	1.022	A	3	A	B
29	Hexanenitrile	41	22.91	1.038	L	2	A	B
30	o-Xylene	91	23.28	1.054	A	1	A	B
31	n-Decane	57	24.10	1.092	L	3	A	B
32	S Bromobenzene-d5	82	24.83	1.125	A	2	A	B
33	2-Octanone	58	24.98	1.132	L	2	A	B
34	Heptanenitrile	82	25.32	1.147	L	2	A	B
35	1,2,4-trimethylbenzene	105	25.64	1.162	A	1	A	B
36	n-Undecane	57	26.28	1.190	L	3	A	B
37	n-Dodecane	57	28.36	1.284	A	3	A	B
38	n-Tridecane	57	30.43	1.378	A	3	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin

#Qual = number of qualifiers

A/H = Area or Height

ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

HNF-4440 Rev. 0

Response Factor Report 5972 INST

Method : C:\HPCHEM\2\METHODS\390420H2.M
 Title :
 Last Update : Wed May 05 10:55:19 1999
 Response via : Initial Calibration

Calibration Files

200 =39041304.D 400 =39041305.D 600 =39041306.D
 1000 =39041308.D 2000 =39032909.D

Compound		200	400	600	1000	2000	Avg	%RSD

1)	Benzene-d6	-----ISTD-----						
2)	n-Heptane	0.190	0.206	0.216	0.226	0.214	0.210	6.44
3)	n-Nonane	0.121	0.154	0.154	0.161	0.158	0.150	11.00
4)	Ethylbenzene-d10	-----ISTD-----						
5)	n-Decane	0.071	0.090	0.102	0.112	0.092	0.093	16.39
6)	n-Undecane	0.060	0.096	0.109	0.122	0.103	0.098	23.81
7)	n-Dodecane	0.036	0.106	0.113	0.145	0.126	0.105	39.42
8)	n-Tridecane	0.032	0.041	0.053	0.102	0.105	0.067	51.65

(#) = Out of Range

390420H2.M

Wed May 05 10:56:52 1999

HNF-4440 Rev. 0

Compound List Report 5972 INST

Method : C:\HPCHEM\2\METHODS\390420H2.M
Title :
Last Update : Wed May 05 10:56:48 1999
Response via : Initial Calibration
Total Cpnds : 8

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	Benzene-d6	84	16.37	1.000	A	0	A	B
2	n-Heptane	71	16.10	0.983	A	2	A	B
3	n-Nonane	85	21.61	1.320	A	2	A	B
4	Ethylbenzene-d10	98	22.08	1.000	A	1	A	B
5	n-Decane	85	24.09	1.091	A	2	A	B
6	n-Undecane	85	26.29	1.191	A	2	A	B
7	n-Dodecane	85	28.35	1.284	L	2	A	B
8	n-Tridecane	85	30.41	1.377	L	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

390420H2.M

Wed May 05 11:05:25 1999

HP5972 Standard Spectra AutoTune

Instrument: 5972 INSTRUMENT 4 TEMP

Sat Mar 20 14:30:32 1999

C:\HPCHEM\4\5972\ATUNE.U

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
 259 peaks Base: 69.00 Abundance: 325056

Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	325056	100.00	69.90	4555	1.40
219.00	164928	50.74	220.00	7389	4.48
501.95	15051	4.63	502.95	1565	10.40

3/22/99 tune check on 390320at.u

Mon Mar 22 12:05:06 1999

3/23/99 tune check on 39032AT.U

Tue Mar 23 09:43:03 1999

3/24/99 tune check on 390320AT.U

Wed Mar 24 08:39:25 1999

HP5972 Standard Spectra AutoTune

Instrument: 5972 INSTRUMENT 4 TEMP

Tue Apr 13 07:51:42 1999

C:\HPCHEM\4\5972\ATUNE.U

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10

279 peaks Base: 69.00 Abundance: 328512

4/15/99 tune check on 390413AT.U

Thu Apr 15 10:12:05 1999

4/19/99 tune check on 390413AT.U

Mon Apr 19 09:45:08 1999

4/21/99 tune check on 390413AT.U

Wed Apr 21 07:36:17 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390413\39041318.D
Operator : Bonfoey/Lockard
Acquired : 19 Apr 99 12:34 pm using AcqMethod 390413AQ
Instrument : 5972 INST
Sample Name: VS006-203-TS04
Misc Info :
Vial Number: 18

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041318.D
Acq On : 19 Apr 99 12:34 pm
Sample : VS006-203-TS04
Misc :
Quant Time: May 11 16:47 1999

Vial: 18
Operator: Bonfoey/Lockard
Inst : 5972 INST
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\390413CB.M
Title :
Last Update : Wed May 05 09:51:40 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.37	84	8140282	200.00	ng	0.02
27) Ethylbenzene-d10	22.10	98	10243803	200.00	ng	0.02

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.71	186	10289915	351.08	ng	109.03%
21) Toluene-d8	19.48	98	14921921	405.55	ng	107.86%
32) Bromobenzene-d5	24.84	82	6447298	342.92	ng	111.34%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Ethanol	9.77	31	286739	16.77	ng	# 95
4) Acetone	11.11	43	537417	13.33	ng	# 78
5) Acetonitrile	11.64	41	70712	4.01	ng	100
6) Dichloromethane	12.36	84	518	0.04	ng	# 25
7) 1-Propanol	12.64	31	602898	35.46	ng	99
8) n-Hexane	12.99	57	315265	22.90	ng	# 29
10) Butanal	14.13	72	109354	36.29	ng	89
12) Chloroform	14.98	83	6472	0.22	ng	# 62
13) Tetrahydrofuran	15.34	42	63167	5.04	ng	92
14) 1-Butanol	15.94	56	732525	111.43	ng	98
15) n-Heptane	16.11	43	287254	19.30	ng	98
18) 2-Pentanone	17.02	43	107786	3.32	ng	99
19) Butanenitrile	17.29	41	175338	9.23	ng	100
22) Toluene	19.62	91	89922	2.33	ng	98
26) n-Nonane	21.62	57	82472	63.03	ng	m 87
28) 2-Heptanone	22.59	43	432354	14.16	ng	91
31) n-Decane	24.11	57	589134	94.52	ng	# 97
36) n-Undecane	26.30	57	2464434	194.40	ng	# 99
37) n-Dodecane	28.38	57	2913042	265.25	ng	# 97
38) n-Tridecane	30.43	57	1465981	312.05	ng	# 73

(#) = qualifier out of range (m) = manual integration

39041318.D 390413CB.M Tue May 11 16:48:00 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390413\39041323.D
Operator : Bonfoey/Lockard
Acquired : 19 Apr 99 4:17 pm using AcqMethod 390413AQ
Instrument : 5972 INST
Sample Name: VS006-213-TS09
Misc Info :
Vial Number: 23

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041323.D
 Acq On : 19 Apr 99 4:17 pm
 Sample : VS006-213-TS09
 Misc :
 Quant Time: May 11 18:05 1999

Vial: 23
 Operator: Bonfoey/Lockard
 Inst : 5972 INST
 Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\390413CB.M
 Title :
 Last Update : Wed May 05 09:51:40 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.44	84	12004198	200.00	ng	0.08
27) Ethylbenzene-d10	22.11	98	12468832	200.00	ng	0.03

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.77	186	10044169	232.39	ng	72.17%
21) Toluene-d8	19.50	98	16730522	308.34	ng	82.01%
32) Bromobenzene-d5	24.86	82	7242650	316.48	ng	102.75%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Ethanol	9.85	31	1439356	57.08	ng	# 40
4) Acetone	11.20	43	6088597	102.45	ng	93
7) 1-Propanol	12.72	31	1569789	62.61	ng	99
8) n-Hexane	13.08	57	16767937	825.95	ng	# 1
14) 1-Butanol	16.02	56	2263482	183.97	ng	m 2
15) n-Heptane	16.10	43	64910933	2957.07	ng	# 34
16) Tetrachloroethane	16.22	117	2070	0.05	ng	# 48
20) n-Octane	19.06	85	11030595	1007.29	ng	# 1
22) Toluene	19.64	91	9732272	171.06	ng	99
23) 2-Hexanone	19.96	43	4809459	130.70	ng	# 89
25) Tetrachloroethylene	20.81	166	15140	0.57	ng	# 66
26) n-Nonane	21.65	57	26822595	1038.64	ng	# 88
28) 2-Heptanone	22.58	43	39592846	1065.63	ng	# 40
29) Hexanenitrile	22.95	41	7425140	355.51	ng	# 58
30) o-Xylene	23.33	91	186479	3.64	ng	93
31) n-Decane	24.11	57	41699088	1623.37	ng	# 43
33) 2-Octanone	25.01	58	1725102	117.47	ng	# 64
34) Heptanenitrile	25.34	82	8249401	297.17	ng	95
36) n-Undecane	26.28	57	46772608	1822.74	ng	# 36
37) n-Dodecane	28.35	57	58725045	4393.03	ng	# 50
38) n-Tridecane	30.41	57	59468247	10399.69	ng	# 50

(#) = qualifier out of range (m) = manual integration
 39041323.D 390413CB.M Tue May 11 18:05:40 1999

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041323.D
 Acq On : 19 Apr 99 4:17 pm
 Sample : VS006-213-TS09
 Misc :
 Quant Time: May 5 14:11 1999

Vial: 23
 Operator: Bonfoey/Lockard
 Inst : 5972 INST
 Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\390420H2.M
 Title :
 Last Update : Wed May 05 10:56:48 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.44	84	12063719	200.00	ng	0.07
4) Ethylbenzene-d10	22.11	98	12301444	200.00	ng	0.03

System Monitoring Compounds	%Recovery					
Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) n-Heptane	16.15	71	52206058	4118.09	ng	m 17
3) n-Nonane	21.65	85	9029417	1000.79	ng	m 96
5) n-Decane	24.14	85	16077127	2799.42	ng	86
6) n-Undecane	26.33	85	29530740	4899.35	ng	# 1
7) n-Dodecane	28.41	85	46856963	5689.60	ng	# 1
8) n-Tridecane	30.46	85	46949149	6665.86	ng	# 1

(#) = qualifier out of range (m) = manual integration
 39041323.D 390420H2.M Wed May 05 14:12:11 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390413\39041327.D
Operator : Bonfoey/Lockard
Acquired : 21 Apr 99 11:37 am using AcqMethod 390413AQ
Instrument : 5972 INST
Sample Name: VS006-223-TS23 1:10 split
Misc Info :
Vial Number: 27

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041327.D
 Acq On : 21 Apr 99 11:37 am
 Sample : VS006-223-TS23 1:10 split
 Misc :
 Quant Time: May 11 18:27 1999

Vial: 27
 Operator: Bonfoey/Lockard
 Inst : 5972 INST
 Multiplr: 10.00

Method : C:\HPCHEM\1\METHODS\390413CB.M
 Title :
 Last Update : Wed May 05 09:51:40 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.39	84	9710828	200.00	ng	0.04
27) Ethylbenzene-d10	22.12	98	9400157	200.00	ng	0.05

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.75	186	944656	270.18	ng	83.91%
21) Toluene-d8	19.51	98	1231926	280.66	ng	74.64%
32) Bromobenzene-d5	24.87	82	622557	360.84	ng	117.16%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Ethanol	9.76	31	263824	129.32	ng	97
4) Acetone	11.15	43	1173777	244.15	ng	98
6) Dichloromethane	12.37	84	1597	0.95	ng	# 3
7) 1-Propanol	12.65	31	141902	69.96	ng	# 92
8) n-Hexane	13.01	57	2041446	1243.05	ng	# 34
10) Butanal	14.16	72	53047	147.55	ng	95
14) 1-Butanol	16.01	56	310520	687.37	ng	m 1
15) n-Heptane	16.14	43	41117687	23155.26	ng	94
16) Tetrachloroethane	16.19	117	1818	0.54	ng	# 58
19) Butanenitrile	17.16	41	1719804	758.75	ng	100
20) n-Octane	19.05	85	4044219	4565.29	ng	# 1
22) Toluene	19.64	91	1673058	363.51	ng	96
23) 2-Hexanone	19.97	43	1289045	433.03	ng	90
25) Tetrachloroethylene	20.84	166	2528	1.18	ng	# 19
26) n-Nonane	21.66	57	5918131	3258.96	ng	90
28) 2-Heptanone	22.61	43	16067281	5736.17	ng	98
31) n-Decane	24.14	57	14512951	7859.20	ng	# 93
33) 2-Octanone	25.02	58	353654	739.62	ng	# 69
34) Heptanenitrile	25.36	82	1794972	1004.64	ng	96
36) n-Undecane	26.33	57	24731260	13031.41	ng	# 97
37) n-Dodecane	28.39	57	35540754	35266.19	ng	# 31
38) n-Tridecane	30.45	57	34247180	79442.09	ng	# 86

(#) = qualifier out of range (m) = manual integration
 39041327.D 390413CB.M Tue May 11 18:27:58 1999

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041327.D
 Acq On : 21 Apr 99 11:37 am
 Sample : VS006-223-TS23 1:10 split
 Misc :
 Quant Time: May 5 14:07 1999

Vial: 27
 Operator: Bonfoey/Lockard
 Inst : 5972 INST
 Multiplr: 10.00

Method : C:\HPCHEM\2\METHODS\390420H2.M
 Title :
 Last Update : Wed May 05 10:56:48 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.39	84	9444032	200.00	ng	0.02
4) Ethylbenzene-d10	22.12	98	9357715	200.00	ng	0.04

System Monitoring Compounds %Recovery

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) n-Heptane	16.14	71	23203690	23380.59	ng	91
3) n-Nonane	21.66	85	2039960	2888.22	ng	# 87
5) n-Decane	24.14	85	3595820	8230.83	ng	94
6) n-Undecane	26.33	85	6892424	15032.19	ng	# 81
7) n-Dodecane	28.40	85	15887058	25819.11	ng	87
8) n-Tridecane	30.47	85	16274759	31582.56	ng	81

(#) = qualifier out of range (m) = manual integration
 39041327.D 390420H2.M Wed May 05 14:09:08 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\390320\39032921.D
Acq On : 23 Mar 99 4:28 pm
Sample : VS006-233-TS31 Split
Misc :
Quant Time: May 4 16:05 1999

Vial: 21
Operator: Bonfoey
Inst : 5972 INST
Multiplr: 10.00

Method : C:\HPCHEM\1\METHODS\390320CB.M
Title :
Last Update : Tue May 04 09:09:36 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.43	84	10604035	200.00	ng	0.00
27) Ethylbenzene-d10	22.15	98	14050685	200.00	ng	-0.03

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.75	186	1038075	313.18	ng	97.26%
21) Toluene-d8	19.53	98	1954650	383.93	ng	102.11%
32) Bromobenzene-d5	24.90	82	956475	368.38	ng	119.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Ethanol	9.78	31	686360	360.81	ng	96
4) Acetone	11.15	43	3219028	842.48	ng	96
6) Dichloromethane	12.37	84	1854	1.54	ng	# 58
7) 1-Propanol	12.68	31	520127	274.04	ng	99
8) n-Hexane	13.05	57	7929709	4735.40	ng	# 1
11) Propanenitrile	14.43	54	480839	354.02	ng	99
14) 1-Butanol	16.02	56	400253	860.95	ng	m 83
15) n-Heptane	16.16	43	52654578	26554.14	ng	# 88
16) Tetrachloroethane	16.27	117	1401	0.52	ng	# 25
18) 2-Pentanone	17.09	43	472027	110.73	ng	m 86
19) Butanenitrile	17.35	41	2128161	835.04	ng	m 100
20) n-Octane	19.08	85	6099193	5705.14	ng	# 1
22) Toluene	19.67	91	4526483	812.02	ng	99
23) 2-Hexanone	19.99	43	4433048	1342.21	ng	97
24) Pentanenitrile	20.27	41	3007932	1497.93	ng	m 71
26) n-Nonane	21.68	57	13317283	5862.96	ng	m 92
28) 2-Heptanone	22.64	43	32938997	7635.21	ng	m 84
29) Hexanenitrile	22.99	41	4908289	2423.47	ng	m 64
31) n-Decane	24.17	57	26913914	10982.41	ng	# 89
33) 2-Octanone	25.05	58	1024705	931.28	ng	87
34) Heptanenitrile	25.39	82	4367670	1515.64	ng	m 88
36) n-Undecane	26.36	57	33446967	13375.05	ng	m 96
37) n-Dodecane	28.40	57	41371900	26926.56	ng	m 87
38) n-Tridecane	30.42	57	38741169	41671.98	ng	m 92

(#) = qualifier out of range (m) = manual integration
39032921.D 390320CB.M Tue May 04 16:12:37 1999

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\390320\39032921.D
 Acq On : 23 Mar 99 4:28 pm
 Sample : VS006-233-TS31 Split
 Misc :
 Quant Time: May 5 7:35 1999

Vial: 21
 Operator: Bonfoey
 Inst : 5972 INST
 Multiplr: 10.00

Method : C:\HPCHEM\2\METHODS\390329H2.M
 Title :
 Last Update : Mon May 03 11:21:34 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.43	84	10519271	200.00	ng	0.03
4) Ethylbenzene-d10	22.15	98	13857998	200.00	ng	-0.03

System Monitoring Compounds	%Recovery
-----------------------------	-----------

Target Compounds						Qvalue
2) n-Heptane	16.16	71	32850215	31533.53	ng	93
3) n-Nonane	21.69	85	4491742	5689.74	ng	# 88
5) n-Decane	24.17	85	6249744	10814.33	ng	95
6) n-Undecane	26.36	85	9787070	15800.56	ng	# 84
7) n-Dodecane	28.41	85	16480181	22135.83	ng	86
8) n-Tridecane	30.42	85	16912027	23862.45	ng	# 84

(#) = qualifier out of range (m) = manual integration
 39032921.D 390329H2.M Wed May 05 07:38:14 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390413\39041328.D
Operator : Bonfoey/Lockard
Acquired : 21 Apr 99 12:22 pm using AcqMethod 390413AQ
Instrument : 5972 INST
Sample Name: VS006-238-TS32 1:10 split
Misc Info :
Vial Number: 28

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041328.D
 Acq On : 21 Apr 99 12:22 pm
 Sample : VS006-238-TS32 1:10 split
 Misc :
 Quant Time: May 11 18:46 1999

Vial: 28
 Operator: Bonfoey/Lockard
 Inst : 5972 INST
 Multiplr: 10.00

Method : C:\HPCHEM\1\METHODS\390413CB.M
 Title :
 Last Update : Wed May 05 09:51:40 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.38	84	9994332	200.00	ng	0.03
27) Ethylbenzene-d10	22.10	98	10060858	200.00	ng	0.03

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.73	186	856853	238.11	ng	73.95%
21) Toluene-d8	19.49	98	1106486	244.93	ng	65.14%
32) Bromobenzene-d5	24.86	82	620457	336.01	ng	109.09%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Ethanol	9.79	31	321704	153.22	ng	# 92
4) Acetone	11.16	43	1434717	289.96	ng	99
5) Acetonitrile	11.65	41	96521	44.57	ng	100
7) 1-Propanol	12.63	31	168278	80.61	ng	# 98
8) n-Hexane	13.02	57	3027895	1791.40	ng	# 34
10) Butanal	14.15	72	57642	155.78	ng	# 70
14) 1-Butanol	16.00	56	419992	761.31	ng	m 36
15) n-Heptane	16.11	43	51243739	28039.11	ng	# 34
16) Tetrachloroethane	16.17	117	1929	0.56	ng	# 13
19) Butanenitrile	17.15	41	2764576	1185.09	ng	100
20) n-Octane	19.04	85	7093773	7780.61	ng	# 1
22) Toluene	19.64	91	2720005	574.22	ng	97
23) 2-Hexanone	19.96	43	2025157	661.01	ng	93
25) Tetrachloroethylene	20.80	166	938	0.42	ng	# 19
26) n-Nonane	21.64	57	18847561	8857.36	ng	# 69
28) 2-Heptanone	22.60	43	28267943	9429.17	ng	93
31) n-Decane	24.13	57	23776173	11670.35	ng	# 93
33) 2-Octanone	25.01	58	522275	801.34	ng	# 53
34) Heptanenitrile	25.35	82	3176924	1526.33	ng	95
36) n-Undecane	26.31	57	30607964	14939.37	ng	# 90
37) n-Dodecane	28.37	57	39944781	37033.27	ng	# 31
38) n-Tridecane	30.43	57	37263282	80761.99	ng	# 28

(#) = qualifier out of range (m) = manual integration
 39041328.D 390413CB.M Tue May 11 18:47:07 1999

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041328.D
 Acq On : 21 Apr 99 12:22 pm
 Sample : VS006-238-TS32 1:10 split
 Misc :
 Quant Time: May 5 14:05 1999

Vial: 28
 Operator: Bonfoey/Lockard
 Inst : 5972 INST
 Multiplr: 10.00

Method : C:\HPCHEM\2\METHODS\390420H2.M
 Title :
 Last Update : Wed May 05 10:56:48 1999
 Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.38	84	9715196	200.00	ng	0.02
4) Ethylbenzene-d10	22.10	98	10013663	200.00	ng	0.02

System Monitoring Compounds %Recovery

Target Compounds						Qvalue
2) n-Heptane	16.14	71	36641570	35890.40	ng	91
3) n-Nonane	21.64	85	3787864	5213.25	ng	98
5) n-Decane	24.13	85	5861743	12538.61	ng	91
6) n-Undecane	26.32	85	10185102	20758.34	ng	# 78
7) n-Dodecane	28.39	85	21426235	32324.28	ng	99
8) n-Tridecane	30.45	85	20408559	36629.26	ng	# 92

(#) = qualifier out of range (m) = manual integration

39041328.D 390420H2.M Wed May 05 14:07:03 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390413\39041321.D
Operator : Bonfoey/Lockard
Acquired : 19 Apr 99 2:48 pm using AcqMethod 390413AQ
Instrument : 5972 INST
Sample Name: VS006-297-TS60
Misc Info :
Vial Number: 21

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041321.D

Acq On : 19 Apr 99 2:48 pm

Sample : VS006-297-TS60

Misc :

Quant Time: May 11 11:26 1999

Vial: 21

Operator: Bonfoey/Lockard

Inst : 5972 INST

Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\390413CB.M

Title :

Last Update : Wed May 05 09:51:40 1999

Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.39	84	7867398	200.00	ng	0.03
27) Ethylbenzene-d10	22.11	98	9557997	200.00	ng	0.03

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.73	186	10279106	362.88	ng	112.69%
21) Toluene-d8	19.49	98	14412359	405.28	ng	107.79%
32) Bromobenzene-d5	24.86	82	6501207	370.60	ng	120.32%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Methanol	8.49	31	22652	2.30	ng	# 59
3) Ethanol	9.79	31	886	0.05	ng	# 1
4) Acetone	11.12	43	186711	4.79	ng	97
5) Acetonitrile	11.64	41	14399	0.84	ng	100
6) Dichloromethane	12.33	84	301	0.02	ng	# 1
7) i-Propanol	12.61	31	469	0.03	ng	# 1
8) n-Hexane	13.01	57	11785	0.89	ng	# 74
10) Butanal	14.11	72	833	0.29	ng	# 1
11) Propanenitrile	14.40	54	987	0.08	ng	# 69
12) Chloroform	14.95	83	333	0.01	ng	# 70
13) Tetrahydrofuran	15.35	42	394	0.03	ng	# 48
15) n-Heptane	16.19	43	2531	0.18	ng	# 46
16) Tetrachloroethane	16.33	117	1651	0.06	ng	92
17) Benzene	16.40	78	92057	2.62	ng	# 83
18) 2-Pentanone	17.04	43	6544	0.21	ng	# 68
19) Butanenitrile	17.29	41	1175	0.06	ng	100
20) n-Octane	18.99	85	373	0.05	ng	# 1
22) Toluene	19.62	91	24247	0.65	ng	# 21
23) 2-Hexanone	19.50	43	100320	4.16	ng	# 1
24) Pentanenitrile	20.11	41	2156	0.17	ng	# 48
25) Tetrachloroethylene	20.82	166	2276	0.13	ng	# 49
28) 2-Heptanone	22.59	43	1560	0.05	ng	# 40
30) o-Xylene	23.03	91	1282	0.03	ng	92
35) 1,2,4-trimethylbenzene	25.81	105	9041	0.24	ng	100
37) n-Dodecane	28.39	57	4432	0.43	ng	# 66
38) n-Tridecane	30.44	57	5704	1.30	ng	# 55

(#)=qualifier out of range (m)=manual integration

39041321.D 390413CB.M Tue May 11 11:26:40 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390413\39041322.D
Operator : Bonfoey/Lockard
Acquired : 19 Apr 99 3:33 pm using AcqMethod 390413AQ
Instrument : 5972 INST
Sample Name: VS006-300-TS61
Misc Info :
Vial Number: 22

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041322.D
Acq On : 19 Apr 99 3:33 pm
Sample : VS006-300-TS61
Misc :
Quant Time: May 11 17:15 1999

Vial: 22
Operator: Bonfoey/Lockard
Inst : 5972 INST
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\390413CB.M
Title :
Last Update : Wed May 05 09:51:40 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.39	84	7824288	200.00	ng	0.04
27) Ethylbenzene-d10	22.11	98	9784687	200.00	ng	0.03

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.74	186	9979406	354.24	ng	110.01%
21) Toluene-d8	19.49	98	14024497	396.55	ng	105.47%
32) Bromobenzene-d5	24.85	82	6252754	348.18	ng	113.04%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Methanol	8.47	31	76484	7.81	ng	90
3) Ethanol	9.79	31	1366	0.08	ng	# 1
4) Acetone	11.14	43	215717	5.57	ng	98
5) Acetonitrile	11.64	41	38632	2.28	ng	100
6) Dichloromethane	12.41	84	541	0.04	ng	# 70
7) 1-Propanol	12.73	31	434	0.03	ng	# 1
10) Butanal	14.18	72	1844	0.64	ng	# 70
11) Propanenitrile	14.39	54	5279	0.44	ng	# 46
12) Chloroform	14.94	83	408	0.01	ng	# 1
13) Tetrahydrofuran	15.36	42	760	0.06	ng	# 57
15) n-Heptane	16.07	43	3886	0.27	ng	# 41
16) Tetrachloroethane	16.50	117	1794	0.07	ng	97
18) 2-Pentanone	17.03	43	4486	0.14	ng	# 83
19) Butanenitrile	17.31	41	4099	0.22	ng	100
20) n-Octane	18.98	85	1530	0.21	ng	# 1
22) Toluene	19.63	91	29957	0.81	ng	98
24) Pentanenitrile	20.20	41	1952	0.15	ng	# 41
25) Tetrachloroethylene	20.74	166	1827	0.11	ng	# 19
28) 2-Heptanone	22.59	43	5977	0.20	ng	# 40
30) o-Xylene	23.41	91	2033	0.05	ng	90
35) 1,2,4-trimethylbenzene	25.58	105	1518	0.04	ng	# 34
37) n-Dodecane	28.38	57	2491	0.24	ng	# 31

(#) = qualifier out of range (m) = manual integration
39041322.D 390413CB.M Tue May 11 17:16:21 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390320\39032922.D
Operator : Bonfoey
Acquired : 23 Mar 99 5:22 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-MPB-TS66
Misc Info :
Vial Number: 22

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\390320\39032922.D
Acq On : 23 Mar 99 5:22 pm
Sample : VS006-MPB-TS66
Misc :
Quant Time: May 4 16:17 1999

Vial: 22
Operator: Bonfoey
Inst : 5972 INST
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\390320CB.M
Title :
Last Update : Tue May 04 09:09:36 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev (Min)
1) Benzene-d6	16.40	84	10064426	200.00	ng	-0.03
27) Ethylbenzene-d10	22.15	98	12927236	200.00	ng	-0.03

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.73	186	8769628	278.76	ng	86.57%
21) Toluene-d8	19.52	98	17866988	369.75	ng	98.34%
32) Bromobenzene-d5	24.91	82	7915067	331.34	ng	107.58%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
3) Ethanol	9.86	31	954	0.05	ng	# 40
4) Acetone	11.12	43	95287	2.63	ng	95
5) Acetonitrile	11.61	41	16237	1.21	ng	100
6) Dichloromethane	12.44	84	2794	0.24	ng	# 1
7) 1-Propanol	12.71	31	1230	0.07	ng	# 1
8) n-Hexane	13.00	57	1971	0.12	ng	# 1
10) Butanal	14.21	72	1366	0.42	ng	90
11) Propanenitrile	14.50	54	2512	0.19	ng	# 22
12) Chloroform	15.05	83	2683	0.09	ng	# 87
13) Tetrahydrofuran	15.43	42	1023	0.07	ng	# 60
15) n-Heptane	16.06	43	3317	0.18	ng	# 73
16) Tetrachloroethane	16.27	117	1492	0.06	ng	# 12
17) Benzene	16.40	78	101166	2.23	ng	# 83
18) 2-Pentanone	17.10	43	2622	0.06	ng	# 18
19) Butanenitrile	17.32	41	2301	0.10	ng	100
20) n-Octane	19.07	85	1244	0.12	ng	# 46
22) Toluene	19.67	91	20276	0.38	ng	# 74
23) 2-Hexanone	20.01	43	2246	0.07	ng	# 41
24) Pentanenitrile	20.32	41	2751	0.14	ng	# 40
25) Tetrachloroethylene	20.85	166	4557	0.20	ng	# 47
30) o-Xylene	23.38	91	2948	0.05	ng	# 46
35) 1,2,4-trimethylbenzene	25.70	105	3657	0.07	ng	# 30

(#) = qualifier out of range (m) = manual integration
39032922.D 390320CB.M Tue May 04 16:17:39 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390413\39041319.D
Operator : Bonfoey/Lockard
Acquired : 19 Apr 99 1:19 pm using AcqMethod 390413AQ
Instrument : 5972 INST
Sample Name: VSAMB-202-TS64
Misc Info :
Vial Number: 19

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041319.D
Acq On : 19 Apr 99 1:19 pm
Sample : VSAMB-202-TS64
Misc :
Quant Time: May 11 16:59 1999

Vial: 19
Operator: Bonfoey/Lockard
Inst : 5972 INST
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\390413CB.M
Title :
Last Update : Wed May 05 09:51:40 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.38	84	7963305	200.00	ng	0.02
27) Ethylbenzene-d10	22.10	98	9541965	200.00	ng	0.02

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.72	186	9914404	345.79	ng	107.39%
21) Toluene-d8	19.48	98	14414428	400.46	ng	106.51%
32) Bromobenzene-d5	24.85	82	6422153	366.71	ng	119.06%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Methanol	8.47	31	8121	0.81	ng	# 1
3) Ethanol	9.80	31	2393	0.14	ng	98
4) Acetone	11.11	43	250103	6.34	ng	95
5) Acetonitrile	11.63	41	116985	6.78	ng	100
6) Dichloromethane	12.29	84	459	0.03	ng	96
7) 1-Propanol	12.64	31	1485	0.09	ng	# 69
8) n-Hexane	13.01	57	12377	0.92	ng	# 85
10) Butanal	14.16	72	1100	0.37	ng	# 1
11) Propanenitrile	14.38	54	16700	1.38	ng	# 60
12) Chloroform	14.95	83	845	0.03	ng	# 58
13) Tetrahydrofuran	15.35	42	1155	0.09	ng	# 27
15) n-Heptane	16.17	43	3598	0.25	ng	# 34
16) Tetrachloroethane	16.16	117	798	0.03	ng	# 24
18) 2-Pentanone	17.02	43	6316	0.20	ng	# 88
19) Butanenitrile	17.29	41	10313	0.55	ng	100
20) n-Octane	19.02	85	943	0.13	ng	# 89
22) Toluene	19.61	91	37715	1.00	ng	91
23) 2-Hexanone	20.21	43	7740	0.32	ng	# 41
24) Pentanenitrile	20.24	41	7114	0.54	ng	# 27
25) Tetrachloroethylene	20.80	166	3385	0.19	ng	# 19
28) 2-Heptanone	22.52	43	2238	0.08	ng	# 40
30) o-Xylene	23.28	91	7610	0.19	ng	# 77
37) n-Dodecane	28.34	57	2044	0.20	ng	# 21

(#) = qualifier out of range (m) = manual integration
39041319.D 390413CB.M Tue May 11 16:59:53 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390413\39041320.D
Operator : Bonfoey/Lockard
Acquired : 19 Apr 99 2:03 pm using AcqMethod 390413AQ
Instrument : 5972 INST
Sample Name: VSAMB-208-TS65
Misc Info :
Vial Number: 20

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\390413\39041320.D

Acq On : 19 Apr 99 2:03 pm

Sample : VSAMB-208-TS65

Misc :

Quant Time: May 11 17:06 1999

Vial: 20

Operator: Bonfoey/Lockard

Inst : 5972 INST

Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\390413CB.M

Title :

Last Update : Wed May 05 09:51:40 1999

Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Benzene-d6	16.39	84	7955390	200.00	ng	0.03
27) Ethylbenzene-d10	22.10	98	9562397	200.00	ng	0.03

System Monitoring Compounds	R.T.	QIon	Response	Conc	Units	%Recovery
9) Hexafluorobenzene	13.73	186	10063444	351.33	ng	109.11%
21) Toluene-d8	19.48	98	14171704	394.11	ng	104.82%
32) Bromobenzene-d5	24.86	82	6232898	355.14	ng	115.30%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Methanol	8.43	31	4949	0.50	ng	# 1
3) Ethanol	9.78	31	2467	0.15	ng	# 14
4) Acetone	11.11	43	231497	5.88	ng	# 98
5) Acetonitrile	11.63	41	41525	2.41	ng	# 100
6) Dichloromethane	12.40	84	670	0.05	ng	# 45
7) 1-Propanol	12.64	31	861	0.05	ng	# 69
10) Butanal	14.14	72	990	0.34	ng	# 1
11) Propanenitrile	14.36	54	3574	0.30	ng	# 69
12) Chloroform	15.01	83	1116	0.04	ng	# 23
13) Tetrahydrofuran	15.31	42	3012	0.25	ng	# 36
15) n-Heptane	16.17	43	2516	0.17	ng	# 41
16) Tetrachloroethane	16.15	117	5500	0.20	ng	# 12
17) Benzene	16.40	78	108587	3.05	ng	# 87
18) 2-Pentanone	17.00	43	2505	0.08	ng	# 42
19) Butanenitrile	17.29	41	2259	0.12	ng	# 100
20) n-Octane	19.04	85	2535	0.35	ng	# 93
22) Toluene	19.50	91	12251	0.32	ng	# 91
24) Pentanenitrile	20.23	41	1724	0.13	ng	# 26
25) Tetrachloroethylene	20.82	166	2531	0.14	ng	# 64
28) 2-Heptanone	22.59	43	5105	0.18	ng	# 38
30) o-Xylene	23.27	91	2112	0.05	ng	# 35
35) 1,2,4-trimethylbenzene	25.60	105	1875	0.05	ng	# 34
37) n-Dodecane	28.28	57	4099	0.40	ng	# 44

(#) = qualifier out of range (m) = manual integration

39041320.D 390413CB.M Tue May 11 17:06:57 1999

Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\390320\39032921.D
 Acq On : 23 Mar 99 4:28 pm
 Sample : VS006-233-TS31 Split
 Misc :
 Method : C:\HPCHEM\3\METHODS\AREA.M
 Title : TST Calibration
 Library : WILEY138.L

Vial: 21
 Operator: Bonfoey
 Inst : 5972 INST
 Multiplr: 1.00

13.75 = 2444195
 19.05 = 336657926

 Peak Number 1 Rank in Relative Concentration 29

R.T.	Conc	Area	Relative to ISTD	R.T.
7.54	3775.55 ng	28658967	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Propene	115905	000115-07-1	91
2	Cyclopropane	115908	000075-19-4	14
3	Acetonitrile	115899	000075-05-8	4
4	PROPENE-2-D1	115906	001184-59-4	4
5	Borane, trimethyl-	116016	000593-90-8	4

 Peak Number 2 Rank in Relative Concentration 11

R.T.	Conc	Area	Relative to ISTD	R.T.
8.40	17014.13 ng	129148599	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Propene, 2-methyl-	116022	000115-11-7	90
2	1-Butene	116018	000106-98-9	58
3	2-Butene, (E)-	116021	000624-64-6	50
4	Cyclobutane	116025	000287-23-0	49
5	1,3-Butadiene	115996	000106-99-0	37

 Peak Number 3 Rank in Relative Concentration 40

R.T.	Conc	Area	Relative to ISTD	R.T.
8.93	1761.68 ng	13372332	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Propene, 2-methyl-	116022	000115-11-7	72
2	2-Butene	116020	000107-01-7	58
3	1-Butene	116018	000106-98-9	58
4	Disulfide, bis(1,1-dimethylethyl)	126572	000110-06-5	50
5	2-Butene, (Z)-	116019	000590-18-1	47

 Peak Number 4 Rank in Relative Concentration 21

R.T.	Conc	Area	Relative to ISTD	R.T.
------	------	------	------------------	------

10.25 5583.41 ng 42381827 Hexafluorobenzene 13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Oxirane, 2,2-dimethyl-	116433	000558-30-5	53
2	Cyclobutane, methyl-	116346	000598-61-8	47
3	2(3H)-Furanone, dihydro-3,5-dimethy	119255	005145-01-7	39
4	PROPENE-2-D1	115906	001184-59-4	33
5	Cyclopentane	116348	000287-92-3	32

Peak Number 5 Rank in Relative Concentration 65

R.T.	Conc	Area	Relative to ISTD	R.T.
10.99	379.69 ng	2882071	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Pentene	116331	000109-67-1	86
2	2(3H)-Furanone, dihydro-3,5-dimethy	119255	005145-01-7	64
3	2-Pentene, (Z)-	116335	000627-20-3	59
4	Cyclobutane, methyl-	116346	000598-61-8	52
5	2-Pentene, (E)-	116338	000646-04-8	50

Peak Number 6 Rank in Relative Concentration 51

R.T.	Conc	Area	Relative to ISTD	R.T.
11.15	1152.23 ng	8746161	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Propanone	116051	000067-64-1	78
2	2-Pentanone, 4-hydroxy-4-methyl-	119532	000123-42-2	9
3	Butane	116078	000106-97-8	7
4	Acetic acid, 2-propenyl ester	117921	000591-87-7	4
5	1-Propen-2-ol, acetate	1067	000108-22-5	4

Peak Number 7 Rank in Relative Concentration 63

R.T.	Conc	Area	Relative to ISTD	R.T.
12.10	613.08 ng	4653685	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Octene	119048	000111-66-0	59
2	4-Heptenal, (Z)-	119020	006728-31-0	50
3	3,6-Octadecadiynoic acid, methyl es	70658	056554-43-9	45
4	Pentane, 2-methyl-	117115	000107-83-5	43
5	Oxirane, propyl-	88	001003-14-1	43

Peak Number 8 Rank in Relative Concentration 61

R.T.	Conc	Area	Relative to ISTD	R.T.
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13.48	638.60 ng	4847365	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclopentanone	116856	000120-92-3	64
2	1-Pentene, 3-methyl-	116897	000760-20-3	64
3	2-Butenal, 2-methyl-	116838	001115-11-3	47
4	2-Hexene, (E)-	116890	004050-45-7	40
5	2-Hexene	116885	000592-43-8	37

Peak Number 9 Rank in Relative Concentration 57

R.T.	Conc	Area	Relative to ISTD	R.T.
14.43	848.76 ng	6442692	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1,1'-Bicyclopropyl	116791	005685-46-1	64
2	Cyclohexene	116790	000110-83-8	64
3	2-Pentenitrile	116729	013284-42-9	58
4	Bicyclo[3.1.0]hexane	116792	000285-58-5	53
5	1,2-Heptadiene	608	002384-90-9	52

Peak Number 10 Rank in Relative Concentration 49

R.T.	Conc	Area	Relative to ISTD	R.T.
15.10	1260.40 ng	9567264	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene	117785	000592-77-8	46
2	3-Heptene	901	000592-78-9	43
3	4-Pentenal, 2-methyl-	117709	005187-71-3	38
4	2-Hexenal	775	000505-57-7	38
5	2-Butene	116020	000107-01-7	35

Peak Number 11 Rank in Relative Concentration 30

R.T.	Conc	Area	Relative to ISTD	R.T.
15.48	2871.63 ng	21797577	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	3-Heptene	901	000592-78-9	62
2	1-Heptene	897	000592-76-7	60
3	Cyclopentane, 1,2-dimethyl-, trans-	939	000822-50-4	58
4	3-Heptene, (E)-	900	014686-14-7	53
5	2-Heptene	117785	000592-77-8	53

Peak Number 12 Rank in Relative Concentration 67

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R.T.	Conc	Area	Relative to ISTD	R.T.
15.64	342.27 ng	2598073	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cycloheptane	945	000291-64-5	80
2	Cyclopentane, 1,2-dimethyl-, trans-	939	000822-50-4	74
3	CYCLOBUTANE, ISOPROPYL-	934	000000-00-0	64
4	1-Heptene	117780	000592-76-7	58
5	2-Heptene	117785	000592-77-8	58

 Peak Number 13 Rank in Relative Concentration 64

R.T.	Conc	Area	Relative to ISTD	R.T.
15.99	587.57 ng	4460039	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Butanol	116554	000071-36-3	91
2	Formic acid, butyl ester	118236	000592-84-7	64
3	1-Hexanol	118281	000111-27-3	50
4	2(3H)-Furanone, dihydro-5-methyl-	1080	000108-29-2	43
5	Furan, 2-propyl-	118853	004229-91-8	40

 Peak Number 14 Rank in Relative Concentration 2

R.T.	Conc	Area	Relative to ISTD	R.T.
16.15	51785.31 ng	393085111	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane	1229	000142-82-5	81
2	Hexane, 3-methyl-	1235	000589-34-4	58
3	1-Pentanol, 2-methyl-	118314	000105-30-6	50
4	Hexane	117111	000110-54-3	50
5	Butane, 2,2-dimethyl-	108	000075-83-2	47

 Peak Number 15 Rank in Relative Concentration 1

R.T.	Conc	Area	Relative to ISTD	R.T.
16.58	72320.87 ng	548963670	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	3-Heptene	901	000592-78-9	87
2	2-Heptene, (E)-	898	014686-13-6	76
3	2-Heptene	117785	000592-77-8	60
4	Cycloheptane	117822	000291-64-5	59
5	Cyclobutanone, 2,4-dimethyl-	814	043042-67-7	59

 Peak Number 16 Rank in Relative Concentration 3

R.T.	Conc	Area	Relative to ISTD	R.T.
16.93	41473.84 ng	314814126	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptene, (E)-	898	014686-13-6	95
2	2-Heptene	117785	000592-77-8	94
3	3-Heptene	901	000592-78-9	94
4	Cycloheptane	945	000291-64-5	81
5	3-Heptene, (E)-	900	014686-14-7	81

Peak Number 17 Rank in Relative Concentration 22

R.T.	Conc	Area	Relative to ISTD	R.T.
17.19	5486.03 ng	41642595	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Butene, 2-methyl-	116339	000563-46-2	72
2	1-Hexene	116880	000592-41-6	72
3	1-Propene	115905	000115-07-1	59
4	Cyclohexane, 1,2,3-trimethyl-, (1.a	120647	001678-81-5	56
5	4-Pentenal	116836	002100-17-6	56

Peak Number 18 Rank in Relative Concentration 36

R.T.	Conc	Area	Relative to ISTD	R.T.
17.32	2074.90 ng	15749866	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclopentene, 1,5-dimethyl-	637	016491-15-9	80
2	1,4-Pentadiene, 3,3-dimethyl-	628	001112-35-2	72
3	Furan, 2-ethyl-	117583	003208-16-0	64
4	Ethanone, 1-(2-methyl-2-cyclopenten	4792	001767-84-6	50
5	CYCLOBUTANE, ISOPROPYLIDEN-	633	000000-00-0	45

Peak Number 19 Rank in Relative Concentration 66

R.T.	Conc	Area	Relative to ISTD	R.T.
17.64	372.16 ng	2824951	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	3,4-Heptadiene	615	002454-31-1	90
2	1,4-Hexadiene, 4-methyl-	618	001116-90-1	83
3	1-(2-Methyl-1-propenyl)cyclopropane	631	001003-33-4	80
4	1,4-Hexadiene, 5-methyl-	619	000763-88-2	72
5	2,4-Heptadiene, (E,E)-	613	002384-94-3	64

Peak Number 20 Rank in Relative Concentration 34

R.T.	Conc	Area	Relative to ISTD	R.T.
17.81	2157.06 ng	16373540	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	4-Pentenal	116836	002100-17-6	47
2	tert-Dodecanethiol	35629	025103-58-6	38
3	1-Butene, 2-methyl-	116339	000563-46-2	38
4	Cyclopropane, 1,2-dimethyl-, trans-	116344	002402-06-4	35
5	Cyclopentane, 1,2,3-trimethyl-, (1.	119104	002613-69-6	30

Peak Number 21 Rank in Relative Concentration 4

R.T.	Conc	Area	Relative to ISTD	R.T.
18.37	39016.14 ng	296158578	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-methyl-	119370	000589-81-1	78
2	Butane, 2,2,3-trimethyl-	118124	000464-06-2	59
3	Octane	119368	000111-65-9	59
4	Hexane, 2,2,3,3-tetramethyl-	122750	013475-81-5	50
5	Hexane, 2,4-dimethyl-	3197	000589-43-5	50

Peak Number 22 Rank in Relative Concentration 8

R.T.	Conc	Area	Relative to ISTD	R.T.
18.55	22024.70 ng	167182145	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	3,4-Heptadiene	615	002454-31-1	74
2	2-Butenal, 2-ethenyl-	576	020521-42-0	68
3	2,3-Hexadiene, 2-methyl-	622	029212-09-7	64
4	Cyclohexene, 1-methyl-	644	000591-49-1	64
5	2-Cyclopenten-1-one, 3-methyl-	594	002758-18-1	59

Peak Number 23 Rank in Relative Concentration 17

R.T.	Conc	Area	Relative to ISTD	R.T.
19.21	10104.15 ng	76697237	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Heptyne	602	001119-65-9	93
2	1,2-Hexadiene, 5-methyl-	616	013865-36-6	81
3	2,4-Hexadienal	117579	000142-83-6	64
4	1,3-Pentadiene, 2,4-dimethyl-	627	001000-86-8	59
5	2,4-Hexadiene, 2-methyl-	623	028823-41-8	58

 Peak Number 24 Rank in Relative Concentration 19

R.T.	Conc	Area	Relative to ISTD	R.T.
19.63	8406.68 ng	63812301	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-HEPTENE, 3-METHYL-	2651	000000-00-0	70
2	TRANS-1-BUTYL-2-METHYLCYCLOPROPANE	2732	038851-70-6	59
3	2-Pentene, (Z)-	116335	000627-20-3	50
4	Cyclopropane, 1,1-dimethyl-	116342	001630-94-0	50
5	2-Pentene, (E)-	116338	000646-04-8	50

 Peak Number 25 Rank in Relative Concentration 24

R.T.	Conc	Area	Relative to ISTD	R.T.
19.76	4957.34 ng	37629540	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Octene	119054	000111-67-1	83
2	3-Octene, (Z)-	2642	014850-22-7	76
3	4-Octene, (Z)-	2644	007642-15-1	76
4	Heptane, 3-methylene-	119065	001632-16-2	74
5	3-Octene, (E)-	2643	014919-01-8	70

 Peak Number 26 Rank in Relative Concentration 37

R.T.	Conc	Area	Relative to ISTD	R.T.
20.00	2055.85 ng	15605257	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Hexanone	117991	000591-78-6	87
2	2-Pentanone, 4-methyl-	118019	000108-10-1	64
3	2-Hexanone, 5-methyl-	119322	000110-12-3	53
4	2-Hexanone, 4-hydroxy-3-propyl-	16134	062338-17-4	42
5	2-Hexanone, 4-hydroxy-5-methyl-3-pr	22328	061141-74-0	42

 Peak Number 27 Rank in Relative Concentration 39

R.T.	Conc	Area	Relative to ISTD	R.T.
20.26	1907.03 ng	14475608	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1,6-Octadiene	2223	003710-41-6	50
2	9-Azabicyclo[6.1.0]nonane, 9,9'-azo	65742	066387-81-3	50
3	1,5-Hexadiene	116769	000592-42-7	46
4	1,6-Heptadiene	117603	003070-53-9	43
5	1,6-Octadiene, (E)-	2222	019036-81-8	43

 Peak Number 28 Rank in Relative Concentration 53

R.T.	Conc	Area	Relative to ISTD	R.T.
20.75	1055.04 ng	8008474	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 2,3-dimethyl-	6043	003074-71-3	49
2	Dodecane, 5-methyl-	27735	017453-93-9	43
3	Octane, 2-methyl-	6037	003221-61-2	38
4	Undecane, 2,4-dimethyl-	127262	017312-80-0	38
5	Octane, 4-methyl-	6039	002216-34-4	38

 Peak Number 29 Rank in Relative Concentration 27

R.T.	Conc	Area	Relative to ISTD	R.T.
21.02	3922.41 ng	29773706	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 4-propyl-	10257	003178-29-8	64
2	Heptane, 4-(1-methylethyl)-	10258	052896-87-4	59
3	Heptane, 3-ethyl-	6040	015869-80-4	58
4	Decane, 2,5-dimethyl-	21661	017312-50-4	53
5	Octane, 3-methyl-	6038	002216-33-3	50

 Peak Number 30 Rank in Relative Concentration 52

R.T.	Conc	Area	Relative to ISTD	R.T.
21.20	1060.44 ng	8049437	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	3-Octyne	118879	015232-76-5	58
2	4-METHYLENE-5-HEXENAL	2163	000000-00-0	50
3	4-Octyne	2219	001942-45-6	50
4	3,4-Heptadiene	615	002454-31-1	43
5	2,3-Hexadiene, 2-methyl-	622	029212-09-7	43

 Peak Number 31 Rank in Relative Concentration 10

R.T.	Conc	Area	Relative to ISTD	R.T.
21.68	17843.42 ng	135443490	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Nonane	120904	000111-84-2	58
2	Octane	119366	000111-65-9	53
3	[1'-13C]-Octyne	2216	000000-00-0	50
4	Pentane, 2,4-dimethyl-	118121	000108-08-7	47
5	1-Heptene	117780	000592-76-7	46

 Peak Number 32 Rank in Relative Concentration 5

R.T.	Conc	Area	Relative to ISTD	R.T.
22.50	35541.89 ng	269786640	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID		Ref# CAS#	Qual
1	3-Heptanone		119307 000106-35-4	64
2	3-Hexanone, 5-methyl-		119328 000623-56-3	50
3	1-Butanamine, N-(1-methylethyl)-		119413 039099-23-5	38
4	1-Propene, 3-methoxy-		116426 000627-40-7	38
5	Butanal		116378 000123-72-8	32

 Peak Number 33 Rank in Relative Concentration 13

R.T.	Conc	Area	Relative to ISTD	R.T.
22.64	11498.38 ng	87280366	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID		Ref# CAS#	Qual
1	2-Heptanone		119303 000110-43-0	86
2	2-Hexanone, 5-methyl-		119322 000110-12-3	86
3	2-Octanone		120849 000111-13-7	50
4	2-Hexanone, 4-methyl-		3096 000105-42-0	47
5	5-Undecanone		21602 033083-83-9	43

 Peak Number 34 Rank in Relative Concentration 43

R.T.	Conc	Area	Relative to ISTD	R.T.
23.16	1449.61 ng	11003504	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID		Ref# CAS#	Qual
1	Undecane, 5,6-dimethyl-		27763 017615-91-7	53
2	Hexadecane, 2,6,10,14-tetramethyl-		132695 000638-36-8	50
3	Butane, 2-iodo-2-methyl-		33461 000594-38-7	47
4	Heptane, 3-ethyl-2-methyl-		122745 014676-29-0	47
5	Tridecane, 3-methyl-		128288 006418-41-3	46

 Peak Number 35 Rank in Relative Concentration 42

R.T.	Conc	Area	Relative to ISTD	R.T.
23.27	1509.03 ng	11454526	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID		Ref# CAS#	Qual
1	Decane, 1,1'-oxybis-		73380 002456-28-2	78
2	Heptane, 2,4-dimethyl-		120919 002213-23-2	64
3	Octane		3190 000111-65-9	59
4	[1'-13C]-Octyne		2216 000000-00-0	59

5 Decane, 1-iodo-

62498 002050-77-3 58

 Peak Number 36 Rank in Relative Concentration 25

R.T.	Conc	Area	Relative to ISTD	R.T.
23.55	4321.33 ng	32801763	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Isothiazole, 3,4-dimethyl-	2777	027330-46-7	43
2	Octane, 2-bromo-	30585	000557-35-7	35
3	Thiazole, 2,4-dimethyl-	119142	000541-58-2	35
4	Isothiazole, 3,5-dimethyl-	2776	024260-24-0	27
5	Undecane, 6,6-dimethyl-	27765	017312-76-4	27

 Peak Number 37 Rank in Relative Concentration 20

R.T.	Conc	Area	Relative to ISTD	R.T.
23.67	8233.00 ng	62493943	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2,2'-Bioxepane	33981	074793-02-5	72
2	Furan, 2,5-diethyltetrahydro-	6013	041239-48-9	64
3	1H-1,2,4-Triazole-3,5-diamine	117824	001455-77-2	58
4	1,1'-BICYCLOHEXYL-1,1'-BIS (TRIMETHY	85996	019009-71-3	56
5	1,1'-BICYCLOHEXYL-1,1'-DIOL	34005	002888-11-1	56

 Peak Number 38 Rank in Relative Concentration 16

R.T.	Conc	Area	Relative to ISTD	R.T.
23.79	10266.41 ng	77928877	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-HYDROXYCYCLOHEXANECARBOXYLIC ACID	10615	001123-28-0	64
2	1,3,2-Dioxaborolane, 2,4-diethyl-	5771	057633-63-3	64
3	2,2'-Bioxepane	33981	074793-02-5	59
4	Phenol-d5	478	000000-00-0	50
5	1-Ethylcyclohexanol	6017	001940-18-7	47

 Peak Number 39 Rank in Relative Concentration 15

R.T.	Conc	Area	Relative to ISTD	R.T.
24.01	10330.25 ng	78413500	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	3-Penten-2-one, 4-methyl-	797	000141-79-7	64
2	2,4-Azetidinedione, 3,3-diethyl-	122529	042282-85-9	59
3	Cyclopropane, 1,1,2,2-tetramethyl-	932	004127-47-3	59

4 3-BROMO-1,1,2-TRIMETHYL-CYCLOPROPAN 17429 000000-00-0 59
 5 2-Pentene, 3,4-dimethyl-, (Z)- 925 004914-91-4 45

 Peak Number 40 Rank in Relative Concentration 9

R.T.	Conc	Area	Relative to ISTD	R.T.
24.17	18055.12 ng	137050419	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Decane	10235	000124-18-5	81
2	Decane, 1,1'-oxybis-	73380	002456-28-2	78
3	Nonane	120904	000111-84-2	64
4	Octane	3190	000111-65-9	59
5	Butane, 2-iodo-2-methyl-	33461	000594-38-7	59

 Peak Number 41 Rank in Relative Concentration 18

R.T.	Conc	Area	Relative to ISTD	R.T.
24.32	9954.27 ng	75559560	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2(5H)-FURANONE, 4,5,5-TRIMETHYL-	5202	000000-00-0	50
2	3,6-DIHYDRO-6,6-DIMETHYL-2H-PYRAN-2	5218	072649-03-7	47
3	Cyclohexane, 1,4-dimethyl-2-octadec	91309	055282-02-5	40
4	3-Octen-2-one	5297	001669-44-9	38
5	2-Aminopyrimidin-1-oxide	2307	035034-15-2	38

 Peak Number 42 Rank in Relative Concentration 26

R.T.	Conc	Area	Relative to ISTD	R.T.
24.62	3951.71 ng	29996102	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptane, 3-ethyl-5-methyl-	10260	052896-90-9	64
2	Nonane, 2,6-dimethyl-	15630	017302-28-2	64
3	Decane, 4-methyl-	15626	002847-72-5	62
4	Pentane, 1,1'-oxybis-	16274	000693-65-2	47
5	Decane, 2-methyl-	124553	006975-98-0	47

 Peak Number 43 Rank in Relative Concentration 58

R.T.	Conc	Area	Relative to ISTD	R.T.
24.92	813.51 ng	6175087	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Dichloro-aniline	17104	000000-00-0	22
2	Benzoic acid, 3-amino-2,5-dichloro-	43119	007286-84-2	16

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3 Benzenamine, 3,5-dichloro- (Purity?	124961 000626-43-7	14
4 3-Octanone	120856 000106-68-3	11
5 1-Octen-3-ol	120887 003391-86-4	11

 Peak Number 44 Rank in Relative Concentration 45

R.T.	Conc	Area	Relative to ISTD	R.T.
25.11	1367.20 ng	10377980	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclohexane, 1-methyl-2-propyl-	9505	004291-79-6	52
2	Cyclohexane, 1-methyl-3-propyl-	9506	004291-80-9	50
3	Cyclopropanemethanol, 2,2,3,3-tetra	6009	002415-96-5	50
4	Cyclohexane, 1-methyl-4-(1-methylet	9510	006069-98-3	49
5	Cyclohexane, 1-ethyl-4-methyl-, tra	120639	006236-88-0	47

 Peak Number 45 Rank in Relative Concentration 48

R.T.	Conc	Area	Relative to ISTD	R.T.
25.29	1262.17 ng	9580699	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Dodecane, 1-fluoro-	29330	000334-68-9	43
2	DODECANE, 6-CYCLOHEXYL-	57566	013151-86-5	38
3	7-Oxabicyclo[4.1.0]heptan-2-one, 6-	5238	021889-89-4	35
4	Tridecane, 6-methyl-	34138	013287-21-3	25
5	Nonane, 5-(1-methylpropyl)-	27795	062185-54-0	22

 Peak Number 46 Rank in Relative Concentration 31

R.T.	Conc	Area	Relative to ISTD	R.T.
25.39	2811.36 ng	21340097	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Heptanenitrile	118929	000629-08-3	70
2	2-Hexenoic acid, 3-hexenyl ester, (	32930	053398-87-1	40
3	2-Cyclohexen-1-one, 3-methyl-	118857	001193-18-6	38
4	Hexanedinitrile, 2-methyl-	4344	016525-39-6	37
5	1H-Pyrazole, 3-methyl-	116742	001453-58-3	25

 Peak Number 47 Rank in Relative Concentration 47

R.T.	Conc	Area	Relative to ISTD	R.T.
25.54	1301.66 ng	9880433	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Undecanethiol, 2-methyl-	128537	010059-13-9	38

2 Borane, tributyl-	127032	000122-56-5	27
3 Decane, 2,9-dimethyl-	21662	001002-17-1	27
4 Ethanone, 1-cyclopentyl-	2566	006004-60-0	27
5 1-Nonene, 4,6,8-trimethyl-	20736	054410-98-9	27

 Peak Number 48 Rank in Relative Concentration 12

R.T.	Conc	Area	Relative to ISTD	R.T.
25.73	16208.86 ng	123036107	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Hexanol, 2-ethyl-	121202	000104-76-7	83
2	Heptane, 1,1'-oxybis-	41379	000629-64-1	53
3	2-Heptenal, (E)-	119018	018829-55-5	49
4	1-Decanol	124746	000112-30-1	47
5	Octane, 4-chloro-	11934	000999-07-5	43

 Peak Number 49 Rank in Relative Concentration 14

R.T.	Conc	Area	Relative to ISTD	R.T.
25.88	11364.88 ng	86267030	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Azabicyclo[2.2.1]heptane	699	000279-24-3	78
2	Isoxazole, 3,5-dimethyl-	676	000300-87-8	40
3	cis-1,2-Divinylcyclobutane	1955	016177-46-1	37
4	Butanedinitrile, 2,3-dimethyl-	1881	016411-13-5	37
5	Pentanedinitrile, 2-methyl-	118678	004553-62-2	36

 Peak Number 50 Rank in Relative Concentration 7

R.T.	Conc	Area	Relative to ISTD	R.T.
26.36	25048.43 ng	190134344	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Undecane	15622	001120-21-4	87
2	Octadecane, 1-chloro-	69962	003386-33-2	86
3	Tetradecane	128277	000629-59-4	80
4	Dodecane	126001	000112-40-3	59
5	Nonane	6035	000111-84-2	53

 Peak Number 51 Rank in Relative Concentration 60

R.T.	Conc	Area	Relative to ISTD	R.T.
26.55	651.25 ng	4943427	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
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1 1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	14851	000000-00-0	87
2 3-Undecene, (E)-	14794	001002-68-2	60
3 Cyclohexanone, 5-methyl-2-(1-methyl	14684	010458-14-7	58
4 1-Heptanol, 6-methyl-	121182	001653-40-3	52
5 1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	124363	081983-71-3	49

Peak Number 52 Rank in Relative Concentration 56

R.T.	Conc	Area	Relative to ISTD	R.T.
26.66	859.38 ng	6523278	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Octane, 2-methyl-	6037	003221-61-2	43
2	Octane, 2,6-dimethyl-	10250	002051-30-1	43
3	Heptane, 2,6-dimethyl-	120922	001072-05-5	43
4	Undecane, 5-methyl-	21655	001632-70-8	38
5	Decane, 2-methyl-	124550	006975-98-0	38

Peak Number 53 Rank in Relative Concentration 35

R.T.	Conc	Area	Relative to ISTD	R.T.
26.95	2123.48 ng	16118631	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Undecane, 4-methyl-	126017	002980-69-0	81
2	Octadecane	131494	000593-45-3	59
3	Nonane, 2,6-dimethyl-	15630	017302-28-2	52
4	Decane, 2,6,7-trimethyl-	27786	062108-25-2	52
5	Pentane, 1,1'-oxybis-	16274	000693-65-2	46

Peak Number 54 Rank in Relative Concentration 23

R.T.	Conc	Area	Relative to ISTD	R.T.
27.35	5469.93 ng	41520443	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Naphthalene, decahydro-	122335	000091-17-8	97
2	Naphthalene, decahydro-, cis-	122331	000493-01-6	95
3	Naphthalene, decahydro-, trans-	122344	000493-02-7	91
4	Spiro[4.5]decane	122327	000176-63-6	70
5	Bicyclo[3.1.0]hexan-2-one, 5-(1-met	8669	000513-20-2	53

Peak Number 55 Rank in Relative Concentration 55

R.T.	Conc	Area	Relative to ISTD	R.T.
27.96	871.25 ng	6613349	Hexafluorobenzene	13.75
Hit# of 20	Tentative ID	Ref#	CAS#	Qual

1	1,4-Oxathian-2-one	119713	005512-70-9	83
2	N-ACETYL-(2',3',4',5',6'-PENTADEUTE	30409	053429-13-3	74
3	Tetradecanal	129221	000124-25-4	64
4	1H-Indole, octahydro-	5048	004375-14-8	64
5	PERDEUTERIO-PENTADECANE	40629	036340-20-2	64

Peak Number 56 Rank in Relative Concentration 59

R.T.	Conc	Area	Relative to ISTD	R.T.
28.10	784.18 ng	5952445	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclohexane, pentyl-	14841	004292-92-6	93
2	Cyclohexane, hexyl-	20760	004292-75-5	74
3	Cyclohexane, (1-methylethyl)-	120632	000696-29-7	72
4	Cyclohexane, octyl-	33191	001795-15-9	64
5	Cyclohexane, eicosyl-	135347	004443-55-4	53

Peak Number 57 Rank in Relative Concentration 28

R.T.	Conc	Area	Relative to ISTD	R.T.
28.27	3857.21 ng	29278831	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Cyclohexen-1-one, 4,4-dimethyl-	120409	001073-13-8	46
2	2(1H)-Pyrimidinone, 4-amino-	118915	000071-30-7	45
3	2-ETHYL-5-PENTYL-5-PYRROLINE	19967	061772-94-9	43
4	CYCLOPENTANE, 1-DEUTERO-2-METHYL-1-	2273	000000-00-0	35
5	4(1H)-Pyridinone, 2,3-dihydro-1-met	2353	035488-00-7	35

Peak Number 58 Rank in Relative Concentration 38

R.T.	Conc	Area	Relative to ISTD	R.T.
28.61	1962.55 ng	14897030	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Undecane, 2,6-dimethyl-	127264	017301-23-4	97
2	Undecane, 3,6-dimethyl-	27753	017301-28-9	74
3	Dodecane, 6-methyl-	27736	006044-71-9	70
4	Hexadecane, 2,6,10,14-tetramethyl-	132695	000638-36-8	59
5	Nonane, 3-methyl-	10243	005911-04-6	53

Peak Number 59 Rank in Relative Concentration 50

R.T.	Conc	Area	Relative to ISTD	R.T.
28.77	1212.37 ng	9202718	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2-Cyclohexen-1-one	117593	000930-68-7	59
2	2,5-Pyrrolidinedione, 3-ethylidene-	8879	016395-79-2	42
3	CYCLOPENT-2-EN-1,4-DIONE	550	000000-00-0	32
4	5-HYDROXYPYRIMIDINE	547	026456-59-7	25
5	1H-Pyrazole, 1,3-dimethyl-	559	000694-48-4	22

 Peak Number 60 Rank in Relative Concentration 32

R.T.	Conc	Area	Relative to ISTD	R.T.
28.95	2614.33 ng	19844509	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Naphthalene, decahydro-2-methyl-	124047	002958-76-1	89
2	Bicyclo[4.1.0]heptan-2-one, 3,5,5-t	13725	029750-24-1	68
3	CIS-SYN-2-METHYL-DECAHYDRONAPHTHALE	13879	000000-00-0	64
4	Bicyclo[4.3.1]decan-10-one	124035	020440-21-5	64
5	(Z)-6,6-Dimethylcyclooct-4-en-1-one	13709	091531-64-5	62

 Peak Number 61 Rank in Relative Concentration 46

R.T.	Conc	Area	Relative to ISTD	R.T.
29.44	1335.48 ng	10137191	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Naphthalene, decahydro-1,6-dimethyl	125614	001750-51-2	89
2	TRANS-6-METHYLSPIRO(4.5)DECAN-1-ONE	125591	035653-44-2	58
3	TRANS-10-METHYL-4-KETOPERHYDROAZULE	19659	085318-94-1	58
4	Naphthalene, decahydro-1,2-dimethyl	19757	003604-14-6	58
5	Naphthalene, decahydro-1,5-dimethyl	19758	066552-62-3	55

 Peak Number 62 Rank in Relative Concentration 44

R.T.	Conc	Area	Relative to ISTD	R.T.
29.74	1442.68 ng	10950897	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Pentadecane, 2,6,10,14-tetramethyl-	132091	001921-70-6	72
2	Tridecane, 7-methyl-	128289	026730-14-3	62
3	Decane, 2-methyl-	15624	006975-98-0	56
4	Dodecane, 2,6,11-trimethyl-	129244	031295-56-4	53
5	Octane, 2,3,7-trimethyl-	15638	062016-34-6	50

 Peak Number 63 Rank in Relative Concentration 41

R.T.	Conc	Area	Relative to ISTD	R.T.
29.87	1677.30 ng	12731853	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Naphthalene, decahydro-2,6-dimethyl	19761	001618-22-0	87
2	Camphor	124024	000076-22-2	74
3	TRANS-10-METHYL-4-KETOPERHYDROAZULE	19659	085318-94-1	72
4	Naphthalene, decahydro-2,3-dimethyl	19760	001008-80-6	60
5	Naphthalene, decahydro-1,6-dimethyl	125614	001750-51-2	60

 Peak Number 64 Rank in Relative Concentration 62

R.T.	Conc	Area	Relative to ISTD	R.T.
30.09	618.12 ng	4691959	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	2(1H)-Naphthalenone, octahydro-8a-m	19652	002530-17-8	46
2	3-Nonen-1-ol, (E)-	10184	010339-61-4	46
3	4,8,8-TRIMETHYLCYCLOOCT-3-ENONE	19617	058643-97-3	46
4	Bicyclo[2.2.1]heptane, 2-methyl-, e	2290	000872-78-6	38
5	Cyclopropane, 1,1-dimethyl-2-(2-met	4904	069147-03-1	38

 Peak Number 65 Rank in Relative Concentration 54

R.T.	Conc	Area	Relative to ISTD	R.T.
30.26	942.61 ng	7155065	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclohexane, 2-butyl-1,1,3-trimethy	26872	054676-39-0	94
2	Cyclohexane, (1-methylpropyl)-	122510	007058-01-7	50
3	Cyclopentane, (2-methylpropyl)-	5449	003788-32-7	49
4	Cyclohexane, (1-methylethyl)-	5458	000696-29-7	49
5	Cyclohexane, (2-methylpropyl)-	9503	001678-98-4	47

 Peak Number 66 Rank in Relative Concentration 6

R.T.	Conc	Area	Relative to ISTD	R.T.
30.42	30583.76 ng	232151169	Hexafluorobenzene	13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tridecane	127254	000629-50-5	87
2	Hexadecane	130127	000544-76-3	78
3	Pentadecane	129233	000629-62-9	72
4	Dodecane	126005	000112-40-3	72
5	Tetradecane	128274	000629-59-4	72

 Peak Number 67 Rank in Relative Concentration 33

R.T.	Conc	Area	Relative to ISTD	R.T.
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32.33 2396.64 ng 18192117 Hexafluorobenzene 13.75

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Tetradecane	128276	000629-59-4	95
2	Tridecane	127253	000629-50-5	90
3	Pentadecane	129234	000629-62-9	86
4	Hexadecane	130127	000544-76-3	86
5	Dodecane	126002	000112-40-3	86

 39032921.D AREA.M Fri Mar 26 10:21:26 1999

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 91
 ID : 1-Propene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
Quality : 90
ID : 1-Propene, 2-methyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 87
 ID : 1-Propene, 2-methyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 59
 ID : 1-Pentene

Library Searched : C:\DATABASE\WILEY138.L
Quality : 58
ID : 1-Pentene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 43
 ID : Pentane, 2-methyl-

Library Searched : C:\DATABASE\WILEY138.L
Quality : 94
ID : 1-Hexene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
Quality : 52
ID : 2-Hexene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 49
 ID : 3-Heptene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 74
 ID : 3-Heptene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 53
 ID : 1-Heptene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
Quality : 95
ID : 3-Heptene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 60
 ID : 2-Heptene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
Quality : 94
ID : 2-Heptene

Library Searched : C:\DATABASE\WILEY138.L
Quality : 91
ID : Cyclopropane, butyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 90
 ID : Cyclopentene, 1,5-dimethyl-

Library Searched : C:\DATABASE\WILEY138.L
Quality : 94
ID : 3,4-Heptadiene

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 78
 ID : Heptane, 3-methyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 64
 ID : 2,3-Hexadiene, 2-methyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 52
 ID : Heptane, 3-methylene-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 87
 ID : 2-Heptyne

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 64
 ID : 2-HEPTENE, 3-METHYL-

Library Searched : C:\DATABASE\WILEY138.L
Quality : 87
ID : TRANS-1-BUTYL-2-METHYLCYCLOPROPANE

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 47
 ID : 1,6-Octadiene

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 27
 ID : Heptane, 2,3-dimethyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 53
 ID : Heptane, 3-ethyl-

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 72
 ID : Butane, 1,1'-oxybis-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 90
 ID : 4-Heptanone

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 87
 ID : 3-Heptanone

Library Searched : C:\DATABASE\WILEY138.L
Quality : 46
ID : Decane, 2-methyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 52
 ID : Nonane, 2-methyl-

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 45
 ID : Furan, 2,5-diethyltetrahydro-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
Quality : 80
ID : 1-Methyl-2-cyclopenten-1-ol

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 53
 ID : Oxazole, trimethyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 64
 ID : Decane, 4-methyl-

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
Quality : 78
ID : 1-Hexanol, 2-ethyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 64
 ID : 2-Azabicyclo[2.2.1]heptane

Library Searched : C:\DATABASE\WILEY138.L

Quality : 89

ID : Cyclohexanone, 5-methyl-2-(1-methylethyl)-, cis-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 87
 ID : Undecane, 5-methyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 74
 ID : Undecane, 4-methyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 96
 ID : Naphthalene, decahydro-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 47
 ID : Octanenitrile

Library Searched : C:\DATABASE\WILEY138.L
Quality : 47
ID : Cyclohexane, pentyl-

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 62
 ID : Undecane, 2,6-dimethyl-

File : C:\HPCHEM\1\DATA\390320\39032921.D
Operator : Bonfoey
Acquired : 23 Mar 99 4:28 pm using AcqMethod 390320AQ
Instrument : 5972 INST
Sample Name: VS006-233-TS31 Split
Misc Info :
Vial Number: 21

Library Searched : C:\DATABASE\WILEY138.L
Quality : 93
ID : Naphthalene, decahydro-2-methyl-

Library Searched : C:\DATABASE\WILEY138.L
Quality : 93
ID : Naphthalene, decahydro-1,6-dimethyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
 Quality : 49
 ID : Tridecane, 7-methyl-

Library Searched : C:\DATABASE\WILEY138.L

Quality : 86

ID : Naphthalene, decahydro-2,6-dimethyl-

Library Searched : C:\DATABASE\WILEY138.L
Quality : 38
ID : Naphthalene, decahydro-1,6-dimethyl-

HNF-4440 Rev. 0

Library Searched : C:\DATABASE\WILEY138.L
Quality : 53
ID : Cyclotetradecane

Library Searched : C:\DATABASE\WILEY138.L
Quality : 94
ID : Tetradecane

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2.4 Total Non-Methane Organic Carbon in SUMMA Canister Samples (T0-12 Method)

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2.4.1 Narrative

This section contains descriptions of the analytical method and quality assurance used during analysis.

2.4.1.1 Determination of Total Non-Methane Organic Carbon (TO-12 Method) in SUMMA Canister Samples

This method is based on the U.S. Environmental Protection Agency TO-12 method for the analysis of samples collected in SUMMA canisters. A tank vapor subsample is drawn from the SUMMA canister through a cryogenic vapor concentration system. The concentrated subsample is subsequently analyzed by gas chromatography - flame ionization detection. The chromatograph is calibrated to provide a gross carbon-hydrogen bond response using a multilevel calibration curve generated with a commercially supplied propane standard. The calibration is verified with a propane standard traceable to NIST.

The instrumentation consists of a Hewlett-Packard model 5890 Series II gas chromatograph equipped with a fused silica capillary column and a flame ionization detector.

2.4.1.2 Total Non-methane Organic Carbon (TO-12 Method) Analytical Quality Assurance

Method LA-523-407, Rev. A-0, is used for quantitative gas chromatographic analysis of total non-methane organic carbon in waste tank headspace samples collected in SUMMA canisters. The method does not measure specific analytes but integrates all non-methane organic compounds as a single, reportable analyte.

The gas chromatographic system is calibrated initially prior to starting sample analysis and each time continuing calibration criteria cannot be met for subsequent analysis. At least 5 propane standard concentration levels are used for initial calibration, or ICAL. The validity of the initial calibration is demonstrated by meeting deviation or curve fit criteria and through the satisfactory analysis of a "check standard" gas, the ICVS. Initial calibration gas blanks are measured to demonstrate system cleanliness. Each day that the GC system is used for analysis, the continuing calibration of the system is verified through the measurement of a mid-level check propane standard, or CCVS. The measurement must meet criteria for percent recovery of the propane standard. Continuing calibration blanks, CCBs, are used to document the continued cleanliness of the GC system.

With each tank sample reporting batch, the analysis of a laboratory control sample (LCS) and LCS duplicate is conducted. The recovery of the LCS analyte must meet accuracy (percent recovery - %R) and precision (relative percent difference - RPD) requirements. Also, with each tank sample reporting batch, an actual tank sample is analyzed in duplicate, the "laboratory sample duplicate". The RPD between the sample analyte concentrations measured above reporting limits and its laboratory sample duplicate must meet precision requirement or the resulting data is flagged.

No deviations from the analytical QC procedures occurred.

2.4.2 Result Summary Tables

The result summary tables summarize the results of the Total Non-methane Organic Carbon analysis. All reported values have been corrected to 25 °C and 1 atmosphere pressure.

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-202-S011

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/20/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	21690420				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	1725	3450	3.4	0.85	1.7	1.7		

Notes:

*The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-212-S028

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/22/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	2/690422
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)
							Sample Concentration (mg/m ³)
							Reported Concentration (mg/m ³)
							Relative Standard Deviation (%)
							Flags
TNMOC	N/A	1.25	1.25	8715	209160	210	4.28
							103
							100

Notes:

The sample was diluted to approximately 24 atmospheres when received by the Analytical Laboratory

Dilution Factor 24.00

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-222-S039

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	2/690422					
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	32412	777900	780	15.9	382	380		

Notes:

The sample was diluted to approximately 24 atmospheres when received by the Analytical Laboratory

Dilution Factor 24.00

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-232-S056

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	2/690422					
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	38534	1156015	1200	18.91	567	570		

Notes:

The sample was diluted to approximately 30 atmospheres when received by the Analytical Laboratory

Dilution Factor 30.00

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VS006-237-S071

Laboratory Sample Number	C-196, II Phase II	Sample Analysis Date	4/22/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	2/690422				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	38284	1148510	1100	18.79	564	560		

Notes:

The sample was diluted to approximately 30 atmospheres when received by the Analytical Laboratory

Dilution Factor 30.00

TNMOC Analysis

Analyst: L.A. Pingel

VSAMB-201-S017

Sample Canister Number

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/22/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	2/690422				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	-281	0	0.15	0.00	0	0.074		M

Notes:

The sample was diluted to approximately 24 atmospheres when received by the Analytical Laboratory

Dilution Factor 24.00

TNMOC Analysis

Analyst: L.A. Pingel

VSAMB-205-S044

Sample Canister Number

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/20/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	21690420				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	-367	0	0.15	0.00	0.0	0.074		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VSAMB-206-S046

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	21690420					
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	-379	0	0.15	0.00	0.0	0.074		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

TNMOC Analysis

Analyst: L.A. Pinget

VSAMB-207-S065

Sample Canister Number

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/20/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	21690420				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	-349	0	0.15	0.00	0.0	0.074		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VSAMB-211-S067

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/20/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	21690420														
Target Analyte Number	CAS Number	Expected Retention Time (min)	1.25	Sample Retention Time (min)	1.25	Diluted Sample Concentration (ppbC)	0	Sample Concentration (ppbC)	0	Reported Concentration (ppmC)	0.15	Diluted Sample Concentration (mg/m ³)	0.00	Sample Concentration (mg/m ³)	0.0	Reported Concentration (mg/m ³)	0.074	Relative Standard Deviation (%)		Flags	
TNMOC	N/A																			M	

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor

2.00

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VSAMB-212-S098

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/20/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	2\690420				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	-327	0	0.15	0.00	0.0	0.074		M

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VS702-202-S058

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/20/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	21690420				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	169	339	0.34	0.08	0.17	0.17		

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

TNMOC Analysis

Analyst: L.A. Pingel

Sample Canister Number VS702-204-S079

Laboratory Sample Number	C-106, II Phase II	Sample Analysis Date	4/20/99	Laboratory Notebook Number	WHC-N-1319	Sample Datafile Identifier	21690420				
Target Analyte Number	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Diluted Sample Concentration (ppbC)	Sample Concentration (ppbC)	Reported Concentration (ppmC)	Diluted Sample Concentration (mg/m ³)	Sample Concentration (mg/m ³)	Reported Concentration (mg/m ³)	Relative Standard Deviation (%)	Flags
TNMOC	N/A	1.25	1.25	1880	3759	3.8	0.92	1.8	1.8		

Notes:

The sample was diluted to approximately 2 atmospheres when received by the Analytical Laboratory

Dilution Factor 2.00

2.4.3 Quality Control Summary Table

The QC summary tables describes each analysis by run number. The table includes the following:

- CCVS results
- Duplicate results
- Analytical results of the waste tank samples.

VS006- 202-S011

Project Number: C-106, II

TNMOC

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
 Data File: 2\690420
 Instrument Method: 2\690420.MTH

Data Acquired on: 4/20/99
 Analyst: L.A. Pingel
 Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
008F 101.D	185-1-12.02	Zero Air			
009F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
009F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.56%
010F 301.D	185-1-12.02	Zero Air			
020F 0501.D	202-S011	1725 ppbv		0.8 mg/m ³	
		Average		0.9 mg/m ³	

VS006- 212-S028
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2/690422
Instrument Method: 2/690422.MTH

Data Acquired on: 4/22/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
001F 101.D	185-1-12.02	Zero Air			
002F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
002F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.57%
003F 301.D	185-1-12.02	Zero Air			
037F 301.D	212-S028	8715 ppbv	4.3 mg/m ³		
		Average	4.3 mg/m ³		

VS006- 222-S039
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2/690422
Instrument Method: 2/690422.MTH

Data Acquired on: 4/22/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
001F 101.D	185-1-12.02	Zero Air			
002F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3708 ppbv		23.62%
002F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3699 ppbv		23.30%
003F 301.D	185-1-12.02	Zero Air			
039F 301.D	222-S039	32412 ppbv	15.9 mg/m ³		
		Average	16.0 mg/m ³		

VS006- 232-S056

Project Number: C-106, II

TNMOC

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
 Data File: 2/690422
 Instrument Method: 2/690422.MTH

Data Acquired on: 4/22/99
 Analyst: L.A. Pingel
 Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
001F 101.D	185-1-12.02	Zero Air			
002F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3708 ppbv		23.60%
002F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3699 ppbv		23.30%
003F 301.D	185-1-12.02	Zero Air			
040F 301.D	232-S056	38534 ppbv		18.9 mg/m ³	
		Average		19.0 mg/m ³	

VS006- 237-S071
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2/690422
Instrument Method: 2/690422.MTH

Data Acquired on: 4/22/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
008F 101.D	185-1-12.02	Zero Air			
009F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
009F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.56%
010F 301.D	185-1-12.02	Zero Air			
041F 0301.D	237-S071	38284 ppbv	18.8 mg/m ³		
		Average	19.0 mg/m ³		

VSAMB- 201-S017
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2/690422
Instrument Method: 2/690422.MTH

Data Acquired on: 4/22/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations			
				%D
001F 101.D	185-1-12.02	Zero Air		
002F 201.D	1319-1-79.01	3.0 ICVS/CCVS	ppbv	100.00%
002F 202.D	1319-1-79.01	3.0 ICVS/CCVS	ppbv	100.00%
003F 301.D	185-1-12.02	Zero Air		
039F 301.D	201-S017	-281 ppbv	0.0 mg/m ³	
		Average	0.0 mg/m ³	

VSAMB- 205-S044
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2\690420
Instrument Method: 2/690420.MTH

Data Acquired on: 4/20/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
008F 101.D	185-1-12.02	Zero Air			
009F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
009F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.56%
010F 301.D	185-1-12.02	Zero Air			
020F 0501.D	205-S044	-367 ppbv	0.0 mg/m ³		
		Average	0.0 mg/m ³		

VSAMB- 206-S046
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2\690420
Instrument Method: 2/690420.MTH

Data Acquired on: 4/20/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
008F 101.D	185-1-12.02	Zero Air			
009F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
009F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.56%
010F 301.D	185-1-12.02	Zero Air			
014F 0401.D	206-S046	-379 ppbv	0.0 mg/m ³		
		Average	0.0 mg/m ³		

VSAMB- 207-S065
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
 Data File: 2\690420
 Instrument Method: 2\690420.MTH

Data Acquired on: 4/20/99
 Analyst: L.A. Pingel
 Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
008F 101.D	185-1-12.02	Zero Air			
009F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
009F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.56%
010F 301.D	185-1-12.02	Zero Air			
013F 0401.D	207-S065	-349 ppbv	0.0 mg/m ³		
		Average	0.0 mg/m ³		

VSAMB- 211-S067
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2\690420
Instrument Method: 2/690420.MTH

Data Acquired on: 4/20/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
008F 101.D	185-1-12.02	Zero Air			
009F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
009F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.56%
010F 301.D	185-1-12.02	Zero Air			
015F 0401.D	211-S067	0 ppbv	0.0 mg/m ³		
		Average	0.0 mg/m ³		

VSAMB- 212-S098
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2\690420
Instrument Method: 2/690420.MTH

Data Acquired on: 4/20/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
008F 101.D	185-1-12.02	Zero Air			
009F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
009F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.56%
010F 301.D	185-1-12.02	Zero Air			
011F 0401.D	212-S098	-327 ppbv	0.0 mg/m ³		
		Average	0.0 mg/m ³		

VS702- 202-S058
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2\690420
Instrument Method: 2\690420.MTH

Data Acquired on: 4/20/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
008F 101.D	185-1-12.02	Zero Air			
009F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
009F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.56%
010F 301.D	185-1-12.02	Zero Air			
012F 0401.D	202-S058	169 ppbv	0.08 mg/m ³		
		Average	0.08 mg/m ³		

VS702- 204-S079
TNMOC

Project Number: C-106, II

Instrument #6. TNMOC (TO-12) Gas GC, located in Analysis Trailer #2
Data File: 2\690420
Instrument Method: 2/690420.MTH

Data Acquired on: 4/20/99
Analyst: L.A. Pingel
Laboratory Notebook: WHC-N-1319

Run #	Analyzed Concentrations				%D
008F 101.D	185-1-12.02	Zero Air			
009F 201.D	1319-1-79.01	3.0 ICVS/CCVS	3145 ppbv		4.83%
009F 202.D	1319-1-79.01	3.0 ICVS/CCVS	3857 ppbv		28.56%
010F 301.D	185-1-12.02	Zero Air			
016F 0401.D	204-S079	1880 ppbv	0.92 mg/m ³		
		Average	0.92 mg/m ³		

2.4.4 Supporting Data

This section contains chromatograms and quantitation reports for all analyses including waste tank samples, calibration verifications, and blanks.

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External Standard Report

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Data File Name	: C:\HPCHEM\2\DATA\690420\008F0101.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 8
Instrument	: TNMOC	Injection Number	: 1
Sample Name	: 185-1-12.02	Sequence Line	: 1
Run Time Bar Code:		Instrument Method	: 690420.MTH
Acquired on	: 20 Apr 99 11:24 AM	Analysis Method	: 690420.MTH
Report Created on:	20 Apr 99 11:26 AM	Sample Amount	: 0
Last Recalib on	: 20 APR 99 11:10 AM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\2\DATA\690420\008F0101.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	2546	BV + 0.000	1	-388.652	TNMOC	

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External Standard Report

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Data File Name	: C:\HPCHEM\2\DATA\690420\009F0201.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 9
Instrument	: TNMOC LAP	Injection Number	: 1
Sample Name	: 903 CCVS4/20/99	Sequence Line	: 2
Run Time Bar Code	: 3E3	Instrument Method	: 690420.MTH
Acquired on	: 20 Apr 99 11:32 AM	Analysis Method	: 690420.MTH
Report Created on	: 20 Apr 99 11:34 AM	Sample Amount	: 0
Last Recalib on	: 20 APR 99 11:10 AM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\2\DATA\690420\009F0201.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	1097529	BV + 0.000	1	3145.049	TNMOC	

=====

$$\frac{3145 - 3000}{3000} (100\%) = 4.83\%$$

External Standard Report

```

Data File Name      : C:\HPCHEM\2\DATA\690420\009F0202.D
Operator            : L.A. Pingel
Instrument           : TNMOC
Sample Name         : 983 CCVS LAP
Run Time Bar Code   : 353 4/20/99
Acquired on         : 20 Apr 99 11:38 AM
Report Created on   : 20 Apr 99 11:41 AM
Last Recalib on    : 20 APR 99 11:10 AM
Multiplier          : 1
Page Number         : 1
Vial Number         : 9
Injection Number    : 2
Sequence Line       : 2
Instrument Method    : 690420.MTH
Analysis Method     : 690420.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 1 in C:\HPCHEM\2\DATA\690420\009F0202.D

Ret Time	Area	Type Width	Ref#	ppbC	Name
1.248	1318049	BV + 0.000	1	3856.707	TNMOC

External Standard Report

```

Data File Name   : C:\HPCHEM\2\DATA\690420\010F0301.D
Operator        : L.A. Pingel
Instrument       : TNMOC
Sample Name     : 185-1-12.02
Run Time Bar Code:
Acquired on    : 20 Apr 99 12:10 PM
Report Created on: 20 Apr 99 12:12 PM
Last Recalib on : 20 APR 99 11:10 AM
Multiplier     : 1
Page Number    : 1
Vial Number    : 10
Injection Number : 1
Sequence Line  : 3
Instrument Method: 690420.MTH
Analysis Method : 690420.MTH
Sample Amount   : 0
ISTD Amount     :
  
```

Sig. 1 in C:\HPCHEM\2\DATA\690420\010F0301.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	16137	BV +	0.000	1	-344.792	TNMOC

External Standard Report

Data File Name : C:\HPCHEM\2\DATA\690420\011F0401.D	Page Number : 1
Operator : L.A. Pingel	Vial Number : 11
Instrument : TNMOC	Injection Number : 1
Sample Name : VSAMB-212-S098	Sequence Line : 4
Run Time Bar Code:	Instrument Method: 690420.MTH
Acquired on : 20 Apr 99 12:17 PM	Analysis Method : 690420.MTH
Report Created on: 20 Apr 99 12:20 PM	Sample Amount : 0
Last Recalib on : 20 APR 99 11:10 AM	ISTD Amount :
Multiplier : 1	

Sig. 1 in C:\HPCHEM\2\DATA\690420\011F0401.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	21519	BV +	0.000	1	-327.424	TNMOC

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\2\DATA\690420\012F0401.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 12
Instrument	: TNMOC	Injection Number	: 1
Sample Name	: VS702-202-S058	Sequence Line	: 4
Run Time Bar Code:		Instrument Method	: 690420.MTH
Acquired on	: 20 Apr 99 12:29 PM	Analysis Method	: 690420.MTH
Report Created on:	20 Apr 99 12:32 PM	Sample Amount	: 0
Last Recalib on	: 20 APR 99 11:10 AM	ISTD Amount	:
Multiplier	: 1		

Sig. 1 in C:\HPCHEM\2\DATA\690420\012F0401.D

Ret Time	Area	Type Width	Ref#	ppbC	Name
1.248	175435	BV + 0.000	1	169.291	TNMOC

=====

External Standard Report

Data File Name : C:\HPCHEM\2\DATA\690420\013F0401.D	Page Number : 1
Operator : L.A. Pingel	Vial Number : 13
Instrument : TNMOC	Injection Number : 1
Sample Name : VSAMB-207-S065	Sequence Line : 4
Run Time Bar Code:	Instrument Method: 690420.MTH
Acquired on : 20 Apr 99 12:36 PM	Analysis Method : 690420.MTH
Report Created on: 20 Apr 99 12:38 PM	Sample Amount : 0
Last Recalib on : 20 APR 99 11:10 AM	ISTD Amount :
Multiplier : 1	

Sig. 1 in C:\HPCHEM\2\DATA\690420\013F0401.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	14820	BV +	0.000	1	-349.041	TNMOC

External Standard Report

```

=====
Data File Name      : C:\HPCHEM\2\DATA\690420\014F0401.D
Operator           : L.A. Pingel
Instrument          : TNMOC
Sample Name        : VSAMB-206-S046
Run Time Bar Code  :
Acquired on        : 20 Apr 99 12:43 PM
Report Created on  : 20 Apr 99 12:45 PM
Last Recalib on    : 20 APR 99 11:10 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 14
Injection Number   : 1
Sequence Line      : 4
Instrument Method   : 690420.MTH
Analysis Method    : 690420.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Fig. 1 in C:\HPCHEM\2\DATA\690420\014F0401.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	5427	BV +	0.000	1	-379.355	TNMOC

External Standard Report

Data File Name : C:\HPCHEM\2\DATA\690420\015F0401.D		Page Number : 1
Operator : L.A. Pingel		Vial Number : 15
Instrument : TNMOC		Injection Number : 1
Sample Name : VSAMB-211-S067		Sequence Line : 4
Run Time Bar Code:		Instrument Method: 690420.MTH
Acquired on : 20 Apr 99 12:50 PM		Analysis Method : 690420.MTH
Report Created on: 20 Apr 99 12:52 PM		Sample Amount : 0
Last Recalib on : 20 APR 99 11:10 AM		ISTD Amount :
Multiplier : 1		

Sig. 1 in C:\HPCHEM\2\DATA\690420\015F0401.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.250	* not found *			1		TNMOC

Not all calibrated peaks were found

External Standard Report

```

Data File Name      : C:\HPCHEM\2\DATA\690420\016F0401.D
Operator           : L.A. Pingel
Instrument          : TNMOC
Sample Name        : VS702-204-S079
Run Time Bar Code  :
Acquired on        : 20 Apr 99 12:57 PM
Report Created on  : 20 Apr 99 12:59 PM
Last Recalib on   : 20 APR 99 11:10 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 16
Injection Number   : 1
Sequence Line      : 4
Instrument Method   : 690420.MTH
Analysis Method    : 690420.MTH
Sample Amount      : 0
ISTD Amount        :
  
```

Sig. 1 in C:\HPCHEM\2\DATA\690420\016F0401.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	705423	BV + 0.000	1	1879.655	TNMOC

External Standard Report

```

Data File Name      : C:\HPCHEM\2\DATA\690420\017F0401.D
Operator            : L.A. Pingel
Instrument           : TNMOC
Sample Name         : VSAMB-205-S044
Run Time Bar Code   :
Acquired on         : 20 Apr 99 01:04 PM
Report Created on   : 20 Apr 99 01:06 PM
Last Recalib on    : 20 APR 99 11:10 AM
Multiplier          : 1
Page Number         : 1
Vial Number         : 17
Injection Number    : 1
Sequence Line       : 4
Instrument Method    : 690420.MTH
Analysis Method     : 690420.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Sig. 1 in C:\HPCHEM\2\DATA\690420\017F0401.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	9340	BV +	0.000	1	-366.728	TNMOC

External Standard Report

Data File Name : C:\HPCHEM\2\DATA\690420\019F0501.D	Page Number : 1
Operator : L.A. Pingel	Vial Number : 19
Instrument : TNMOC	Injection Number : 1
Sample Name : VS006-222-S039	Sequence Line : 5
Run Time Bar Code:	Instrument Method: 690420.MTH
Acquired on : 20 Apr 99 01:11 PM	Analysis Method : 690420.MTH
Report Created on: 20 Apr 99 01:14 PM	Sample Amount : 0
Last Recalib on : 20 APR 99 11:10 AM	ISTD Amount :
Multiplier : 1	

Fig. 1 in C:\HPCHEM\2\DATA\690420\019F0501.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	1.34053E+008	BBA+	0.000	1	432215.0	TNMOC

External Standard Report

```

Data File Name      : C:\HPCHEM\2\DATA\690420\020F0501.D
Operator            : L.A. Pingel
Instrument          : TNMOC
Sample Name         : VS006-202-S011
Run Time Bar Code   :
Acquired on         : 20 Apr 99 01:18 PM
Report Created on   : 20 Apr 99 01:21 PM
Last Recalib on    : 20 APR 99 11:10 AM
Multiplier          : 1
Page Number         : 1
Vial Number         : 20
Injection Number    : 1
Sequence Line       : 5
Instrument Method    : 690420.MTH
Analysis Method     : 690420.MTH
Sample Amount       : 0
ISTD Amount         :
  
```

Fig. 1 in C:\HPCHEM\2\DATA\690420\020F0501.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	657466	BV +	0.000	1	1724.890	TNMOC

External Standard Report

```

=====
Data File Name      : C:\HPCHEM\2\DATA\690420\021F0501.D
Operator           : L.A. Pingel
Instrument          : TNMOC
Sample Name        : VSAMB-201-S017
Run Time Bar Code  :
Acquired on       : 20 Apr 99 01:26 PM
Report Created on : 20 Apr 99 01:28 PM
Last Recalib on  : 20 APR 99 11:10 AM
Multiplier        : 1
Page Number       : 1
Vial Number       : 21
Injection Number  : 1
Sequence Line     : 5
Instrument Method : 690420.MTH
Analysis Method   : 690420.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Fig. 1 in C:\HPCHEM\2\DATA\690420\021F0501.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	35941	BV +	0.000	1	-280.882	TNMOC

=====

External Standard Report

=====

Data File Name	: C:\HPCHEM\2\DATA\690420\022F0501.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 22
Instrument	: TNMOC	Injection Number	: 1
Sample Name	: VS006-212-S028	Sequence Line	: 5
Run Time Bar Code:		Instrument Method	: 690420.MTH
Acquired on	: 20 Apr 99 01:33 PM	Analysis Method	: 690420.MTH
Report Created on:	: 20 Apr 99 01:36 PM	Sample Amount	: 0
Last Recalib on	: 20 APR 99 11:10 AM	ISTD Amount	:
Multiplier	: 1		

Fig. 1 in C:\HPCHEM\2\DATA\690420\022F0501.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	3.8521E+007	BBA+	0.000	1	123917.3	TNMOC

=====

External Standard Report

Data File Name : C:\HPCHEM\2\DATA\690420\023F0501.D	Page Number : 1
Operator : L.A. Pingel	Vial Number : 23
Instrument : TNMOC	Injection Number : 1
Sample Name : VS006-232-S056	Sequence Line : 5
Run Time Bar Code:	Instrument Method: 690420.MTH
Acquired on : 20 Apr 99 01:40 PM	Analysis Method : 690420.MTH
Report Created on: 20 Apr 99 01:43 PM	Sample Amount : 0
Last Recalib on : 20 APR 99 11:10 AM	ISTD Amount :
Multiplier : 1	

Sig. 1 in C:\HPCHEM\2\DATA\690420\023F0501.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	1.95617E+008	BBA+	0.000	1	630893.5	TNMOC

External Standard Report

Data File Name	: C:\HPCHEM\2\DATA\690420\024F0501.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 24
Instrument	: TNMOC	Injection Number	: 1
Sample Name	: VS006-237-S071	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	690420.MTH
Acquired on	: 20 Apr 99 01:47 PM	Analysis Method	: 690420.MTH
Report Created on:	20 Apr 99 01:50 PM	Sample Amount	: 0
Last Recalib on	: 20 APR 99 11:10 AM	ISTD Amount	:
Multiplier	: 1		

Fig. 1 in C:\HPCHEM\2\DATA\690420\024F0501.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	2.00698E+008	BBA+	0.000	1	647291.7	TNMOC

External Standard Report

```

Data File Name      : C:\HPCHEM\2\DATA\690422\008F0101.D
Operator            : L.A. Pingel
Instrument          : TNMOC
Sample Name        : 185-1-12.02
Run Time Bar Code  :
Acquired on       : 22 Apr 99 08:36 AM
Report Created on : 22 Apr 99 08:38 AM
Last Recalib on  : 20 APR 99 11:10 AM
Multiplier       : 1
Page Number       : 1
Vial Number       : 8
Injection Number  : 1
Sequence Line     : 1
Instrument Method : 690422.MTH
Analysis Method   : 690422.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Fig. 1 in C:\HPCHEM\2\DATA\690422\008F0101.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	55103	BV + 0.000	1	-219.042	TNMOC

External Standard Report

data File Name	: C:\HPCHEM\2\DATA\690422\009F0201.D	Page Number	: 1
Operator	: L.A. Pingel	Vial Number	: 9
Instrument	: TNMOC LAP 4/22/99	Injection Number	: 1
Sample Name	: 903 CCVS	Sequence Line	: 2
Run Time Bar Code	: 353	Instrument Method	: 690422.MTH
Acquired on	: 22 Apr 99 08:42 AM	Analysis Method	: 690422.MTH
Report Created on	: 22 Apr 99 08:45 AM	Sample Amount	: 0
Last Recalib on	: 20 APR 99 11:10 AM	ISTD Amount	:
Multiplier	: 1		

Fig. 1 in C:\HPCHEM\2\DATA\690422\009F0201.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	1272110	BV +	0.000	1	3708.452	TNMOC

%D = 23%

External Standard Report

```

=====
Data File Name      : C:\HPCHEM\2\DATA\690422\009F0202.D
Operator           : L.A. Pingel
Instrument          : TNMOC
Sample Name        : 9e3 CCVS
Run Time Bar Code  : 353
Acquired on        : 22 Apr 99 08:49 AM
Report Created on   : 22 Apr 99 08:51 AM
Last Recalib on    : 20 APR 99 11:10 AM
Multiplier         : 1
Page Number        : 1
Vial Number        : 9
Injection Number    : 2
Sequence Line      : 2
Instrument Method   : 690422.MTH
Analysis Method     : 690422.MTH
Sample Amount      : 0
ISTD Amount        :
=====

```

Fig. 1 in C:\HPCHEM\2\DATA\690422\009F0202.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	1269134	BV +	0.000	1	3698.851	TNMOC

70D = 23%

External Standard Report

Data File Name : C:\HPCHEM\2\DATA\690422\036F0301.D	Page Number : 1
Operator : L.A. Pingel	Vial Number : 36
Instrument : TNMOC	Injection Number : 1
Sample Name : 182-1-12.02	Sequence Line : 3
Run Time Bar Code:	Instrument Method: 690422.MTH
Acquired on : 22 Apr 99 08:57 AM	Analysis Method : 690422.MTH
Report Created on: 22 Apr 99 09:00 AM	Sample Amount : 0
Last Recalib on : 20 APR 99 11:10 AM	ISTD Amount :
Multiplier : 1	

Fig. 1 in C:\HPCHEM\2\DATA\690422\036F0301.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	13039	BV +	0.000	1	-354.788	TNMOC

External Standard Report

```

=====
Data File Name      : C:\HPCHEM\2\DATA\690422\037F0301.D
Operator           : L.A. Pingel
Instrument          : TNMOC
Sample Name        : VS006-212-S028 2
Run Time Bar Code  :
Acquired on       : 22 Apr 99 09:06 AM
Report Created on : 22 Apr 99 09:08 AM
Last Recalib on  : 20 APR 99 11:10 AM
Multiplier        : 1
Sample Info       : Second Dilution of original sample canister

Page Number       : 1
Vial Number       : 37
Injection Number  : 1
Sequence Line     : 3
Instrument Method : 690422.MTH
Analysis Method   : 690422.MTH
Sample Amount     : 0
ISTD Amount       :
  
```

Fig. 1 in C:\HPCHEM\2\DATA\690422\037F0301.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	2823478	BV + 0.000	1	8714.989	TNMOC	

DF = 24

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\2\DATA\690422\039F0301.D
Operator           : L.A. Pingel
Instrument          : TNMOC
Sample Name        : VS006-222-S039 2
Run Time Bar Code  :
Acquired on       : 22 Apr 99 10:25 AM
Report Created on : 22 Apr 99 10:28 AM
Last Recalib on  : 20 APR 99 11:10 AM
Multiplier        : 1
Sample Info       : Second Dilution of original sample canister
Page Number       : 1
Vial Number       : 39
Injection Number  : 1
Sequence Line     : 3
Instrument Method : 690422.MTH
Analysis Method   : 690422.MTH
Sample Amount     : 0
ISTD Amount       :

```

Fig. 1 in C:\HPCHEM\2\DATA\690422\039F0301.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	1.01666E+007	BB + 0.000	1	32412.49	TNMOC	

=====

DF = 24

=====

External Standard Report

=====

```

Data File Name      : C:\HPCHEM\2\DATA\690422\040F0301.D
Operator           : L.A. Pingel
Instrument          : TNMOC
Sample Name        : vs006-232-S056 2
Run Time Bar Code  :
Acquired on        : 22 Apr 99  10:42 AM
Report Created on  : 22 Apr 99  10:44 AM
Last Recalib on   : 20 APR 99 11:10 AM
Multiplier         : 1
Sample Info        : Second Dilution of original sample canister

Page Number        : 1
Vial Number        : 40
Injection Number    : 1
Sequence Line      : 3
Instrument Method   : 690422.MTH
Analysis Method    : 690422.MTH
Sample Amount      : 0
ISTD Amount        :

```

Fig. 1 in C:\HPCHEM\2\DATA\690422\040F0301.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	1.20634E+007	BBA+	0.000	1	38533.83	TNMOC

=====

DF = 30

=====

External Standard Report

=====

```

Data File Name   : C:\HPCHEM\2\DATA\690422\041F0301.D
Operator        : L.A. Pingel
Instrument       : TNMOC
Sample Name     : VS006-237-S071 2
Run Time Bar Code:
Acquired on    : 22 Apr 99 11:45 AM
Report Created on: 22 Apr 99 11:47 AM
Last Recalib on : 20 APR 99 11:10 AM
Multiplier    : 1
Sample Info    : Second Dilution of original sample canister
Page Number    : 1
Vial Number    : 41
Injection Number : 1
Sequence Line  : 3
Instrument Method: 690422.MTH
Analysis Method : 690422.MTH
Sample Amount  : 0
ISTD Amount    :
  
```

Fig. 1 in C:\HPCHEM\2\DATA\690422\041F0301.D

Ret Time	Area	Type	Width	Ref#	ppbC	Name
1.248	1.19859E+007	BB + 0.000	1	38283.65	TNMOC	

=====

DF = 30

0 Apr 99 11:20 AM

page 1

Method: C:\HPCHEM\2\METHODS\690420.MTH

Report Specification

Destination: Report to File: Auto naming selected
Report/Chromatogram to Printer
Based on: Area
Calculations: ESTD
Printer Output: Combined Chromatogram and Report
Report Header: None

Calibration Table

Peak#	RT	Lvl	ppbC	Amt/Area	Ref Istd I#	Name
1	1.250	1	200.0	1.222e-003	1	TNMOC
		2	500.0	1.9506e-003		
		3	1000.0	2.7347e-003		
		4	10000.0	3.0095e-003		
		5	30000.0	3.1731e-003		
		6	75000.0	3.2138e-003		

Calibration Settings

Title: Total Non-Methane Organic Carbon

Reference window: 5.000 %
Non-reference window: 5.000 %
Units of amount: ppbC
Multiplier: 1.0
F uncal peaks: 0.0
Sample Amount: 0.0

Sample ISTD Information

No Sample ISTD Amounts

Multilevel Information

Fit: Linear
Origin: Ignore

TNMOC

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

Section 5 of 5

Document Information			
Document #	HNF-4440	Revision	0
Title	TANK VAPOR SAMPLING & ANALYSIS DATA PACKAGE FOR TANK 241C106 WASTE RETRIEVAL SLUICING SYS PROCESS TEST PHASE 2 SAMPLED 03/07/1999		
Date	05/25/1999		
Originator	LOCKREM LL	Originator Co.	NHC
Recipient		Recipient Co.	
References	EDT-620356		
Keywords	TABLES		
Projects			
Other Information	2.0 ANALYSES SEC 2.6 AMMONIA IN SORBENT TUBE TRAIN SAMPLES & SEC 2.7 NO & NO2 IN SORBENT TUBE TRAIN SAMPLES & SEC 2.8 DETERMINATION OF DBP & TBP IN PUF FILTERS & 3.0 REFERENCES		

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2.6 Ammonia in Sorbent Tube Train Samples

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2.6.1 Narrative

This section contains descriptions of the analytical method and quality assurance used during analysis.

2.6.1.1 Determination of Ammonia in Sorbent Tube Train Samples

In the sorbent tube train, a sulfuric acid impregnated sorbent adsorbs ammonia from the sampled tank headspace gas and converts adsorbed ammonia to ammonium salt. To analyze the sample for ammonia, water is used to leach the ammonium salt from the sorbent. The leachate is then analyzed by 1 of 2 methods: 1) Direct analysis of the hydrated ammonium ion by an ion chromatograph (IC) equipped with a conductivity detector or 2) by converting ammonium ion to ammonia and subsequent analysis of ammonia by ion-selective electrode (ISE).

The IC method is considered as the primary analytical method because of its small sample size requirement, lower detection limit, and autosampling capability. The ion chromatographic eluent is a dilute solution of methanesulfonic acid. The ISE method is considered as the backup method. In the ISE method, conversion of ammonium ion to ammonia is achieved by addition of concentrated sodium hydroxide. The ammonia concentration in the headspace vapor is then determined by dividing the total mass of ammonia leached from the tube by the volume of tank headspace vapor pulled through the sorbent tube.

All samples from tank C-106 Phase II were analyzed exclusively by IC. The IC method was slightly modified to improve chromatographic separation between sodium and ammonium ions. The modified method incorporated gradient elution rather than isocratic elution of components. Gradient elution involves changing the concentration of the eluent during the chromatographic run in order to increase or decrease the separation of components. The following gradient conditions were used:

Pump

Pressure: Approximately 1400 psi
Flow Rate: 1.00 ml/min

Eluent

methanesulfonic acid

Gradient

<u>Time</u>	<u>Concentration.</u>
Init.	0.01M (Start Run)
8.00	0.01M
8.01	0.02M
18.00	0.02M
18.01	0.01M
25.00	0.01M (End Run)

Concentrations and concentration units reported on the raw data sheets reflect the concentration of ammonium ion in the leach solutions - and are not corrected for method dilution factors. Raw data concentration units are reported in ug/mL unless otherwise listed on the printouts.

2.6.1.2 Ammonia Analytical Quality Assurance

Method LA-533-402, Rev. A-0, is used to conduct the quantitative ion chromatographic determination of ammonia in waste tank headspace samples collected in sorbent tube train samples (STTs).

The ion chromatographic system is calibrated initially prior to starting sample analysis and each time continuing calibration criteria cannot be met for subsequent analysis. At least 3 ammonia standard concentration levels are used for initial calibration (ICAL). The initial calibration standards are used to determine chromatographic column retention time and to compute ammonia retention time windows. The validity of the initial calibration is demonstrated by meeting linearity, deviation, or curve fit criteria and through the satisfactory analysis of an ammonia "check standard", the ICVS. Initial calibration blanks are used to demonstrate system cleanliness. Each day that the IC system is used for analysis, the continuing calibration of the system is verified through the analysis of a mid-level ammonia check standard, or CCVS. Criteria for the CCVS that must be met are target analyte retention time windows and percent ammonia recovery. Continuing calibration blanks, CCBs, are used to document the continued satisfactory cleanliness of the analytical system.

With each tank sample reporting batch, the analysis of a method blank (MB) or process blank is conducted and reported. The MB cannot exceed maximum allowable ammonia contamination levels. Also, with each tank sample reporting batch, the analysis of an ammonia laboratory control sample (LCS) is conducted. The LCS consists of a STT onto which ammonia gas is sorbed. The recovery of the LCS must meet accuracy (percent recovery - %R) requirements or the batch sample data is flagged. Because it represents new technology, this LCS is now under development. And also, with each tank sample reporting batch, the analysis of 2 actual STT samples "spiked" with ammonia is conducted. The recovery of ammonia from the 2 samples spiked with ammonia must meet precision (expressed as relative percent difference - RPD) and accuracy (expressed as percent recovery - %R) criteria or the resulting sample data batch is flagged.

The first nine samples (TR01a - TR09a) were diluted and rerun because initial sample results were outside of the calibration curve (samples TR01a-TR09a). In addition, failure of the initial ICVS (117% recovery) required that the first ten samples (TR01a - TR09a plus sample TR20a) be rerun. During the rerun, sample TR20a was inadvertently left out of the analytical batch, and was never reanalyzed. Sample TR20a was a blank sample. Results indicated that it did not contain significant amount of ammonia. Furthermore, the two samples immediately preceding sample TR20a were the continuing calibration blank (CCB) and the continuing calibration verification standard (CCVS) which passed their required QC. Although this is an exception to the QC, it is unlikely that significant ammonia was present in TR20a because the ICVS was biased high - indicating that the system may have possibly indicated more ammonia than what was actually present. In other words, the bias is conservative. There were no additional exceptions to the ammonia quality control.

2.6.2 Result Summary Tables

Result summary tables are organized by sample. All reported values have been corrected to 25 °C and 1 atmosphere pressure. Precision information can be derived from the matrix spike and matrix spike-duplicate results.

Sample Target Analyte Concentrations for Sorbent Train Number VS006-204-TR01

Laboratory Sample Number	VS006-204-TR01a R1	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv) ²	Flags
Sample Analysis Date	3/23/99	Sample Analysis Time	19:12:29	Sample Concentration (mg/M ³)	3.3	4.8	t01-a-r1.d55
Target Analyte Name	GAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	3.3	4.8	Flags
Ammonia	7664-41-7	6.6	7.00	Sample Concentration (mg/M ³)	3.3	4.8	Q

(Breakthrough Section)

Laboratory Sample Number	VS006-204-TR01a2	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv) ²	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	4:12:53	Sample Concentration (mg/M ³)	3.3	4.8	t01-a200.d33
Target Analyte Name	GAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	3.3	4.8	Flags
Ammonia	7664-41-7	6.6	6.73	Sample Concentration (mg/M ³)	3.3	4.8	Q

¹ Retention times are for NH₄⁺² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-209-TR02

Laboratory Sample Number	VS006-209-TR02a R1	Laboratory Duplicate Number	n/a	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/23/99	Sample Analysis Time	19:39:04	Expected Retention Time (min)	7.07	5.1	t02-a-r1.d56
Target Analyte Name	GAS Number	7664-41-7	6.6	Sample Retention Time (min)	7.07	5.1	7.3
Ammonia							

(Breakthrough Section)

Laboratory Sample Number	VS006-209-TR02a2	Laboratory Duplicate Number	n/a	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	4:39:28	Expected Retention Time (min)	6.73	3.3	t02-a200.d34
Target Analyte Name	GAS Number	7664-41-7	6.6	Sample Retention Time (min)	6.73	3.3	4.8
Ammonia							Q

¹ Retention times are for NH₄⁺² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-214-TR03

Laboratory Sample Number	VS006-214-TR03a R1	Laboratory Duplicate Number	n/a	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/23/99	Sample Analysis Time	20:05:39	Expected Retention Time (min)	6.6	7.07	14
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Sample Concentration (ppmv)	Flags
Ammonia	7664-41-7	6.6	7.07	10	14		

(Breakthrough Section)

Laboratory Sample Number	VS006-214-TR03a2	Laboratory Duplicate Number	n/a	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	5:06:07	Expected Retention Time (min)	6.6	6.77	4.8
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Sample Concentration (ppmv)	Flags
Ammonia	7664-41-7	6.6	6.77	3.3	4.8		Q

¹ Retention times are for NH₄⁺² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-219-TR04

Laboratory Sample Number	VS006-219-TR04a R1	Laboratory Duplicate Number	n/a	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/23/99	Sample Analysis Time	20:32:14	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Target Analyte Name	CAS Number	Expected Retention Time (min)	7.00	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Ammonia	7664-41-7	6.6	7.00	12	17		

(Breakthrough Section)

Laboratory Sample Number	VS006-219-TR04a2	Laboratory Duplicate Number	n/a	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	5:32:46	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Target Analyte Name	CAS Number	Expected Retention Time (min)	6.73	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Ammonia	7664-41-7	6.6	6.73	3.3	4.8	Q	

¹ Retention times are for NH₄⁺² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-224-TR05

Laboratory Sample Number	VS006-224-TR05a R1	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/23/99	Sample Analysis Time	20:58:48				
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)		
Ammonia	7664-41-7	6.6	7.03	15	21		

(Breakthrough Section)

Laboratory Sample Number	VS006-224-TR05a2	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	5:59:25				
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)		
Ammonia	7664-41-7	6.6	6.77	3.3	4.8		Q

¹ Retention times are for NH₄⁺² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-229-TR06

Laboratory Sample Number	VS006-229-TR06a R1	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/23/99	Sample Analysis Time	21:25:24	Sample Concentration (mg/M ³)		
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)			
Ammonia	7664-41-7	6.6	7.10	22	31	

(Breakthrough Section)

Laboratory Sample Number	VS006-229-TR06a2	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	6:26:02	Sample Concentration (mg/M ³)		
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)			
Ammonia	7664-41-7	6.6	6.80	3.3	4.8	Q

¹ Retention times are for NH₄⁺² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-234-TR07

Laboratory Sample Number	VS006-234-TR07a R1	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/23/99	Sample Analysis Time	21:52:01	Sample Concentration (mg/M ³)	31	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)			
Ammonia	7664-41-7	6.6	7.17			

(Breakthrough Section)

Laboratory Sample Number	VS006-234-TR07a2	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	7:45:43	Sample Concentration (mg/M ³)	4.8	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)			
Ammonia	7664-41-7	6.6	6.80			Q

¹ Retention times are for NH₄⁺² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

[illegible]

(Breakthrough Section)

Laboratory Sample Number	VS006-239-TR08a2	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	8:12:24	Sample Concentration (mg/M ³)	3.3	4.8
Target Analyte Name		Expected Retention Time (min)	6.77			
Ammonia	7664-41-7					

¹ Retention times are for NH₄⁺ 2 mg/M^3 and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Laboratory Sample Number	VS006-244-TR09a R1	Laboratory Duplicate Number	n/a		
Sample Analysis Date	3/23/99	Sample Analysis Time	22:45:07	Sample Data File Identifier	109-a-r1.d63
Target Analyte Name		Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M)	Sample Concentration (ppm)
Ammonia	7664-41-7	6.6	7.27	20	29
					Flags

(Breakthrough Section)

Laboratory Sample Number	VS006-244-TR09a2	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Laboratory Sample Analysis Date	3/20/99	Sample Analysis Time	8:39:00	Sample Concentration (mg/M ³)	3.3	4.8	Q
Target Analyte Name	7664-41-7	Expected Retention Time (min)	6.77	Sample Retention Time (min)			

¹ Retention times are for NH_4^+ ² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

2.6.3 Quality Control Summary Tables

Quality control summary tables are organized by the quality control parameter. The ammonia chromatography methods measure concentrations of ammonium ion in solution, then converts the concentration of ammonium ion to corresponding amount of ammonia. Calibration standards and instrument blank results, therefore, are reported in terms of ammonium ion. Field blank and method performance blank samples have no tank vapor pulled through them, however, they are reported in terms of ammonia by basing the result on a "typical" sample size of 2000 ml tank vapor. The following tables are presented in this section in the following order:

- Target Analyte Initial Calibration Tables
- Initial and Continuing Calibration Verification Summary
- Initial and Continuing Blank Verification Summary
- Trip Blank, Field Blank and Method Performance Blank Summary
 - Trip Blanks
 - Field Blanks
 - Ambient Air Blank, (Pre Startup)
 - Ambient Air Blank, (Steady State Operation)
 - Method Performance Blank
- Matrix Spike Summary Table.

Target Analyte Initial Calibration Tables

Instrument ID Number	WC48875	Initial Calibration Date	1/11/99	Initial Calibration File Identifiers	i-cal100.d04 i-cal201.d05 i-cal301.d06 i-cal400.d07 i-cal500.d08 i-cal601.d09	
		Initial Calibration Time	7:05 PM			
Operator ID	M. J. Duchsherer	Standard ID	5653-138-A			
Target Analyte Name	Instrument Calibration Range (mg/L)	No. of Calibration Points	Calibration Model	Instrument Response Factor	Intercept	r^2
Ammonium	0.125 - 5.00	6	Linear	1.43E+05	1.07E+04	0.997

Batched Samples				
VS006-204-TR01a R1	VS006-301-TR21a	VS006-204-TR01a2	VS006-301-TR21a2	VS006-239-TR08a MS R1
VS006-209-TR02a R1	VSAMB-203-TR22a	VS006-209-TR02a2	VSAMB-203-TR22a2	VS006-239-TR08a MSD R1
VS006-214-TR03a R1	VSAMB-209-TR23a	VS006-214-TR03a2	VSAMB-209-TR23a2	
VS006-219-TR04a R1	VS006-MPB-TR24a	VS006-219-TR04a2	VS006-MPB-TR24a2	
VS006-224-TR05a R1		VS006-224-TR05a2		
VS006-229-TR06a R1		VS006-229-TR06a2		
VS006-234-TR07a R1		VS006-234-TR07a2		
VS006-239-TR08a R1		VS006-239-TR08a2		
VS006-244-TR09a R1		VS006-244-TR09a2		
VS006-298-TR20a		VS006-298-TR20a2		

Initial and Continuing Calibration Verification Summary

Instrument ID Number	WC48875	ICVS/CCVS Analysis Date	3/19/99	ICVS/CCVS Analysis Time	20:13		
Operator ID	M. J. Duchsherer	Standard ID	5653-141-C	ICVS/CCVS File Identifier	ccvs0000.d15		
Target Analyte Name	CCVS "Book" Concentration (mg/L)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (mg/L)	Percent Recovery	Batched Samples	
Ammonium	0.625	1	1.84E+05	0.729	117	VS006-295-TR20a	

Instrument ID Number	WC48875	ICVS/CCVS Analysis Date	3/20/99	ICVS/CCVS Analysis Time	1:59		
Operator ID	M. J. Duchsherer	Standard ID	5653-141-C	ICVS/CCVS File Identifier	ccvs0000.d28		
Target Analyte Name	CCVS "Book" Concentration (mg/L)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (mg/L)	Percent Recovery	Batched Samples	
Ammonium	0.625	1	1.72E+05	0.679	109	VS006-301-TR21a VS006-209-TR02a2 VSAMB-203-TR22a VS006-214-TR03a2 VSAMB-209-TR23a VS006-219-TR04a2 VS006-MPB-TR24a VS006-224-TR05a2 VS006-204-TR01a2 VS006-229-TR06a2	

Instrument ID Number	WC48875	ICVS/CCVS Analysis Date	3/20/99	ICVS/CCVS Analysis Time	7:19		
Operator ID	M. J. Duchsherer	Standard ID	5653-141-C	ICVS/CCVS File Identifier	ccvs0000.d40		
Target Analyte Name	CCVS "Book" Concentration (mg/L)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (mg/L)	Percent Recovery	Batched Samples	
Ammonium	0.625	1	1.72E+05	0.678	108	VS006-234-TR07a2 VSAMB-203-TR22a2 VS006-238-TR08a2 VSAMB-209-TR23a2 VS006-244-TR09a2 VS006-MPB-TR24a2 VS006-298-TR20a2 VS006-301-TR21a2	

Initial and Continuing Calibration Verification Summary

Instrument ID Number	WC48875	ICVS/CCVS Analysis Date	3/20/99	ICVS/CCVS Analysis Time	12:38	
Operator ID	M. J. Duchsherer	Standard ID	5653-141-C	ICVS/CCVS File Identifier	ccvs0000.d52	
Target Analyte Name	CCVS "Book" Concentration (mg/L)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (mg/L)	Percent Recovery	Batched Samples
Ammonium	0.625	1	1.67E+05	0.657	105	END STANDARD

Instrument ID Number	WC48875	ICVS/CCVS Analysis Date	3/23/99	ICVS/CCVS Analysis Time	18:19	
Operator ID	M. J. Duchsherer	Standard ID	5653-141-C	ICVS/CCVS File Identifier	ccvs0000.d53	
Target Analyte Name	CCVS "Book" Concentration (mg/L)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (mg/L)	Percent Recovery	Batched Samples
Ammonium	0.625	1	1.68E+05	0.661	106	VS006-204-TR01a R1 VS006-229-TR06a R1 VS006-209-TR02a R1 VS006-234-TR07a R1 VS006-214-TR03a R1 VS006-239-TR08a R1 VS006-219-TR04a R1 VS006-244-TR09a R1 VS006-224-TR05a R1

Instrument ID Number	WC48875	ICVS/CCVS Analysis Date	3/23/99	ICVS/CCVS Analysis Time	23:38	
Operator ID	M. J. Duchsherer	Standard ID	5653-141-C	ICVS/CCVS File Identifier	ccvs0000.d65	
Target Analyte Name	CCVS "Book" Concentration (mg/L)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (mg/L)	Percent Recovery	Batched Samples
Ammonium	0.625	1	1.66E+05	0.651	104	VS006-239-TR08a MS R1 VS006-239-TR08a MSD R1

Initial and Continuing Calibration Verification Summary

Instrument ID Number	WC48875	ICVS/CCVS Analysis Date	3/24/99	ICVS/CCVS Analysis Time	2:17	
Operator ID	M. J. Duchsherer	Standard ID	5653-141-C	ICVS/CCVS File Identifier	ccvs0001.d71	
Target Analyte Name	CCVS Book Concentration (mg/L)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (mg/L)	Percent Recovery	Batched Samples
Ammonium	0.625	1	1.55E+05	0.605	97	END STANDARD

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Initial and Continuing Calibration Blank Summary

Instrument ID Number	WC48875	ICB/CCB Analysis Date	3/19/99	ICB/CCB Analysis Time	19:46
Operator ID	M. J. Duchsherer	Blank ID	5653-126-B	ICB/CCB File Identifier	ccb00000.d14
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (mg/L)	Batched Samples
Ammonium	7664-41-7	6.6		< 0.125	VS006-206-TR20a

Instrument ID Number	WC48875	ICB/CCB Analysis Date	3/20/99	ICB/CCB Analysis Time	1:33
Operator ID	M. J. Duchsherer	Blank ID	5653-126-B	ICB/CCB File Identifier	ccb00000.d27
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (mg/L)	Batched Samples
Ammonium	7664-41-7	6.6		< 0.125	VS006-301-TR21a VS006-206-TR02a2 VSAMB-203-TR22a VS006-214-TR03a2 VSAMB-206-TR23a VS006-219-TR04a2 VS006-MPB-TR24a VS006-224-TR05a2 VS006-204-TR01a2 VS006-228-TR06a2

Instrument ID Number	WC48875	ICB/CCB Analysis Date	3/20/99	ICB/CCB Analysis Time	6:52
Operator ID	M. J. Duchsherer	Blank ID	5653-126-B	ICB/CCB File Identifier	ccb00000.d39
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (mg/L)	Batched Samples
Ammonium	7664-41-7	6.6		< 0.125	VS006-234-TR07a2 VSAMB-203-TR22a2 VS006-239-TR08a2 VSAMB-206-TR23a2 VS006-244-TR09a2 VS006-MPB-TR24a2 VS006-236-TR20a2 VS006-301-TR21a2

Initial and Continuing Calibration Blank Summary

Instrument ID Number	WC48875	ICB/CCB Analysis Date	3/20/99	ICB/CCB Analysis Time	12:12
Operator ID	M. J. Duchsherer	Blank ID	5653-126-B	ICB/CCB File Identifier	ccb00000.d51
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (mg/L)	Batched Samples
Ammonium	7664-41-7	6.6		< 0.125	VS006-204-TR01a R1 VS006-209-TR02a R1 END BLANK

Instrument ID Number	WC48875	ICB/CCB Analysis Date	3/23/99	ICB/CCB Analysis Time	18:46
Operator ID	M. J. Duchsherer	Blank ID	5653-126-B	ICB/CCB File Identifier	ccb00000.d54
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (mg/L)	Batched Samples
Ammonium	7664-41-7	6.6		< 0.125	VS006-204-TR01a R1 VS006-229-TR06a R1 VS006-209-TR02a R1 VS006-234-TR07a R1 VS006-214-TR03a R1 VS006-239-TR08a R1 VS006-219-TR04a R1 VS006-244-TR09a R1 VS006-224-TR05a R1

Instrument ID Number	WC48875	ICB/CCB Analysis Date	3/23/99	ICB/CCB Analysis Time	23:11
Operator ID	M. J. Duchsherer	Blank ID	5653-126-B	ICB/CCB File Identifier	ccb00000.d64
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (mg/L)	Batched Samples
Ammonium	7664-41-7	6.6		< 0.125	VS006-230-TR06a MS R1 VS006-238-TR06a MSD R1

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Initial and Continuing Calibration Blank Summary

Instrument ID Number	WC48875	ICB/CCB Analysis Date	3/24/99	ICB/CCB Analysis Time	1:51
Operator ID	M. J. Duchsherer	Blank ID	5653-126-B	ICB/CCB File Identifier	ccb00000.d70
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (mg/L)	Batched Samples
Ammonium	7664-41-7	6.6		< 0.125	END BLANK

NH₃ Trip Blanks and Method Performance Blank Summary

Trip Blank

Laboratory Sample Number	VS006-298-TR20a	Laboratory Duplicate Number	n/a		
Sample Analysis Date	3/20/99	Sample Analysis Time	1:06:37	Sample Data File Identifier	t20-a000.d26
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)
Ammonia	7664-41-7	6.6	6.70	3.3	4.8
					Q

(Breakthrough Section)

Laboratory Sample Number	VS006-298-TR20a2	Laboratory Duplicate Number	n/a		
Sample Analysis Date	3/20/99	Sample Analysis Time	9:05:39	Sample Data File Identifier	t20-a200.d44
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)
Ammonia	7664-41-7	6.6	6.77	3.3	4.8
					Q

¹ Retention times are for NH₄⁺

² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

NH₃ Trip Blanks and Method Performance Blank Summary

Field Blank

Laboratory Sample Number	VS006-301-TR21a	Laboratory Duplicate Number	n/a	Sample Data File	t21-a000.d29
Sample Analysis Date	3/20/99	Sample Analysis Time	2:26:19	Sample Concentration (mg/M) ^{2,3}	3.3
Target Analyte Name		Expected Retention Time (min)	6.6	Sample Concentration (ppmv) ^{2,3}	4.8
Ammonia	7664-41-7	Sample Retention Time (min)	6.70	Flags	Q

(Breakthrough Section)

Laboratory Sample Number	VS006-301-TR21a2	Laboratory Duplicate Number	n/a	Sample Data File	t21-a200.d45
Sample Analysis Date	3/20/99	Sample Analysis Time	9:32:16	Sample Concentration (mg/M) ^{2,3}	3.3
Target Analyte Name		Expected Retention Time (min)	6.6	Sample Concentration (ppmv) ^{2,3}	4.8
Ammonia	7664-41-7	Sample Retention Time (min)	6.77	Flags	Q

¹ Retention times are for NH₄⁺² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

NH₃ Trip Blanks and Method Performance Blank Summary

Ambient Air Before Start of Pump

Laboratory Sample Number	VSAMB-203-TR22a	Laboratory Duplicate Number	n/a	Sample Analysis Date	3/20/99	Expected Retention Time (min)	Sample Retention Time (min)	Sample Data File Identifier	122-a000.d30	Sample Concentration (ppmv)	Flags
Target Analyte Name											
Ammonia	7664-41-7	6.6	6.70	3.3	4.8	Q					

(Breakthrough Section)

Laboratory Sample Number	VSAMB-203-TR22a2	Laboratory Duplicate Number	n/a	Sample Analysis Date	3/20/99	Expected Retention Time (min)	Sample Retention Time (min)	Sample Data File Identifier	122-a200.d46	Sample Concentration (ppmv)	Flags
Target Analyte Name											
Ammonia	7664-41-7	6.6	6.77	3.3	4.8	Q					

¹ Retention times are for NH₄⁺

² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

NH₃ Trip Blanks and Method Performance Blank Summary

Samples of Steady State TOC Concentration

Laboratory Sample Number	VSAMB-209-TR23a	Laboratory Duplicate Number	n/a		
Sample Analysis Date	3/20/99	Sample Analysis Time	3:19:33	Sample Data File Identifier	123-a000.d31
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M) ²	Sample Concentration (ppmv)
Ammonia	7664-41-7	6.6	7.07	3.3	4.8
					Q

(Breakthrough Section)

Laboratory Sample Number	VSAMB-209-TR23a2	Laboratory Duplicate Number	n/a		
Sample Analysis Date	3/20/99	Sample Analysis Time	10:25:29	Sample Data File Identifier	123-a200.d47
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M) ²	Sample Concentration (ppmv)
Ammonia	7664-41-7	6.6	6.73	3.3	4.8
					Q

¹ Retention times are for NH₃.

² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

NH₃ Trip Blanks and Method Performance Blank Summary

Method Performance Blank

Laboratory Sample Number	VS006-MPB-TR24a	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	3:46:11	Sample Concentration (mg/M ³)	3.3	4.8	Q
Target Analyte Name		Expected Retention Time (min)	6.6	Sample Retention Time (min)	6.70		
Ammonia	7664-41-7						

(Breakthrough Section)

Laboratory Sample Number	VS006-MPB-TR24a2	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/20/99	Sample Analysis Time	10:52:09	Sample Concentration (mg/M ³)	3.3	4.8	Q
Target Analyte Name		Expected Retention Time (min)	6.6	Sample Retention Time (min)	6.73		
Ammonia	7664-41-7						

¹ Retention times are for NH₄⁺² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Matrix Spike Summary

Instrument ID Number	WC48875	Target Analyte Name	Ammonium	Expected Retention Time	6.60	Operator ID	M. J. Duchsherer
MS ID	VS006-239-TR08a MS R	MS File Identifier	108a-ms0.d68	MS Analysis Date	3/24/99	MS Analysis Time	0:58:08
MSD ID	VS006-239-TR08a MSD R	MSD File Identifier	108a-msd.d69	MSD Analysis Date	3/24/99	MSD Analysis Time	1:24:41
Sample ID	VS006-239-TR08a R1	Sample Concentration	49.603 mg/L	Sample Volume	0.140 mL	Diluent Volume	5.00 mL
MS/MSD Standard ID	5653-139-B	MS/MSD Standard Conc.	25.000 mg/L	MS/MSD Standard Volume	0.043 mL		
MS Retention Time	MSD Retention Time	MS Analytical Result (mg/L)	MSD Analytical Result (mg/L)	MS Recovery	MSD Recovery	RPD	Batched Samples
7.37	7.40	1.529	1.542	91	97	0.86	All

2.6.4 Supporting Data

This section contains chromatograms and quantitation reports for all analyses including samples, initial calibrations, calibration verifications, blanks, and spikes. This section is organized by the run orders shown in the run sequence table. The general order is as follows:

- Run Sequence Table
- Initial Calibration Data
- Initial Calibration Verification Data
- Initial Blank Verification Data
- Sample Data.

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PeakNet AS3500DX - SAMPLES.AS3

Vial #	Inj. Pos	Inj. Vol.	Inj. Vial	Sample	Method (.MET)	Data	Dil.	Int. Std.	Template (.PRP)
1	A02								vap1
2	A05								vap2
3	A07	25	1	5653-126-A	hina-nh3	CCB	1	1	
4	A07	25	2	5653-126-A	hina-nh3	CCB	1	1	
5	A06	25	1	autocal1	hina-nh3	I-CAL1	1	1	
6	A05	25	1	autocal2	hina-nh3	I-CAL2	1	1	
7	A04	25	1	autocal3	hina-nh3	I-CAL3	1	1	
8	A03	25	1	autocal4	hina-nh3	I-CAL4	1	1	
9	A02	25	1	autocal5	hina-nh3	I-CAL5	1	1	
10	A08	25	1	autocal6	hina-nh3	I-CAL6	1	1	
11	A07	25	1	5653-126-B ICB/CCB	hina-nh3	CCB	1	1	
12	B04	25	1	5653-141-C ICVS/CCV	hina-nh3	CCVS	1	1	
13	C01	25	1	VS006-204-TR01a	hina-nh3	T01-a	1	1	
14	C02	25	1	VS006-209-TR02a	hina-nh3	T02-a	1	1	
15	C03	25	1	VS006-214-TR03a	hina-nh3	T03-a	1	1	
16	C04	25	1	VS006-219-TR04a	hina-nh3	T04-a	1	1	
17	C05	25	1	VS006-224-TR05a	hina-nh3	T05-a	1	1	
18	C06	25	1	VS006-229-TR06a	hina-nh3	T06-a	1	1	
19	C07	25	1	VS006-234-TR07a	hina-nh3	T07-a	1	1	
20	C08	25	1	VS006-239-TR08a	hina-nh3	T08-a	1	1	
21	C09	25	1	VS006-244-TR09a	hina-nh3	T09-a	1	1	
22	C10	25	1	VS006-298-TR20a	hina-nh3	T20-a	1	1	
23	A07	25	1	5653-126-b ICB/CCB	hina-nh3	CCB	1	1	
24	B04	25	1	5653-141-C ICVS/CCV	hina-nh3	CCVS	1	1	
25	C11	25	1	VS006-301-TR21a	hina-nh3	T21-a	1	1	
26	C12	25	1	VSAMB-203-TR22a	hina-nh3	T22-a	1	1	
27	C13	25	1	VSAMB-209-TR23a	hina-nh3	T23-a	1	1	
28	C14	25	1	VS006-MPB-TR24a	hina-nh3	T24-a	1	1	
29	C15	25	1	VS006-204-TR01a2	hina-nh3	T01-a2	1	1	
30	C16	25	1	VS006-209-TR02a2	hina-nh3	T02-a2	1	1	
31	C17	25	1	VS006-214-TR03a2	hina-nh3	T03-a2	1	1	
32	C18	25	1	VS006-219-TR04a2	hina-nh3	T04-a2	1	1	
33	C19	25	1	VS006-224-TR05a2	hina-nh3	T05-a2	1	1	
34	C20	25	1	VS006-229-TR06a2	hina-nh3	T06-a2	1	1	
35	A07	25	1	5653-126-B ICB/CCB	hina-nh3	CCB	1	1	
36	B04	25	1	5653-141-C ICVS/CCV	hina-nh3	CCVS	1	1	
37	C21	25	1	VS006-234-TR07a2	hina-nh3	T07-a2	1	1	
38	C22	25	1	VS006-239-TR08a2	hina-nh3	T08-a2	1	1	
39	C23	25	1	VS006-244-TR09a2	hina-nh3	T09-a2	1	1	
40	C24	25	1	VS006-298-TR20a2	hina-nh3	T20-a2	1	1	
41	C25	25	1	VS006-301-TR21a2	hina-nh3	T21-a2	1	1	
42	C26	25	1	VSAMB-203-TR22a2	hina-nh3	T22-a2	1	1	
43	C27	25	1	VSAMB-209-TR23a2	hina-nh3	T23-a2	1	1	
44	C28	25	1	VS006-MPB-TR24a2	hina-nh3	T24-a2	1	1	
45	C29	25	1	VS006-224-TR05a MS	hina-nh3	T05a-MS	1	1	
46	C30	25	1	VS006-224-TR05a MSD	hina-nh3	T05a-MSD	1	1	
47	A07	25	1	5653-126-B ICB/CCB	hina-nh3	CCB	1	1	
48	B04	25	1	5653-141-C ICVS/CCV	hina-nh3	CCVS	1	1	
49	A07	25	1	5653-126-B ICB/CCB	hina-nh3	CCB	1	1	
50	B04	25	1	5653-141-C ICVS/CCV	hina-nh3	CCVS	1	1	
51	B11	25	1	VS006-204-TR01a R1	hina-nh3	T01-a-r1	8.143	1	
52	B12	25	1	VS006-209-TR02a R1	hina-nh3	T02-a-r1	11	1	
53	B13	25	1	VS006-214-TR03a R1	hina-nh3	T03-a-r1	20.41	1	
54	B14	25	1	VS006-219-TR04a R1	hina-nh3	T04-a-r1	23.73	1	
55	B15	25	1	VS006-224-TR05a R1	hina-nh3	T05-a-r1	28.78	1	
56	B16	25	1	VS006-229-TR06a R1	hina-nh3	T06-a-r1	36.71	1	
57	B17	25	1	VS006-234-TR07a R1	hina-nh3	T07-a-r1	35.48	1	

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Vial #	Inj. Pos	Inj. Vol.	Inj. Vial	Sample	Method (.MET)	Data	Dil.	Int. Std.	Template (.PRP)
58	B18	25	1	VS006-239-TR08a R1	hina-nh3	T08-a-r1	39.46	1	
59	B19	25	1	VS006-244-TR09a R1	hina-nh3	T09-a-r1	36.71	1	
60	A07	25	1	5653-126-B ICB/CCB	hina-nh3	CCB	1	1	
61	B04	25	1	5653-141-C ICVS/CCV	hina-nh3	CCVS	1	1	
62	B20	25	1	VS006-239-TR08a MS	hina-nh3	T08a-ms	1	1	
63	B21	25	1	VS006-239-TR08a MSD	hina-nh3	T08a-msd	1	1	
64	B22	25	1	VS006-239-TR08a MS R	hina-nh3	T08a-ms	1	1	
65	B23	25	1	VS006-239-TR08a MSD	hina-nh3	T08a-msd	1	1	
66	A07	25	1	5653-126-B ICB/CCB	hina-nh3	CCB	1	1	
67	B04	25	1	5653-141-C ICVS/CCV	hina-nh3	CCVS	1	1	
68	A07	0	1	STOP PUMPS	c-stop	CSTOP	1	1	

More Run Parameters

#	Vial Pos	Oven Ctl	Oven Set	Cool Ctl	Cool Set	Cycle Time	Equil Time	Grad Delay	Visc Factor	Prep Visc	Inj Type	Needle Height
1	A02	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Push	2.0
2	A05	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Push	2.0
3	A07	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
4	A07	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
5	A06	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
6	A05	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
7	A04	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
8	A03	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
9	A02	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
10	A08	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
11	A07	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
12	B04	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
13	C01	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
14	C02	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
15	C03	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
16	C04	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
17	C05	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
18	C06	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
19	C07	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
20	C08	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
21	C09	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
22	C10	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
23	A07	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
24	B04	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
25	C11	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
26	C12	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
27	C13	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
28	C14	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
29	C15	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
30	C16	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
31	C17	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
32	C18	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
33	C19	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
34	C20	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0
35	A07	Off	18	Off	0	0.00	0.00	0.00	Normal	Normal	Full	2.0

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Method Updated: 19:56 on Mon, 11 Jan 1999

Component: Ammonium

Fit Type: Linear

$r^2 = 0.997063$

$\text{Amt} = \text{Resp} * 7.008\text{e-}006 + -0.07502$

$\text{Resp} = \text{Amt} * 1.427\text{e+}005 + 1.071\text{e+}004$

Standard: External

Calibration: Area

Component Table -- Previous Modification: Mon Jan 11 19:56:45 1999

☒ Retention Parameters ☐ Quantitation Parameters

Ammonium

Comp	Component Name	Ret Time	Window (min +/-)	Window (2 +/-)	Rel Comp #
1	Sodium	5.40		5.0	0
2	Ammonium	6.63		5.0	0

Buttons: Group, Add, Delete, Exit

Level	Amount	Area	Height
1	0.125	13231	810
2	0.25	37667	2197
3	0.625	106759	5718
4	1.25	201789	10340
5	2.5	385700	18220
6	5	710391	31267

K0 = -0.075
K1 = 7.01E-006

Amount = K0 + K1*Area

Component Table -- Previous Modification: Wed Mar 24 09:12:16 1999

☒ Retention Parameters ☐ Quantitation Parameters

Ammonium

Comp	Component Name	Ret Time	Window (min +/-)	Window (2 +/-)	Rel Comp #
1	Sodium	5.50		5.0	0
2	Ammonium	7.00		10.0	0

Buttons: Group, Add, Delete, Exit

Level	Amount	Area	Height
1	0.125	13231	810
2	0.25	37667	2197
3	0.625	106759	5718
4	1.25	201789	10340
5	2.5	385700	18220
6	5	710391	31267

K0 = -0.075
K1 = 7.01E-006

Amount = K0 + K1*Area

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***** AUTOMATIC CALIBRATION UPDATE *****

Data File : I-CAL100.D04	Report Date: 01/11/1999 17:43:28
Sample Name: autocal1 - A06	Collected : 01/11/1999 17:18:25
Inject # : 4	Vial # : A06
Method File: c:\peaknet\method\hina-nh3.met	Last Update: 01/11/1999 14:09:31
System Name: Cations (WC48875)	Detector : CD20
Cal. Level : 1	Analyst :

***** COMPONENTS FOUND IN THIS RUN *****

COMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
1	Sodium	5.40	5.37	5.37	8.062e+004	1.681e+005	1.681e+005
2	Ammonium	6.63	6.60	6.60	2.031e+004	1.323e+004	1.323e+004

Data File : I-CAL100.D04	Report Date: 01/11/1999 17:43:28
Sample Name: autocal1 - A06	Collected : 01/11/1999 17:18:25
Inject # : 4	Vial # : A06
Method File: c:\peaknet\method\hina-nh3.met	Calibrated : 01/11/1999 17:43:28
System Name: Cations (WC48875)	Detector : CD20
Column Type:	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.37	Sodium	0.000	11967	168138	1	-0.62
2	6.60	Ammonium	0.125	810	13231	1	-0.50
Totals			0.125	12777	181369		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

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File: I-CAL100.D04 Sample: autocal1 - A06

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***** AUTOMATIC CALIBRATION UPDATE *****

```

=====
Data File   : I-CAL201.D05
Sample Name: autocal2 - A05
Inject #    : 5
Method File: c:\peaknet\method\hina-nh3.met
System Name: Cations (WC48875)
Cal. Level : 2

Report Date: 01/11/1999 18:10:02
Collected  : 01/11/1999 17:45:00
Vial #      : A05
Last Update: 01/11/1999 17:43:28
Detector    : CD20
Analyst     :
=====
  
```

***** COMPONENTS FOUND IN THIS RUN *****

OMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
1	Sodium	5.37	5.40	5.40	6.277e+004	1.082e+005	1.082e+005
2	Ammonium	6.60	6.63	6.63	4.368e+004	3.767e+004	3.767e+004

```

=====
Data File   : I-CAL201.D05
Sample Name: autocal2 - A05
Inject #    : 5
Method File: c:\peaknet\method\hina-nh3.met
System Name: Cations (WC48875)
Column Type:

Report Date: 01/11/1999 18:10:02
Collected  : 01/11/1999 17:45:00
Vial #      : A05
Calibrated  : 01/11/1999 18:10:02
Detector    : CD20
Operator    : M. Duchsherer
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
external	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Peak Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.40	Sodium	0.000	8254	108191	1	0.62
2	6.63	Ammonium	0.250	2197	37667	1	0.51
Totals			0.250	10451	145858		

***** Peak Report: Unknown Peaks *****

Peak Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0

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***** AUTOMATIC CALIBRATION UPDATE *****

```

=====
Data File   : I-CAL301.D06          Report Date: 01/11/1999 18:36:55
Sample Name: autocal3 - A04        Collected  : 01/11/1999 18:11:33
Inject #    : 6                    Vial #      : A04
Method File: c:\peaknet\method\hina-nh3.met Last Update: 01/11/1999 18:10:02
System Name: Cations (WC48875)     Detector   : CD20
Cal. Level  : 3                    Analyst    :
=====

```

***** COMPONENTS FOUND IN THIS RUN *****

COMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
1	Sodium	5.40	5.40	5.40	4.171e+004	7.365e+004	7.365e+004
2	Ammonium	6.63	6.63	6.63	1.135e+005	1.068e+005	1.068e+005

```

=====
Data File   : I-CAL301.D06          Report Date: 01/11/1999 18:36:55
Sample Name: autocal3 - A04        Collected  : 01/11/1999 18:11:33
Inject #    : 6                    Vial #      : A04
Method File: c:\peaknet\method\hina-nh3.met Calibrated : 01/11/1999 18:36:55
System Name: Cations (WC48875)     Detector   : CD20
Column Type:                      Operator    : M. Duchsherer
=====

```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.40	Sodium	0.000	5503	73654	1	0.00
2	6.63	Ammonium	0.625	5718	106759	1	0.00
Totals			0.625	11221	180413		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0

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***** AUTOMATIC CALIBRATION UPDATE *****

```

=====
Data File   : I-CAL400.D07          Report Date: 01/11/1999 19:03:30
Sample Name: autocal4 - A03         Collected  : 01/11/1999 18:38:25
Inject #    : 7                     Vial #      : A03
Method File: c:\peaknet\method\hina-nh3.met Last Update: 01/11/1999 18:36:55
System Name: Cations (WC48875)      Detector   : CD20
Cal. Level  : 4                     Analyst    :
=====

```

***** COMPONENTS FOUND IN THIS RUN *****

COMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
1	Sodium	5.40	5.40	5.40	5.694e+004	1.019e+005	1.019e+005
2	Ammonium	6.63	6.67	6.67	2.113e+005	2.018e+005	2.018e+005

```

=====
Data File   : I-CAL400.D07          Report Date: 01/11/1999 19:03:30
Sample Name: autocal4 - A03         Collected  : 01/11/1999 18:38:25
Inject #    : 7                     Vial #      : A03
Method File: c:\peaknet\method\hina-nh3.met Calibrated : 01/11/1999 19:03:30
System Name: Cations (WC48875)      Detector   : CD20
Column Type:                        Operator    : M. Duchsherer
=====

```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.40	Sodium	0.000	7157	101868	1	0.00
2	6.67	Ammonium	1.250	10340	201789	1	0.50
Totals			1.250	17497	303657		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0

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***** AUTOMATIC CALIBRATION UPDATE *****

```

=====
Data File   : I-CAL500.D08          Report Date: 01/11/1999 19:30:05
Sample Name: autocal5 - A02        Collected  : 01/11/1999 19:05:02
Inject #    : 8                    Vial #       : A02
Method File: c:\peaknet\method\hina-nh3.met Last Update: 01/11/1999 19:03:30
System Name: Cations (WC48875)     Detector    : CD20
Cal. Level  : 5                    Analyst     :
=====
  
```

***** COMPONENTS FOUND IN THIS RUN *****

COMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
1	Sodium	5.40	5.43	5.43	6.934e+004	1.234e+005	1.234e+005
2	Ammonium	6.67	6.67	6.67	3.911e+005	3.857e+005	3.857e+005

```

=====
Data File   : I-CAL500.D08          Report Date: 01/11/1999 19:30:05
Sample Name: autocal5 - A02        Collected  : 01/11/1999 19:05:02
Inject #    : 8                    Vial #       : A02
Method File: c:\peaknet\method\hina-nh3.met Calibrated : 01/11/1999 19:30:05
System Name: Cations (WC48875)     Detector    : CD20
Column Type:                      Operator     : M. Duchsherer
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.43	Sodium	0.000	9326	123364	1	0.62
2	6.67	Ammonium	2.500	18220	385700	1	0.00
Totals			2.500	27547	509064		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: I-CAL500.D08 Sample: autocal5. - A02

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***** AUTOMATIC CALIBRATION UPDATE *****

Data File : I-CAL601.D09	Report Date: 01/11/1999 19:56:45
Sample Name: autocal6 - A08	Collected : 01/11/1999 19:31:38
Inject # : 9	Vial # : A08
Method File: c:\peaknet\method\hina-nh3.met	Last Update: 01/11/1999 19:30:05
System Name: Cations (WC48875)	Detector : CD20
Cal. Level : 6	Analyst :

***** COMPONENTS FOUND IN THIS RUN *****

COMP NUM	COMPONENT NAME	OLD RET.TIME	MEASURED RET.TIME	NEW RET.TIME	OLD RESPONSE	MEASURED RESPONSE	NEW RESPONSE
1	Sodium	5.43	5.40	5.40	2.354e+004	4.097e+004	4.097e+004
2	Ammonium	6.67	6.63	6.63	7.178e+005	7.104e+005	7.104e+005

Data File : I-CAL601.D09	Report Date: 01/11/1999 19:56:45
Sample Name: autocal6 - A08	Collected : 01/11/1999 19:31:38
Inject # : 9	Vial # : A08
Method File: c:\peaknet\method\hina-nh3.met	Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)	Detector : CD20
Column Type:	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.40	Sodium	0.000	3159	40967	1	-0.61
2	6.63	Ammonium	5.000	31267	710391	1	-0.50
Totals			5.000	34426	751358		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

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File: I-CAL601.D09 Sample: autocal6 - A08

```

=====
Data File   : CCB00000.D14          Report Date: 03/19/1999 20:11:49
Sample Name: 5653-126-B ICB/CCB - A07  Collected  : 03/19/1999 19:46:44
Inject #    : 14                    Vial #       : A07
Method File: c:\peaknet\method\hina-nh3.met  Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)          Detector   : CD20
Column Type:                            Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
0	0.00	Ammonium	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	6.00		0.000	2649	36896	1	
Totals			0.000	2649	36896		

File: CCB00000.D14 Sample: 5653-126-B ICB/CCB - A07

```

=====
Data File   : CCVS0000.D15          Report Date: 03/19/1999 20:38:22
Sample Name: 5653-141-C ICVS/CCVS - B04  Collected  : 03/19/1999 20:13:19
Inject #    : 15                    Vial #       : B04
Method File: c:\peaknet\method\hina-nh3.met  Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)          Detector   : CD20
Column Type:                            Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.53	Sodium	0.000	2759	34765	1	2.47
2	6.77	Ammonium	0.729	6344	114737	1	2.01
Totals			0.729	9103	149501		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: CCVS0000.D15 Sample: 5653-141-C ICVS/CCVS - B04

Data File : T01-a000.D16	Report Date: 03/19/1999 21:04:53
Sample Name: VS006-204-TR01a - C01	Collected : 03/19/1999 20:39:51
Inject # : 16	Vial # : C01
Method File: c:\peaknet\method\hina-nh3.met	Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)	Detector : CD20
Column Type:	Operator : M. Duchsherer

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
external	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.40	Sodium	0.000	40643	572028	1	0.00
2	6.60	Ammonium	5.341	32390	772831	1	-0.50
Totals			5.341	73032	1344859		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T01-a000.D16 Sample: VS006-204-TR01a - C01

Data File : T02-a000.D17	Report Date: 03/19/1999 21:31:37
Sample Name: VS006-209-TR02a - C02	Collected : 03/19/1999 21:06:30
Inject # : 17	Vial # : C02
Method File: c:\peaknet\method\hina-nh3.met	Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)	Detector : CD20
Column Type:	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.30	Sodium	0.000	30918	477897	1	-1.85
2	6.50	Ammonium	7.994	43688	1151380	1	-2.01
Totals			7.994	74606	1629277		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T02-a000.D17 Sample: VS006-209-TR02a - C02

```

=====
Data File   : T03-a000.D18                      Report Date: 03/19/1999 21:58:16
Sample Name: VS006-214-TR03a - C03              Collected  : 03/19/1999 21:33:14
Inject #    : 18                                Vial #       : C03
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====

```

```

=====
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.43	Sodium	0.000	35982	515655	1	0.62
2	6.63	Ammonium	13.287	68157	1906690	1	0.00
Totals			13.287	104138	2422345		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T03-a000.D18 Sample: VS006-214-TR03a - C03

```

=====
Data File   : T04-a000.D20                      Report Date: 03/19/1999 22:51:39
Sample Name: VS006-219-TR04a - C04              Collected  : 03/19/1999 22:26:35
Inject #    : 20                                Vial #       : C04
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.43	Sodium	0.000	35095	532244	1	0.62
2	6.63	Ammonium	14.529	72243	2083975	1	0.00
Totals			14.529	107338	2616220		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T04-a000.D20 Sample: VS006-219-TR04a - C04

```

=====
Data File   : T05-a000.D21                      Report Date: 03/19/1999 23:18:20
Sample Name: VS006-224-TR05a - C05              Collected  : 03/19/1999 22:53:17
Inject #    : 21                                Vial #       : C05
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector    : CD20
Column Type:                                     Operator     : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
=====
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.43	Sodium	0.000	47417	736428	1	0.62
2	6.67	Ammonium	17.992	86373	2578090	1	0.50
Totals			17.992	133790	3314518		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T05-a000.D21 Sample: VS006-224-TR05a - C05

Data File : T06-a000.D22	Report Date: 03/19/1999 23:45:02
Sample Name: VS006-229-TR06a - C06	Collected : 03/19/1999 23:19:57
Inject # : 22	Vial # : C06
Method File: c:\peaknet\method\hina-nh3.met	Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)	Detector : CD20
Column Type:	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.33	Sodium	0.000	35272	593542	1	-1.23
2	6.60	Ammonium	23.578	105806	3375181	1	-0.50
Totals			23.578	141078	3968723		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T06-a000.D22 Sample: VS006-229-TR06a - C06

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Data File : T07-a000.D23	Report Date: 03/20/1999 00:11:41
Sample Name: VS006-234-TR07a - C07	Collected : 03/19/1999 23:46:39
Inject # : 23	Vial # : C07
Method File: c:\peaknet\method\hina-nh3.met	Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)	Detector : CD20
Column Type:	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

Component Report: All Components

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.40	Sodium	0.000	35369	528042	1	0.00
2	6.63	Ammonium	22.305	104625	3193553	1	0.00
Totals			22.305	139994	3721595		

Peak Report: Unknown Peaks

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T07-a000.D23 Sample: VS006-234-TR07a - C07

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```

=====
Data File   : T08-a000.D24                      Report Date: 03/20/1999 00:38:20
Sample Name: VS006-239-TR08a - C08              Collected  : 03/20/1999 00:13:18
Inject #    : 24                                Vial #       : C08
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.37	Sodium	0.000	37923	603013	1	-0.62
2	6.60	Ammonium	24.850	110040	3556680	1	-0.50
Totals			24.850	147963	4159693		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T08-a000.D24 Sample: VS006-239-TR08a - C08

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Data File : T09-a000.D25 Sample Name: VS006-244-TR09a - C09 Inject # : 25 Method File: c:\peaknet\method\hina-nh3.met System Name: Cations (WC48875) Column Type:	Report Date: 03/20/1999 01:05:00 Collected : 03/20/1999 00:39:57 Vial # : C09 Calibrated : 01/11/1999 19:56:45 Detector : CD20 Operator : M. Duchsherer
--	--

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.37	Sodium	0.000	32271	528610	1	-0.62
2	6.60	Ammonium	22.618	100823	3238258	1	-0.50
Totals			22.618	133095	3766868		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T09-a000.D25 Sample: VS006-244-TR09a - C09

```

=====
Data File   : T20-a000.D26                      Report Date: 03/20/1999 01:31:40
Sample Name: VS006-298-TR20a - C10              Collected  : 03/20/1999 01:06:37
Inject #    : 26                                Vial #       : C10
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	38954	621626	1	1.23
2	6.70	Ammonium	0.464	3914	76967	1	1.01
Totals			0.464	42868	698593		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T20-a000.D26 Sample: VS006-298-TR20a - C10

```
=====
Data File   : CCB00000.D27          Report Date: 03/20/1999 01:58:17
Sample Name: 5653-126-B ICB/CCB - A07 Collected  : 03/20/1999 01:33:14
Inject #    : 27                    Vial #       : A07
Method File: c:\peaknet\method\hina-nh3.met Calibrated: 01/11/1999 19:56:45
System Name: Cations (WC48875)       Detector    : CD20
Column Type:                        Operator     : M. Duchsherer
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.50	Sodium	0.000	2698	35348	1	1.85
0	0.00	Ammonium	0.000	0	0	0	0.00
Totals			0.000	2698	35348		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: CCB00000.D27 Sample: 5653-126-B ICB/CCB - A07

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```

=====
Data File   : CCVS0000.D28                      Report Date: 03/20/1999 02:24:50
Sample Name: 5653-141-C  ICVS/CCVS  - B04       Collected  : 03/20/1999 01:59:45
Inject #    : 28                               Vial #      : B04
Method File: c:\peaknet\method\hina-nh3.met     Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                 Detector    : CD20
Column Type:                                   Operator     : M. Duchsherer
=====
  
```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           25                1  7500  5.00 Hz  0.00  25.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	2605	35417	1	1.23
2	6.73	Ammonium	0.679	5878	107546	1	1.51
Totals			0.679	8483	142963		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: CCVS0000.D28 Sample: 5653-141-C ICVS/CCVS - B04

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```

=====
Data File   : T21-a000.D29                      Report Date: 03/20/1999 02:51:23
Sample Name: VS006-301-TR21a - C11              Collected  : 03/20/1999 02:26:19
Inject #    : 29                                Vial #       : C11
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.43	Sodium	0.000	35582	526603	1	0.62
2	6.70	Ammonium	0.332	3229	58030	1	1.01
Totals			0.332	38811	584634		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T21-a000.D29 Sample: VS006-301-TR21a - C11

Data File : T22-a000.D30	Report Date: 03/20/1999 03:17:59
Sample Name: VSAMB-203-TR22a - C12	Collected : 03/20/1999 02:52:57
Inject # : 30	Vial # : C12
Method File: c:\peaknet\method\hina-nh3.met	Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)	Detector : CD20
Column Type:	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.43	Sodium	0.000	40868	633014	1	0.62
2	6.70	Ammonium	0.315	2977	55598	1	1.01
Totals			0.315	43846	688612		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
3	7.73		0.000	1908	9771	1	
Totals			0.000	1908	9771		

File: T22-a000.D30 Sample: VSAMB-203-TR22a - C12

```
=====
Data File   : T23-a000.D31                      Report Date: 03/20/1999 03:44:37
Sample Name: VSAMB-209-TR23a - C13              Collected  : 03/20/1999 03:19:33
Inject #    : 31                                Vial #       : C13
Method File: c:\peaknet\method\hina-nh3.met     Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                 Detector    : CD20
Column Type:                                   Operator     : M. Duchsherer
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.43	Sodium	0.000	37020	582731	1	0.62
2	6.70	Ammonium	0.423	3711	71016	1	1.01
Totals			0.423	40730	653747		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T23-a000.D31 Sample: VSAMB-209-TR23a - C13

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Data File : T24-a000.D32 Sample Name: VS006-MPB-TR24a - C14 Inject # : 32 Method File: c:\peaknet\method\hina-nh3.met System Name: Cations (WC48875) Column Type:	Report Date: 03/20/1999 04:11:17 Collected : 03/20/1999 03:46:11 Vial # : C14 Calibrated : 01/11/1999 19:56:45 Detector : CD20 Operator : M. Duchsherer
--	--

alibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
external	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.43	Sodium	0.000	37980	585955	1	0.62
2	6.70	Ammonium	0.372	3344	63765	1	1.01
Totals			0.372	41324	649720		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T24-a000.D32 Sample: VS006-MPB-TR24a - C14

```
=====
Data File   : T01-a200.D33                      Report Date: 03/20/1999 04:37:55
Sample Name: VS006-204-TR01a2 - C15             Collected  : 03/20/1999 04:12:53
Inject #    : 33                                Vial #       : C15
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	34735	493774	1	1.23
2	6.73	Ammonium	0.181	2042	36548	1	1.51
Totals			0.181	36777	530321		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T01-a200.D33 Sample: VS006-204-TR01a2 - C15

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```

=====
Data File   : T02-a200.D34                      Report Date: 03/20/1999 05:04:30
Sample Name: VS006-209-TR02a2 - C16             Collected  : 03/20/1999 04:39:28
Inject #    : 34                                Vial #       : C16
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector    : CD20
Column Type:                                     Operator     : M. Duchsherer
=====
  
```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           25                1  7500  5.00 Hz  0.00  25.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	5.43	Sodium	0.000	70103	1078917	1	0.62
3	6.73	Ammonium	0.194	2263	38451	1	1.51
Totals			0.194	72366	1117368		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	4.27		0.000	1533	19749	1	
Totals			0.000	1533	19749		

File: T02-a200.D34 Sample: VS006-209-TR02a2 - C16

```

=====
Data File   : T03-a200.D35                      Report Date: 03/20/1999 05:31:13
Sample Name: VS006-214-TR03a2 - C17             Collected  : 03/20/1999 05:06:07
Inject #    : 35                                Vial #       : C17
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector    : CD20
Column Type:                                     Operator     : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	35202	516420	1	1.23
2	6.77	Ammonium	0.160	1947	33490	1	2.01
Totals			0.160	37149	549910		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T03-a200.D35 Sample: VS006-214-TR03a2 - C17

```

=====
Data File   : T04-a200.D36                      Report Date: 03/20/1999 05:57:52
Sample Name: VS006-219-TR04a2 - C18             Collected  : 03/20/1999 05:32:46
Inject #    : 36                               Vial #      : C18
Method File: c:\peaknet\method\hina-nh3.met     Calibrated  : 01/11/1999 19:56:45
System Name: Cations (WC48875)                 Detector    : CD20
Column Type:                                   Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	40082	587552	1	1.23
2	6.73	Ammonium	0.214	2281	41238	1	1.51
Totals			0.214	42363	628790		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T04-a200.D36 Sample: VS006-219-TR04a2 - C18

Data File : T05-a200.D37	Report Date: 03/20/1999 06:24:28
Sample Name: VS006-224-TR05a2 - C11	Collected : 03/20/1999 05:59:25
Inject # : 37	Vial # : C11
Method File: c:\peaknet\method\hina-nh3.met	Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)	Detector : CD20
Column Type:	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	35253	533677	1	1.23
2	6.77	Ammonium	0.329	3152	57698	1	2.01
Totals			0.329	38405	591375		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T05-a200.D37 Sample: VS006-224-TR05a2 - C11

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Data File : T06-a200.D38 Sample Name: VS006-229-TR06a2 - C20 Inject # : 38 Method File: c:\peaknet\method\hina-nh3.met System Name: Cations (WC48875) Column Type:	Report Date: 03/20/1999 06:51:06 Collected : 03/20/1999 06:26:02 Vial # : C20 Calibrated : 01/11/1999 19:56:45 Detector : CD20 Operator : M. Duchsherer
---	--

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.50	Sodium	0.000	36016	509274	1	1.85
2	6.80	Ammonium	0.070	1248	20710	1	2.51
Totals			0.070	37264	529984		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T06-a200.D38 Sample: VS006-229-TR06a2 - C20

```

=====
Data File : CCB00000.D39          Report Date: 03/20/1999 07:17:41
Sample Name: 5653-126-B ICB/CCB - A07    Collected : 03/20/1999 06:52:38
Inject # : 39                      Vial # : A07
Method File: c:\peaknet\method\hina-nh3.met  Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)          Detector : CD20
Column Type:                          Operator : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.53	Sodium	0.000	2624	35379	1	2.47
0	0.00	Ammonium	0.000	0	0	0	0.00
Totals			0.000	2624	35379		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: CCB00000.D39 Sample: 5653-126-B ICB/CCB - A07

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```

=====
Data File   : CCVS0000.D40          Report Date: 03/20/1999 07:44:14
Sample Name: 5653-141-C  ICVS/CCVS - B04  Collected  : 03/20/1999 07:19:09
Inject #    : 40                    Vial #       : B04
Method File: c:\peaknet\method\hina-nh3.met Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)       Detector    : CD20
Column Type:                        Operator     : M. Duchsherer
=====
  
```

```

=====
Calibration Volume   Dilution Points   Rate   Start   Stop Area Reject
-----
External            25                1  7500   5.00 Hz   0.00  25.00         1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.53	Sodium	0.000	2716	36717	1	2.47
2	6.83	Ammonium	0.678	5726	107422	1	3.02
Totals			0.678	8442	144139		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: CCVS0000.D40 Sample: 5653-141-C ICVS/CCVS - B04

```
=====
Data File   : T07-a200.D41                      Report Date: 03/20/1999 08:10:49
Sample Name: VS006-234-TR07a2 - C21             Collected  : 03/20/1999 07:45:43
Inject #    : 41                                Vial #       : C21
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.50	Sodium	0.000	36975	531210	1	1.85
2	6.80	Ammonium	0.194	2181	38326	1	2.51
Totals			0.194	39157	569536		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T07-a200.D41 Sample: VS006-234-TR07a2 - C21

```

=====
Data File   : T08-a200.D42                      Report Date: 03/20/1999 08:37:26
Sample Name: VS006-239-TR08a2 - C22             Collected  : 03/20/1999 08:12:24
Inject #    : 42                                Vial #       : C22
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                   Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	39025	582387	1	1.23
2	6.77	Ammonium	0.160	1895	33492	1	2.01
Totals			0.160	40920	615878		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T08-a200.D42 Sample: VS006-239-TR08a2 - C22

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Data File : T09-a200.D43 Sample Name : VS006-244-TR09a2 - C23 Inject # : 43 Method File : c:\peaknet\method\hina-nh3.met System Name : Cations (WC48875) Column Type :	Report Date : 03/20/1999 09:04:05 Collected : 03/20/1999 08:39:00 Vial # : C23 Calibrated : 01/11/1999 19:56:45 Detector : CD20 Operator : M. Duchsherer
---	---

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	25	1	7500	5.00 Hz	0.00	25.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	35904	540718	1	1.23
2	6.77	Ammonium	0.234	2451	44058	1	2.01
Totals			0.234	38355	584777		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T09-a200.D43 Sample: VS006-244-TR09a2 - C23

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```

=====
Data File   : T20-a200.D44                      Report Date: 03/20/1999 09:30:42
Sample Name: VS006-298-TR20a2 - C24             Collected  : 03/20/1999 09:05:39
Inject #    : 44                                Vial #       : C24
Method File: c:\peaknet\method\hina-nh3.met     Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                 Detector     : CD20
Column Type:                                   Operator      : M. Duchsherer
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	35668	527372	1	1.23
2	6.77	Ammonium	0.198	2170	38926	1	2.01
Totals			0.198	37838	566298		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T20-a200.D44 Sample: VS006-298-TR20a2 - C24

```
=====
Data File   : T21-a200.D45                      Report Date: 03/20/1999 09:57:18
Sample Name : VS006-301-TR21a2 - C25             Collected  : 03/20/1999 09:32:16
Inject #    : 45                                 Vial #       : C25
Method File : c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name : Cations (WC48875)                  Detector    : CD20
Column Type :                                     Operator     : M. Duchsherer
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	37077	538451	1	1.23
2	6.77	Ammonium	0.158	1914	33273	1	2.01
Totals			0.158	38991	571724		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T21-a200.D45 Sample: VS006-301-TR21a2 - C25

```

=====
Data File   : T22-a200.D46                      Report Date: 03/20/1999 10:23:56
Sample Name: VSAMB-203-TR22a2 - C26             Collected  : 03/20/1999 09:58:52
Inject #    : 46                               Vial #      : C26
Method File: c:\peaknet\method\hina-nh3.met     Calibrated  : 01/11/1999 19:56:45
System Name: Cations (WC48875)                 Detector    : CD20
Column Type:                                   Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.50	Sodium	0.000	35801	515517	1	1.85
2	6.77	Ammonium	0.207	2222	40180	1	2.01
Totals			0.207	38023	555697		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T22-a200.D46 Sample: VSAMB-203-TR22a2 - C26

```

=====
Data File   : T23-a200.D47                      Report Date: 03/20/1999 10:50:35
Sample Name: VSAMB-209-TR23a2 - C27             Collected  : 03/20/1999 10:25:29
Inject #    : 47                                Vial #       : C27
Method File: c:\peaknet\method\hina-nh3.met     Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====

```

```

=====
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	42278	625979	1	1.23
2	6.73	Ammonium	0.206	2146	40083	1	1.51
Totals			0.206	44424	666061		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T23-a200.D47 Sample: VSAMB-209-TR23a2 - C27

```

=====
Data File   : T24-a200.D48                      Report Date: 03/20/1999 11:17:11
Sample Name: VS006-MPB-TR24a2 - C28             Collected  : 03/20/1999 10:52:09
Inject #    : 48                               Vial #      : C28
Method File: c:\peaknet\method\hina-nh3.met     Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                 Detector     : CD20
Column Type:                                   Operator      : M. Duchsherer
=====
  
```

```

=====
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          25           1 7500 5.00 Hz 0.00 25.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	43705	617061	1	1.23
2	6.73	Ammonium	0.158	1924	33282	1	1.51
Totals			0.158	45629	650343		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T24-a200.D48 Sample: VS006-MPB-TR24a2 - C28

```

=====
Data File   : T05a-MS0.D49                      Report Date: 03/20/1999 11:43:50
Sample Name: VS006-224-TR05a MS - C29           Collected  : 03/20/1999 11:18:46
Inject #    : 49                                Vial #       : C29
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====

```

```

=====
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          25          1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.40	Sodium	0.000	39921	648423	1	0.00
2	6.67	Ammonium	17.908	83026	2566184	1	0.50
Totals			17.908	122947	3214608		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T05a-MS0.D49 Sample: VS006-224-TR05a MS - C29

```

=====
Data File   : T05a-MSD.D50                      Report Date: 03/20/1999 12:10:30
Sample Name: VS006-224-TR05a MSD - C30          Collected  : 03/20/1999 11:45:27
Inject #    : 50                                Vial #       : C30
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.40	Sodium	0.000	43086	683302	1	0.00
2	6.67	Ammonium	17.890	84385	2563505	1	0.50
Totals			17.890	127470	3246807		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: T05a-MSD.D50 Sample: VS006-224-TR05a MSD - C30

```

=====
Data File   : CCB00000.D51                      Report Date: 03/20/1999 12:37:10
Sample Name: 5653-126-B ICB/CCB - A07           Collected  : 03/20/1999 12:12:05
Inject #    : 51                                Vial #       : A07
Method File: c:\peaknet\method\hina-nh3.met      Calibrated   : 01/11/1999 19:56:45
System Name: Cations (WC48875)                  Detector    : CD20
Column Type:                                     Operator     : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           25                1  7500  5.00 Hz  0.00  25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.47	Sodium	0.000	2548	35666	1	1.23
0	0.00	Ammonium	0.000	0	0	0	0.00
Totals			0.000	2548	35666		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: CCB00000.D51 Sample: 5653-126-B ICB/CCB - A07

```

=====
Data File   : CCVS0000.D52          Report Date: 03/20/1999 13:03:43
Sample Name: 5653-141-C ICVS/CCVS - B04  Collected  : 03/20/1999 12:38:39
Inject #    : 52                    Vial #       : B04
Method File: c:\peaknet\method\hina-nh3.met  Calibrated : 01/11/1999 19:56:45
System Name: Cations (WC48875)          Detector   : CD20
Column Type:                            Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.43	Sodium	0.000	2675	37300	1	0.62
2	6.70	Ammonium	0.657	5726	104469	1	1.01
Totals			0.657	8401	141768		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: CCVS0000.D52 Sample: 5653-141-C ICVS/CCVS - B04

```

=====
Data File   : ccvs0000.d53                      Report Date: 03/24/1999 09:13:00
Sample Name: 5653-141-C ICVS/CCVS - B04         Collected  : 03/23/1999 18:19:29
Inject #    : 53                               Vial #      : B04
Method File: C:\PEAKNET\METHOD\VS006NH3.MET    Calibrated  : 03/24/1999 09:12:16
System Name: Cations (WC48875)                 Detector    : CD20
Column Type:                                   Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.60	Sodium	0.000	5757	78263	1	1.82
2	6.90	Ammonium	0.661	5693	104994	1	-1.43
Totals			0.661	11450	183257		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: ccvs0000.d53 Sample: 5653-141-C ICVS/CCVS - B04

```

=====
Data File   : ccb00000.d54          Report Date: 03/24/1999 09:13:00
Sample Name: 5653-126-B ICB/CCB - A07  Collected  : 03/23/1999 18:46:00
Inject #    : 54                    Vial #       : A07
Method File: C:\PEAKNET\METHOD\VS006NH3.MET  Calibrated : 03/24/1999 09:12:16
System Name: Cations (WC48875)         Detector   : CD20
Column Type:                           Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.67	Sodium	0.000	1678	22109	1	3.03
0	0.00	Ammonium	0.000	0	0	0	0.00
Totals			0.000	1678	22109		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: ccb00000.d54 Sample: 5653-126-B ICB/CCB - A07

```

=====
Data File   : t01-a-r1.d55                      Report Date: 03/24/1999 09:13:01
Sample Name : VS006-204-TR01a R1 - B11          Collected  : 03/23/1999 19:12:29
Inject #    : 55                                Vial #      : B11
Method File : C:\PEAKNET\METHOD\VS006NH3.MET   Calibrated  : 03/24/1999 09:12:16
System Name : Cations (WC48875)                 Detector    : CD20
Column Type :                                   Operator   : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25      8.1429    7500  5.00 Hz  0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.70	Sodium	0.000	19063	260081	1	3.64
2	7.00	Ammonium	6.352	6511	122019	1	0.00
Totals			6.352	25574	382100		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: t01-a-r1.d55 Sample: VS006-204-TR01a R1 - B11

```

=====
Data File   : t02-a-r1.d56                      Report Date: 03/24/1999 09:13:01
Sample Name: VS006-209-TR02a R1 - B12          Collected  : 03/23/1999 19:39:04
Inject #    : 56                                Vial #       : B12
Method File: C:\PEAKNET\METHOD\VS006NH3.MET   Calibrated   : 03/24/1999 09:12:16
System Name: Cations (WC48875)                 Detector     : CD20
Column Type:                                   Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25          11 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.73	Sodium	0.000	17382	244227	1	4.24
2	7.07	Ammonium	10.814	7813	150987	1	0.95
Totals			10.814	25194	395213		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: t02-a-r1.d56 Sample: VS006-209-TR02a R1 - B12

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```

=====
Data File   : t03-a-r1.d57                      Report Date: 03/24/1999 09:13:01
Sample Name : VS006-214-TR03a R1 - B13          Collected  : 03/23/1999 20:05:39
Inject #    : 57                                Vial #       : B13
Method File : C:\PEAKNET\METHOD\VS006NH3.MET   Calibrated   : 03/24/1999 09:12:16
System Name : Cations (WC48875)                 Detector     : CD20
Column Type :                                     Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25      20.408    7500  5.00 Hz  0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.73	Sodium	0.000	14479	210589	1	4.24
2	7.07	Ammonium	18.590	7247	140689	1	0.95
Totals			18.590	21726	351278		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: t03-a-r1.d57 Sample: VS006-214-TR03a R1 - B13

```

=====
Data File   : t04-a-r1.d58                      Report Date: 03/24/1999 09:13:02
Sample Name: VS006-219-TR04a R1 - B14          Collected  : 03/23/1999 20:32:14
Inject #    : 58                                Vial #       : B14
Method File : C:\PEAKNET\METHOD\VS006NH3.MET  Calibrated   : 03/24/1999 09:12:16
System Name : Cations (WC48875)                Detector     : CD20
Column Type :                                  Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25      23.7272   7500  5.00 Hz  0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.70	Sodium	0.000	14466	199801	1	3.64
2	7.00	Ammonium	24.304	7835	156873	1	0.00
Totals			24.304	22301	356674		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: t04-a-r1.d58 Sample: VS006-219-TR04a R1 - B14

```

=====
Data File   : t05-a-r1.d59                      Report Date: 03/24/1999 09:13:02
Sample Name: VS006-224-TR05a R1 - B15          Collected  : 03/23/1999 20:58:48
Inject #    : 59                                Vial #       : B15
Method File : C:\PEAKNET\METHOD\VS006NH3.MET  Calibrated   : 03/24/1999 09:12:16
System Name : Cations (WC48875)                Detector     : CD20
Column Type :                                  Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25      28.7777 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.70	Sodium	0.000	21115	297356	1	3.64
2	7.03	Ammonium	31.084	8467	164842	1	0.48
Totals			31.084	29582	462197		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: t05-a-r1.d59 Sample: VS006-224-TR05a R1 - B15

```

=====
Data File   : t06-a-r1.d60          Report Date: 03/24/1999 09:13:02
Sample Name: VS006-229-TR06a R1 - B16  Collected  : 03/23/1999 21:25:24
Inject #    : 60                    Vial #       : B16
Method File : C:\PEAKNET\METHOD\VS006NH3.MET  Calibrated : 03/24/1999 09:12:16
System Name : Cations (WC48875)        Detector   : CD20
Column Type :                        Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25      36.7143   7500  5.00 Hz   0.00  25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.77	Sodium	0.000	21690	303694	1	4.85
2	7.10	Ammonium	46.038	9479	189641	1	1.43
Totals			46.038	31169	493335		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	0		

File: t06-a-r1.d60 Sample: VS006-229-TR06a R1 - B16

```

=====
Data File   : t07-a-r1.d61                      Report Date: 03/24/1999 09:13:03
Sample Name: VS006-234-TR07a R1 - B17           Collected  : 03/23/1999 21:52:01
Inject #    : 61                                Vial #       : B17
Method File: C:\PEAKNET\METHOD\VS006NH3.MET    Calibrated   : 03/24/1999 09:12:16
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25      35.4828   7500  5.00 Hz  0.00  25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
2	7.17	Ammonium	43.194	9088	184416	1	2.38
Totals			43.194	9088	184416		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.83		0.000	14341	199357	1	
Totals			0.000	14341	199357		

File: t07-a-r1.d61 Sample: VS006-234-TR07a R1 - B17

```

=====
Data File   : t08-a-r1.d62                Report Date: 03/24/1999 09:13:03
Sample Name: VS006-239-TR08a R1 - B18      Collected  : 03/23/1999 22:18:34
Inject #    : 62                          Vial #     : B18
Method File: C:\PEAKNET\METHOD\VS006NH3.MET Calibrated : 03/24/1999 09:12:16
System Name: Cations (WC48875)             Detector   : CD20
Column Type:                               Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25      39.4615    7500  5.00 Hz  0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
2	7.20	Ammonium	49.603	9406	190076	1	2.86
Totals			49.603	9406	190076		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.83		0.000	16842	239846	1	
Totals			0.000	16842	239846		

File: t08-a-r1.d62 Sample: VS006-239-TR08a R1 - B18

```

=====
Data File   : t09-a-r1.d63          Report Date: 03/24/1999 09:13:03
Sample Name: VS006-244-TR09a R1 - B19  Collected  : 03/23/1999 22:45:07
Inject #    : 63                    Vial #       : B19
Method File: C:\PEAKNET\METHOD\VS006NH3.MET Calibrated : 03/24/1999 09:12:16
System Name: Cations (WC48875)        Detector    : CD20
Column Type:                          Operator     : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25      36.7143   7500  5.00 Hz  0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
2	7.27	Ammonium	42.779	8879	176974	1	3.81
Totals			42.779	8879	176974		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.90		0.000	21823	307336	1	
Totals			0.000	21823	307336		

File: t09-a-r1.d63 Sample: VS006-244-TR09a R1 - B19

```

=====
Data File   : ccb00000.d64          Report Date: 03/24/1999 09:13:04
Sample Name: 5653-126-B ICB/CCB - A07  Collected  : 03/23/1999 23:11:40
Inject #    : 64                    Vial #       : A07
Method File: C:\PEAKNET\METHOD\VS006NH3.MET  Calibrated : 03/24/1999 09:12:16
System Name: Cations (WC48875)         Detector   : CD20
Column Type:                           Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
0	0.00	Ammonium	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.93		0.000	1679	24003	1	
Totals			0.000	1679	24003		

File: ccb00000.d64 Sample: 5653-126-B ICB/CCB - A07

```

=====
Data File   : ccvs0000.d65          Report Date: 03/24/1999 09:13:04
Sample Name: 5653-141-C ICVS/CCVS - B04  Collected  : 03/23/1999 23:38:14
Inject #    : 65                    Vial #       : B04
Method File: C:\PEAKNET\METHOD\VS006NH3.MET  Calibrated : 03/24/1999 09:12:16
System Name: Cations (WC48875)         Detector   : CD20
Column Type:                          Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
2	7.30	Ammonium	0.651	5197	103654	1	4.29
Totals			0.651	5197	103654		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.93		0.000	8884	126742	1	
Totals			0.000	8884	126742		

File: ccvs0000.d65 Sample: 5653-141-C ICVS/CCVS - B04

```
=====
Data File   : t08a-ms0.d66                Report Date: 03/24/1999 09:13:04
Sample Name: VS006-239-TR08a MS - B20      Collected  : 03/24/1999 00:04:49
Inject #    : 66                          Vial #       : B20
Method File: C:\PEAKNET\METHOD\VS006NH3.MET Calibrated : 03/24/1999 09:12:16
System Name: Cations (WC48875)             Detector     : CD20
Column Type:                               Operator      : M. Duchsherer
=====
```

```
-----
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
xternal          25           1 7500 5.00 Hz 0.00 25.00      1000
-----
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
2	7.33	Ammonium	3.465	21652	505207	1	4.76
Totals			3.465	21652	505207		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.93		0.000	30754	464157	1	
Totals			0.000	30754	464157		

File: t08a-ms0.d66 Sample: VS006-239-TR08a MS - B20


```

=====
Data File   : t08a-msd.d67          Report Date: 03/24/1999 09:13:05
Sample Name: VS006-239-TR08a MSD - B21  Collected  : 03/24/1999 00:31:28
Inject #    : 67                    Vial #       : B21
Method File : C:\PEAKNET\METHOD\VS006NH3.MET Calibrated : 03/24/1999 09:12:16
System Name : Cations (WC48875)       Detector    : CD20
Column Type :                        Operator     : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Peak Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
2	7.37	Ammonium	10.064	52774	1446775	1	5.24
Totals			10.064	52774	1446775		

***** Peak Report: Unknown Peaks *****

Peak Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.97		0.000	42052	639269	1	
Totals			0.000	42052	639269		

File: t08a-msd.d67 Sample: VS006-239-TR08a MSD - B21

```

=====
Data File   : t08a-ms0.d68                      Report Date: 03/24/1999 09:13:05
Sample Name: VS006-239-TR08a MS R1 - B22        Collected  : 03/24/1999 00:58:08
Inject #    : 68                                Vial #       : B22
Method File: C:\PEAKNET\METHOD\VS006NH3.MET    Calibrated   : 03/24/1999 09:12:16
System Name: Cations (WC48875)                  Detector     : CD20
Column Type:                                     Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
2	7.37	Ammonium	1.529	10650	228869	1	5.24
Totals			1.529	10650	228869		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.97		0.000	16574	244606	1	
Totals			0.000	16574	244606		

File: t08a-ms0.d68 Sample: VS006-239-TR08a MS R1 - B22

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```

=====
Data File   : t08a-msd.d69                      Report Date: 03/24/1999 09:13:06
Sample Name: VS006-239-TR08a MSD R1 - B23       Collected  : 03/24/1999 01:24:41
Inject #    : 69                               Vial #      : B23
Method File : C:\PEAKNET\METHOD\VS006NH3.MET   Calibrated  : 03/24/1999 09:12:16
System Name : Cations (WC48875)                 Detector    : CD20
Column Type :                                  Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
2	7.40	Ammonium	1.542	10873	230750	1	5.71
Totals			1.542	10873	230750		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.97		0.000	13849	212872	1	
Totals			0.000	13849	212872		

File: t08a-msd.d69 Sample: VS006-239-TR08a MSD R1 - B23

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```

=====
Data File   : ccb00000.d70
Sample Name : 5653-126-B ICB/CCB - A07
Inject #    : 70
Method File : C:\PEAKNET\METHOD\VS006NH3.MET
System Name : Cations (WC48875)
Column Type :
Report Date : 03/24/1999 09:13:06
Collected  : 03/24/1999 01:51:13
Vial #      : A07
Calibrated  : 03/24/1999 09:12:16
Detector    : CD20
Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
0	0.00	Sodium	0.000	0	0	0	0.00
0	0.00	Ammonium	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	6.00		0.000	1667	24016	1	
Totals			0.000	1667	24016		

File: ccb00000.d70 Sample: 5653-126-B ICB/CCB - A07

```

=====
Data File   : ccvs0001.d71                      Report Date: 03/24/1999 09:13:07
Sample Name : 5653-141-C ICVS/CCVS - B04        Collected  : 03/24/1999 02:17:45
Inject #    : 71                                Vial #      : B04
Method File : C:\PEAKNET\METHOD\VS006NH3.MET   Calibrated  : 03/24/1999 09:12:16
System Name : Cations (WC48875)                 Detector    : CD20
Column Type :                                   Operator   : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          25           1 7500 5.00 Hz 0.00 25.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	5.57	Sodium	0.000	8905	127929	1	1.21
2	6.90	Ammonium	0.605	5128	96987	1	-1.43
Totals			0.605	14032	224916		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
Totals			0.000	0	.0		

File: ccvs0001.d71 Sample: 5653-141-C ICVS/CCVS - B04

2.7 NO and NO₂ in Sorbent Tube Train Samples

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2.7.1 Narrative

This section contains descriptions of the analytical method and quality assurance used during analysis.

2.7.1.1 Determination of NO and NO₂ in Sorbent Tube Train Samples

Nitric oxide (NO) and nitrogen dioxide (NO₂) are trapped and quantitatively converted to nitrite and nitrate anion in the STT sorbent tubes. The sorbent tubes are then leached with triethanolamine/water solution and analyzed for nitrate and/or nitrite ion by ion chromatography. The ion chromatograph consists of a guard column, one or more analytical columns, a suppressor device, and a conductivity detector. The chromatographic eluent is a mixture of aqueous sodium carbonate and sodium bicarbonate.

Concentrations and concentration units reported on the raw data sheets reflect the concentration of nitrite ion in the leach solutions - and are not corrected for method dilution factors. Raw data concentration units are reported in ug/mL unless otherwise listed on the printouts. No deviations from procedures were noted during the analysis of the sorbent tube train samples for NO and NO₂.

2.7.1.2 Nitrogen Oxides Analytical Quality Assurance

Method LA-533-400, Rev. A-0, is used to conduct the quantitative ion chromatographic determination of nitrate and nitrite ions in STT leaching solutions. The measurement of these analytes are used to calculate and report the concentration of nitric oxide (NO) and nitrogen dioxide (NO₂) in waste tank headspace samples collected in STTs.

The ion chromatographic system is calibrated initially prior to starting sample analysis and each time continuing calibration criteria cannot be met for subsequent analysis. At least 3 standard concentration levels containing the target analytes are used for initial calibration (ICAL). The initial calibration standards are used to determine chromatographic column retention times and to compute retention time windows. The validity of the initial calibration is demonstrated by meeting linearity, deviation, or curve fitting criteria and through the satisfactory analysis of a "check standard", the ICVS, for the target analytes. Initial calibration blanks are measured to demonstrate system cleanliness. Each day that the IC system is used for analysis, the continuing calibration of the system is verified through the measurement of a mid-level check standard, or CCVS. Criteria for the CCVS target analytes that must be met are retention time windows and percent recoveries. Continuing calibration blanks (CCBs) are used to document the continued cleanliness of the analytical system.

With each tank sample reporting batch, the analysis of a method blank (MB) or process blank is conducted and reported. The MB cannot exceed maximum allowable contamination levels for the target analytes. Also, with each tank sample reporting batch, the analysis of 2 actual samples "spiked" with the target analyte is conducted. The recovery of the matrix spike and matrix spike duplicate must meet precision (expressed as relative percent difference - RPD) and accuracy (expressed as percent recovery - %R) criteria. And also, with each tank sample reporting batch, the analysis of a laboratory control sample (LCS) is conducted. Because it represents new technology for this measurement system, the use of the LCS is now under development. The recovery of the LCS must meet accuracy (percent recovery - %R) requirements or the resulting data is flagged.

Matrix spike and matrix spike duplicate analyses were performed on samples from the "b" tubes (Nitrogen Dioxide) and on samples from the "d" tubes (Nitric Oxide). Although the "b" and "d" tubes are identical, they are physically separated by an oxidizer tube. Matrix spike and matrix spike duplicate recoveries for the "b" tube samples were within QC limits of 75 to 125 percent recovery. Recoveries of the matrix spike and matrix spike duplicate for "d" tubes were 97% and 73%, respectively.

Based on historical data, the "b" tube samples and the "d" tube samples were spiked identically. After analysis it was discovered that concentrations of nitrite in the "d" samples were nearly 20 times higher than that of the "b" tube samples. This resulted in the "d" samples having inadequate spike fortification (the method recommends using a fortification level of 30% - 50%, however the actual level used was later determined to be only 11%) - affecting both the accuracy and the precision of the MS/MSD results. Matrix spike reruns were not performed on "d" samples due to both the similarity in matrix with "b" samples, and the also the small magnitude of the QC failure by the MSD. There were no other exceptions to quality control requirements.

2.7.2 Result Summary Tables

Result summary tables are organized by sample. All reported values have been corrected to 25 °C and 1 atmosphere pressure. Precision information can be derived from the matrix spike and matrix spike duplicate results.

Sample Target Analyte Concentrations for Sorbent Train Number VS006-204-TR01

Laboratory Sample Number	VS006-204-TR01b	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/18/99	Sample Analysis Time	22:26:54	Sample Concentration (mg/M ³)	0.88	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)			
Nitrogen Dioxide	10102-44-0	1.67	1.63	1.7		Q

Laboratory Sample Number	VS006-204-TR01d	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	1:04:45	Sample Concentration (mg/M ³)	1.4	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)			
Nitric Oxide	10102-43-9	1.67	1.65	1.7		Q

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-209-TR02

Laboratory Sample Number	VS006-209-TR02b	Laboratory Duplicate Number	n/a		
Sample Analysis Date	3/18/99	Sample Analysis Time	22:36:49	Sample Data File Identifier	t02-b000.d11
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)
Nitrogen Dioxide	10102-44-0	1.67	1.63	1.7	0.88
					Q

Laboratory Sample Number	VS006-209-TR02d	Laboratory Duplicate Number	n/a		
Sample Analysis Date	3/19/99	Sample Analysis Time	1:14:39	Sample Data File Identifier	t02-d000.d27
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)
Nitric Oxide	10102-43-9	1.67	1.66	1.7	1.4
					Q

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-214-TR03

Laboratory Sample Number	VS006-214-TR03b	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	1:24:29	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Sample Concentration (ppmv)	Flags
Nitrogen Dioxide	10102-44-0	1.67	1.64	1.7	0.88		Q

Laboratory Sample Number	VS006-214-TR03d	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/18/99	Sample Analysis Time	22:46:40	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Sample Concentration (ppmv)	Flags
Nitric Oxide	10102-43-9	1.67	1.64	1.7	1.4		Q

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-219-TR04

Laboratory Sample Number	VS006-219-TR04b	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/18/99	Sample Analysis Time	22:56:38	Sample Concentration (mg/M ³)	0.88	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)			
Nitrogen Dioxide	10102-44-0	1.67	1.63	1.7		Q

Laboratory Sample Number	VS006-219-TR04d	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	1:34:22	Sample Concentration (mg/M ³)	1.4	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)			
Nitric Oxide	10102-43-9	1.67	1.65	1.7		Q

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-224-TR05

Laboratory Sample Number	VS006-224-TR05b	Laboratory Duplicate Number	n/a	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/18/99	Sample Analysis Time	23:06:31	Expected Retention Time (min)	1.67	1.7	
Target Analyte Name	CAS Number	10102-44-0	1.63	Sample Retention Time (min)	1.63	0.88	Q
Nitrogen Dioxide							

Laboratory Sample Number	VS006-224-TR05d	Laboratory Duplicate Number	n/a	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	1:44:18	Expected Retention Time (min)	1.67	1.7	
Target Analyte Name	CAS Number	10102-43-9	1.65	Sample Retention Time (min)	1.65	1.4	Q
Nitric Oxide							

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-229-TR06

Laboratory Sample Number	VS006-229-TR06b	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/18/99	Sample Analysis Time	23:16:24	Sample Concentration (mg/M ³)	1.7	0.88	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	1.63		
Nitrogen Dioxide	10102-44-0	1.67	1.63				Q

Laboratory Sample Number	VS006-229-TR06d	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	1:54:13	Sample Concentration (mg/M ³)	1.7	1.4	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	1.65		
Nitric Oxide	10102-43-9	1.67	1.65				Q

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-234-TR07

Laboratory Sample Number	VS006-234-TR07b	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M) ²	Sample Concentration (ppmv) ²	Flags
Sample Analysis Date	3/18/99	Sample Analysis Time	23:26:19	Sample Concentration (mg/M) ²	1.7	0.88	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)				
Nitrogen Dioxide	10102-44-0	1.67	1.63				Q

Laboratory Sample Number	VS006-234-TR07d	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (mg/M) ²	Sample Concentration (ppmv) ²	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	2:23:19	Sample Concentration (mg/M) ²	1.7	1.4	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)				
Nitric Oxide	10102-43-9	1.67	1.66				Q

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-239-TR08

Laboratory Sample Number	VS006-239-TR08b	Laboratory Duplicate Number	n/a	Sample Analysis Time	23:36:10	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv) ²	Sample Data File Identifier	108-b000.d17	Flags
Sample Analysis Date	3/18/99											
Target Analyte Name		CAS Number										
Nitrogen Dioxide	10102-44-0			1.67		1.63		1.7	0.88			Q

Laboratory Sample Number	VS006-239-TR08d	Laboratory Duplicate Number	n/a	Sample Analysis Time	2:33:11	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv) ²	Sample Data File Identifier	108-d000.d35	Flags
Sample Analysis Date	3/19/99											
Target Analyte Name		CAS Number										
Nitric Oxide	10102-43-9			1.67		1.65		1.7	1.4			Q

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Sample Target Analyte Concentrations for Sorbent Train Number VS006-244-TR09

Laboratory Sample Number	VS006-244-TR09b	Laboratory Duplicate Number	n/a			
Sample Analysis Date	3/18/99	Sample Analysis Time	23:46:05	Sample Data File Identifier	t09-b000.d18	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Nitrogen Dioxide	10102-44-0	1.67	1.63	1.7	0.88	Q

Laboratory Sample Number	VS006-244-TR09d	Laboratory Duplicate Number	n/a			
Sample Analysis Date	3/19/99	Sample Analysis Time	2:43:04	Sample Data File Identifier	t09-d000.d36	
Target Analyte Name	CAS Number	Expected Retention Time (min)	Sample Retention Time (min)	Sample Concentration (mg/M ³)	Sample Concentration (ppmv)	Flags
Nitric Oxide	10102-43-9	1.67	1.65	1.7	1.4	Q

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

2.7.3 Quality Control Summary Tables

Quality control summary tables are organized by the quality control parameter. The NO_2/NO chromatography method determines the concentrations of nitrite ion in solution, then converts the concentration of nitrite ion to the corresponding amount of nitrogen dioxide and nitric oxide. Calibration standards and instrument blank results, therefore, are reported in terms of nitrite ion. Field blank and method performance blank samples have no tank vapor pulled through them, however, they are reported in terms of nitrogen dioxide and nitric oxide by basing the result on a "typical" sample size of 2000 ml tank vapor. The following tables are presented in this section in the following order:

- Target Analyte Initial Calibration Tables
- Initial and Continuing Calibration Verification Summary
- Initial and Continuing Blank Verification Summary
- Trip Blank, Field Blank and Method Performance Blank Summary
 - Trip Blank
 - Field Blank
 - Ambient Air Blank, (Pre Startup)
 - Ambient Air Blank, (Steady State Operation)
 - Method Performance Blank
- Matrix Spike Summary.

Target Analyte Initial Calibration Tables

Instrument ID Number	WC48876	Initial Calibration Date	1/2/99	Initial Calibration File Identifiers	i-cal100.d06 i-cal200.d05 i-cal300.d04 i-cal400.d03 i-cal600.d51	
Operator ID	M. J. Duchsherer	Standard ID	5653-137-A			
Target Analyte Name	Instrument Calibration Range (µg/mL)	No. of Calibration Points	Calibration Model	Instrument Response Factor (slope)	Intercept	R ²
Nitrite	0.125 - 10.00	5	Linear	1.22E+05	-1.45E+04	1.000

Batched Samples				
VS006-204-TR01b	VS006-301-TR21b	VS006-204-TR01d	VS006-301-TR21d	VS006-224-TR05b MS
VS006-209-TR02b	VSAMP-203-TR22b	VS006-209-TR02d	VSAMB-203-TR22d	VS006-224-TR05b MSD
VS006-214-TR03b	VSAMP-209-TR23b	VS006-214-TR03d	VSAMB-209-TR23d	VS006-224-TR05d MS
VS006-219-TR04b	VS006-MPB-TR24b	VS006-219-TR04d	VS006-MPB-TR24d	VS006-224-TR05d MSD
VS006-224-TR05b		VS006-224-TR05d		
VS006-229-TR06b		VS006-229-TR06d		
VS006-234-TR07b		VS006-234-TR07d		
VS006-239-TR08b		VS006-239-TR08d		
VS006-244-TR09b		VS006-244-TR09d		
VS006-298-TR20b		VS006-298-TR20d		

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Initial and Continuing Calibration Verification Summary

Instrument ID Number	WC48876	ICVS/CCVS Analysis Date	3/18/99	ICVS/CCVS Analysis Time	22:17		
Operator ID	M. J. Duchsherer	Standard ID	5653-140-C	ICVS/CCVS File Identifier	ccvs0000.d09		
Target Analyte Name	CCVS "Book" Concentration (µg/mL)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (µg/mL)	Percent Recovery	Batched Samples	
Nitrite	0.625	1	1.05E+05	0.658	105	VS006-204-TR01b	VS006-229-TR06b
						VS006-209-TR02b	VS006-234-TR07b
						VS006-214-TR03d	VS006-239-TR08b
						VS006-219-TR04b	VS006-244-TR09b
						VS006-224-TR05b	VS006-249-TR20b

Instrument ID Number	WC48876	ICVS/CCVS Analysis Date	3/19/99	ICVS/CCVS Analysis Time	0:15		
Operator ID	M. J. Duchsherer	Standard ID	5653-140-C	ICVS/CCVS File Identifier	ccvs0000.d21		
Target Analyte Name	CCVS "Book" Concentration (µg/mL)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (µg/mL)	Percent Recovery	Batched Samples	
Nitrite	0.625	1	1.03E+05	0.649	104	VS006-301-TR21b VSAMP-203-TR22b VSAMP-209-TR23b VS006-MPB-TR24b VS006-204-TR01d	VS006-209-TR02d VS006-214-TR03b VS006-219-TR04d VS006-224-TR05d VS006-229-TR06d

Instrument ID Number	WC48876	ICVS/CCVS Analysis Date	3/19/99	ICVS/CCVS Analysis Time	2:13		
Operator ID	M. J. Duchsherer	Standard ID	5653-140-C	ICVS/CCVS File Identifier	ccvs0000.d33		
Target Analyte Name	CCVS "Book" Concentration (µg/mL)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (µg/mL)	Percent Recovery	Batched Samples	
Nitrite	0.625	1	9.94E+04	0.629	101	VS006-234-TR07d VS006-239-TR08d VS006-244-TR09d VS006-298-TR20d VS006-301-TR21d	VSAMB-203-TR22d VSAMB-209-TR23d VS006-MPB-TR24d VS006-224-TR05b MS VS006-224-TR05b MSD

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Initial and Continuing Calibration Verification Summary

Instrument ID Number	WC48876	ICVS/CCVS Analysis Date	3/19/99	ICVS/CCVS Analysis Time	4:11	
Operator ID	M. J. Duchsherer	Standard ID	5653-140-C	ICVS/CCVS File Identifier	ccvs0000.d45	
Target Analyte Name	CCVS Book Concentration (µg/mL)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (µg/mL)	Percent Recovery	Batched Samples
Nitrite	0.625	1	9.83E+04	0.623	100	VS006-224-TR05d MS VS006-224-TR05d MSD

Instrument ID Number	WC48876	ICVS/CCVS Analysis Date	3/19/99	ICVS/CCVS Analysis Time	4:50	
Operator ID	M. J. Duchsherer	Standard ID	5653-140-C	ICVS/CCVS File Identifier	ccvs0000.d49	
Target Analyte Name	CCVS Book Concentration (µg/mL)	No. of Verification Points	Instrument Response Factor	CCVS Analytical Result (µg/mL)	Percent Recovery	Batched Samples
Nitrite	0.625	1	9.92E+04	0.628	100	END STANDARD

Initial and Continuing Calibration Blank Summary

Instrument ID Number	WC48876	ICB/CCB Analysis Date	3/18/99	ICB/CCB Analysis Time	22:07
Operator ID	M. J. Duchsherer	Blank ID	5653-136-C	ICB/CCB File Identifier	ccb00000.d08
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (µg/mL)	Batched Samples
Nitrite	7664-41-7	1.67		< 0.125 M	VS006-204-TR01b VS006-229-TR06b VS006-209-TR02b VS006-234-TR07b VS006-214-TR03d VS006-239-TR08b VS006-219-TR04b VS006-244-TR09b VS006-224-TR05b VS006-296-TR20b

Instrument ID Number	WC48876	ICB/CCB Analysis Date	3/19/99	ICB/CCB Analysis Time	0:05
Operator ID	M. J. Duchsherer	Blank ID	5653-136-C	ICB/CCB File Identifier	ccb00000.d20
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (mg/mL)	Batched Samples
Nitrite	7664-41-7	1.67		< 0.125 M	VS006-301-TR21b VS006-309-TR02d VSAMP-203-TR22b VS006-214-TR03b VSAMP-209-TR23b VS006-219-TR04d VS006-MPB-TR24b VS006-224-TR05d VS006-204-TR01d VS006-229-TR06d

Instrument ID Number	WC48876	ICB/CCB Analysis Date	3/19/99	ICB/CCB Analysis Time	2:04
Operator ID	M. J. Duchsherer	Blank ID	5653-136-C	ICB/CCB File Identifier	ccb00000.d32
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (µg/mL)	Batched Samples
Nitrite	7664-41-7	1.67		< 0.125 M	VS006-234-TR07d VSAMB-203-TR22d VS006-239-TR08d VSAMB-209-TR23d VS006-244-TR09d VS006-MPB-TR24d VS006-296-TR20d VS006-224-TR05b MS VS006-301-TR21d VS006-224-TR05b MSD

Initial and Continuing Calibration Blank Summary

Instrument ID Number	WC48876	ICB/CCB Analysis Date	3/19/99	ICB/CCB Analysis Time	4:02
Operator ID	M. J. Duchsherer	Blank ID	5653-136-C	ICB/CCB File Identifier	ccb00000.d44
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (µg/mL)	Batched Samples
Nitrite	7664-41-7	1.67		< 0.125	V5006-224-TR05d MS V5006-224-TR05d MSD

Instrument ID Number	WC48876	ICB/CCB Analysis Date	3/19/99	ICB/CCB Analysis Time	4:41
Operator ID	M. J. Duchsherer	Blank ID	5653-136-C	ICB/CCB File Identifier	ccb00000.d48
Target Analyte Name	CAS Number	Expected Retention Time	ICB/CCB Retention Time	ICB/CCB Analytical Result (µg/mL)	Batched Samples
Nitrite	7664-41-7	1.67		< 0.125	END BLANK

NO/NO₂ Trip Blank and Method Performance Blank Summary

Trip Blank

Laboratory Sample Number	VS006-298-TR20b	Laboratory Duplicate Number	n/a			
Sample Analysis Date	3/18/99	Sample Analysis Time	23:55:57	Sample Data File Identifier	120-b000.d19	Flags
Target Analyte Name	CAS Number	Expected Retention Time (min.)	Sample Retention Time ¹ (min.)	Sample Concentration (mg/M ³) ²	Sample Concentration (ppmv) ²	
Nitrogen Dioxide	10102-44-0	1.67	1.63	1.7	0.88	Q

Laboratory Sample Number	VS006-298-TR20d	Laboratory Duplicate Number	n/a			
Sample Analysis Date	3/19/99	Sample Analysis Time	2:52:59	Sample Data File Identifier	120-d000.d37	Flags
Target Analyte Name	CAS Number	Expected Retention Time (min.)	Sample Retention Time ¹ (min.)	Sample Concentration (mg/M ³) ²	Sample Concentration (ppmv) ²	
Nitric Oxide	10102-43-9	1.67		1.7	1.4	M

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

NO/NO₂ Trip Blank and Method Performance Blank Summary

Field Blank

Laboratory Sample Number	VS006-301-TR21b	Laboratory Duplicate Number	n/a			
Sample Analysis Date	3/19/99	Sample Analysis Time	0:25:05	Sample Data File Identifier	t21-b000.d22	
Target Analyte Name	CAS Number	Expected Retention Time (min.)	Sample Retention Time (min.)	Sample Concentration (mg/M) ²	Sample Concentration (ppmv) ²	Flags
Nitrogen Dioxide	10102-44-0	1.67		1.7	0.88	M

Laboratory Sample Number	VS006-301-TR21d	Laboratory Duplicate Number	n/a			
Sample Analysis Date	3/19/99	Sample Analysis Time	3:02:54	Sample Data File Identifier	t21-d000.d38	
Target Analyte Name	CAS Number	Expected Retention Time (min.)	Sample Retention Time ¹ (min.)	Sample Concentration (mg/M ³) ²	Sample Concentration (ppmv) ²	Flags
Nitric Oxide	10102-43-9	1.67		1.7	1.4	M

¹ Retention times are for NO₂

² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

NO/NO₂ Trip Blank and Method Performance Blank Summary

Ambient Air Before Start of Pump

Laboratory Sample Number	VSAMP-203-TR22b	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv) ²	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	0:35:00	Sample Concentration (mg/M ³) ²	1.7	
Target Analyte Name	CAS Number	Expected Retention Time ¹ (min.)	Sample Retention Time ¹ (min.)			
Nitrogen Dioxide	10102-44-0	1.67			0.88	M

Laboratory Sample Number	VSAMB-203-TR22d	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv) ²	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	3:12:46	Sample Concentration (mg/M ³) ²	1.7	
Target Analyte Name	CAS Number	Expected Retention Time ¹ (min.)	Sample Retention Time ¹ (min.)			
Nitric Oxide	10102-43-9	1.67			1.4	M

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

NO/NO₂ Trip Blank and Method Performance Blank Summary

Samples at Steady State TOC Concentration

Laboratory Sample Number	VSAMP-209-TR23b	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv) ²	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	0:44:55	Sample Concentration (mg/M) ²	0.88	
Target Analyte Name	CAS Number	Expected Retention Time (min.)	Sample Retention Time ¹ (min.)			
Nitrogen Dioxide	10102-44-0	1.67		1.7		M

Laboratory Sample Number	VSAMB-209-TR23d	Laboratory Duplicate Number	n/a	Sample Data File Identifier	Sample Concentration (ppmv) ²	Flags
Sample Analysis Date	3/19/99	Sample Analysis Time	3:22:41	Sample Concentration (mg/M) ²	1.4	
Target Analyte Name	CAS Number	Expected Retention Time (min.)	Sample Retention Time ¹ (min.)			
Nitric Oxide	10102-43-9	1.67		1.7		M

¹ Retention times are for NO₂

² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

NO/NO₂ Trip Blank and Method Performance Blank Summary

Method Performance Blank

Laboratory Sample Number	VS006-MPB-TR24b	Laboratory Duplicate Number	n/a			
Sample Analysis Date	3/19/99	Sample Analysis Time	0:54:50	Sample Data File Identifier	t24-b000.d25	
Target Analyte Name	CAS Number	Expected Retention Time ¹ (min.)	Sample Retention Time ¹ (min.)	Sample Concentration (mg/M) ²	Sample Concentration (ppmv) ²	Flags
Nitrogen Dioxide	10102-44-0	1.67		1.7	0.88	M

Laboratory Sample Number	VS006-MPB-TR24d	Laboratory Duplicate Number	n/a			
Sample Analysis Date	3/19/99	Sample Analysis Time	3:32:37	Sample Data File Identifier	t24-d000.d41	
Target Analyte Name	CAS Number	Expected Retention Time ¹ (min.)	Sample Retention Time ¹ (min.)	Sample Concentration (mg/M) ²	Sample Concentration (ppmv) ²	Flags
Nitric Oxide	10102-43-9	1.67		1.7	1.4	M

¹ Retention times are for NO₂² mg/M³ and ppmv calculated at 25 °C and 101.3 kPa (one atmosphere)

Matrix Spike Summary

Instrument ID Number	WC48876	Target Analyte Name	Nitrite	Expected Retention Time	1.67	Operator ID	M. J. Duchsherer
MS ID	VS006-224-TR05b MS	MS File Identifier	105b-ms0.d42	MS Analysis Date	3/19/99	MS Analysis Time	3:42:29
MSD ID	VS006-224-TR05b MSD	MSD File Identifier	105b-msd.d43	MSD Analysis Date	3/19/99	MSD Analysis Time	3:52:21
Sample ID	VS006-224-TR05b	Sample Concentration	0.163 µg/mL	Sample Volume	0.800 mL	Diluent Volume	0.000 mL
MS/MSD Standard ID	5653-137-C	MS/MSD Standard Conc	25.0 µg/mL	MS/MSD Standard Volume	0.011 mL		
MS Retention Time	MSD Retention Time	MS Analytical Result (µg/mL)	MSD Analytical Result (µg/mL)	MS % Recovery	MSD % Recovery	RPD	Batched Samples
1.66	1.65	0.425	0.416	77.8	75.2	2.1	All

Matrix Spike Summary

Instrument ID Number	WC48876	Target Analyte Name	Nitrite	Expected Retention Time	1.67	Operator ID	M. J. Duchsherer
MS ID	VS006-224-TR05d MS	MS File Identifier	105d-msd.d46	MS Analysis Date	3/19/99	MS Analysis Time	4:21:28
MSD ID	VS006-224-TR05d MSD	MSD File Identifier	105d-msd.d47	MSD Analysis Date	3/19/99	MSD Analysis Time	4:31:23
Sample ID	VS006-224-TR05d	Sample Concentration	3.120 µg/mL	Sample Volume	0.800 mL	Diluent Volume	0.000 mL
MS/MSD Standard ID	5653-137-B	MS/MSD Standard Conc.	25.000 µg/mL	MS/MSD Standard Volume	0.011 mL		
MS Retention Time	MSD Retention Time	MS Analytical Result (mg/mL)	MSD Analytical Result (mg/mL)	MS % Recovery	MSD % Recovery	RPD	Batched Samples
1.66	1.66	3.407	3.326	97.1	73.0	2.4	All

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2.7.4 Supporting Data

This section contains chromatograms and quantitation reports for all analyses including samples, initial calibrations, calibration verifications, blanks, and spikes. This section is organized by the run orders shown in the run sequence table. The general order is as follows:

- Run Sequence Table
- Initial Calibration Data
- Initial Calibration Verification Data
- Initial Blank Verification Data
- Sample Data.

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PeakNet AS3500DX - SAMPLES.AS3

Vial #	Inj. Pos	Inj. Vol.	Inj. Vial	Sample	Method (.MET)	Data	Dil.	Int. Std.	Template (.PRP)
1	A02								vap1
2	A05								vap2
3	A07	50	1	5653-140-C	nox-vap	CCB	1	1	
4	A02	50	1	autocal5	nox-vap	I-CAL5	1	1	
5	A03	50	1	autocal4	nox-vap	I-CAL4	1	1	
6	A04	50	1	autocal3	nox-vap	I-CAL3	1	1	
7	A05	50	1	autocal2	nox-vap	I-CAL2	1	1	
8	A06	50	1	autocal1	nox-vap	I-CAL1	1	1	
9	A09	50	1	Cal Level 6 (10 ug/	nox-vap	I-CAL6	1	1	
10	A07	50	2	5653-136-C ICB/CCB	nox-vap	CCB	1	1	
11	B04	50	1	5653-140-C ICVS/CCV	nox-vap	CCVS	1	1	
12	C01	50	1	VS006-204-TR01b	nox-vap	T01-b	1	1	
13	C02	50	1	VS006-209-TR02b	nox-vap	T02-b	1	1	
14	C03	50	1	VS006-214 -TR03d	nox-vap	T03-d	1	1	
15	C04	50	1	VS006-219-TR04b	nox-vap	T04-b	1	1	
16	C05	50	1	VS006-224-TR05b	nox-vap	T05-b	1	1	
17	C06	50	1	VS006-229-TR06b	nox-vap	T06-b	1	1	
18	C07	50	1	VS006-234-TR07b	nox-vap	T07-b	1	1	
19	C08	50	1	VS006-239-TR08b	nox-vap	T08-b	1	1	
20	C09	50	1	VS006-244-TR09b	nox-vap	T09-b	1	1	
21	C10	50	1	VS006-298-TR20b	nox-vap	T20-b	1	1	
22	A07	50	1	5653-136-C ICB/CCB	nox-vap	CCB	1	1	
23	B04	50	1	5653-140-C ICVS/CCV	nox-vap	CCVS	1	1	
24	C11	50	1	VS006-301-TR21b	nox-vap	T21-b	1	1	
25	C12	50	1	VSAMB-203-TR22b	nox-vap	T22-b	1	1	
26	C13	50	1	VSAMB-209-TR23b	nox-vap	T23-b	1	1	
27	C14	50	1	VS006-MPB-TR24b	nox-vap	T24-b	1	1	
28	C15	50	1	VS006-204-TR01d	nox-vap	T01-d	1	1	
29	C16	50	1	VS006-209-TR02d	nox-vap	T02-d	1	1	
30	C07	50	1	VS006-214 -TR03b	nox-vap	T03-b	1	1	
31	C18	50	1	VS006-219-TR04d	nox-vap	T04-d	1	1	
32	C19	50	1	VS006-224-TR05d	nox-vap	T05-d	1	1	
33	C20	50	1	VS006-229-TR06d	nox-vap	T06-d	1	1	
34	A07	50	1	5653-136-C ICB/CCB	nox-vap	CCB	1	1	
35	B04	50	1	5653-140-C ICVS/CCV	nox-vap	CCVS	1	1	
36	C21	50	1	VS006-234-TR07d	nox-vap	T07-d	1	1	
37	C22	50	1	VS006-239-TR08d	nox-vap	T08-d	1	1	
38	C23	50	1	VS006-244-TR09d	nox-vap	T09-d	1	1	
39	C24	50	1	VS006-298-TR20d	nox-vap	T20-d	1	1	
40	C25	50	1	VS006-301-TR21d	nox-vap	T21-d	1	1	
41	C26	50	1	VSAMB-203-TR22d	nox-vap	T22-d	1	1	
42	C27	50	1	VSAMB-209-TR23d	nox-vap	T23-d	1	1	
43	C28	50	1	VS006-MPB-TR24d	nox-vap	T24-d	1	1	
44	C29	50	1	VS006-224-TR05b MS	nox-vap	T05b-ms	1	1	
45	C30	50	1	VS006-224-TR05b MSD	nox-vap	T05b-msd	1	1	
46	A07	50	1	5653-136-C ICB/CCB	nox-vap	CCB	1	1	
47	B04	50	1	5653-140-C ICVS/CCV	nox-vap	CCVS	1	1	
48	C31	50	1	VS006-224-TR05d MS	nox-vap	T05d-ms	1	1	
49	C32	50	1	VS006-224-TR05d MSD	nox-vap	T05d-msd	1	1	
50	A07	50	1	5653-136-C ICB/CCB	nox-vap	CCB	1	1	
51	B04	50	1	5653-140-C ICVS/CCV	nox-vap	CCVS	1	1	
52	A07	0	1	STOP PUMPS	a-stop	aSTOP	1	1	

Component Table -- Previous Modification: Mon Mar 22 18:15:25 1999

☒ Retention Parameters ☐ Quantitation Parameters

Groups Add Delete Exit

Nitrite					
Comp #	Component Name	Ret Time	Window (min +/-)	Window (s +/-)	Ref Comp #
1	Nitrite	1.68		5.0	0

0.125			
Level	Amount	Area	Height
1	0.125	11895	3570
2	0.25	23372	7023
3	0.625	57968	17297
4	1.25	121205	35186
5	10	1205542	304513

K0 = 0.119
K1 = 8.21E-006

Amount = K0 + K1*Area

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```

=====
Data File   : d:\i-cal100.d06          Report Date: 04/22/1999 16:37:47
Sample Name: autocal1 - A06           Collected  : 01/02/1999 14:20:00
Inject #    : 6                       Vial #      : A06
Method File : c:\peaknet\method\nox-vap.met  Calibrated : 01/04/1999 08:25:35
System Name : Anions (WC48876)          Detector   : ED40:COND
Column Type : Dionex AS4A-SC            Operator    : M. Duchsherer
=====
  
```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.67	Nitrite	0.125	3570	11895	1	0.00
Totals			0.125	3570	11895		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.45		0.000	477	1009	1	
3	2.63		0.000	273	1116	1	
4	5.37		0.000	5741	60033	1	
Totals			0.000	6490	62158		

File: i-cal100.d06 Sample: autocal1 - A06

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```

=====
Data File   : d:\i-cal200.d05                Report Date: 04/22/1999 16:37:47
Sample Name: autocal2 - A05                  Collected  : 01/02/1999 14:10:19
Inject #    : 5                              Vial #     : A05
Method File: C:\PEAKNET\METHOD\NOX-VAP.MET  Calibrated  : 01/04/1999 08:25:38
System Name: Anions (WC48876)                Detector   : ED40:COND
Column Type: Dionex AS4A-SC                  Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.67	Nitrite	0.250	7023	23372	1	0.00
Totals			0.250	7023	23372		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
3	2.63		0.000	346	1416	1	
4	5.35		0.000	6147	64907	1	
Totals			0.000	6493	66323		

File: i-cal200.d05 Sample: autocal2 - A05

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```

=====
Data File   : d:\i-cal300.d04          Report Date: 04/22/1999 16:37:47
Sample Name: autocal3 - A04           Collected  : 01/02/1999 14:00:40
Inject #    : 4                       Vial #      : A04
Method File: C:\PEAKNET\METHOD\NOX-VAP.MET Calibrated : 01/04/1999 08:25:41
System Name: Anions (WC48876)         Detector    : ED40:COND
Column Type: Dionex AS4A-SC           Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
3	1.67	Nitrite	0.625	17297	57968	1	0.00
Totals			0.625	17297	57968		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	2.62		0.000	442	1942	1	
5	5.34		0.000	5569	58124	1	
Totals			0.000	6011	60066		

File: i-cal300.d04 Sample: autocal3 - A04

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```

=====
Data File   : d:\i-cal400.d03          Report Date: 04/22/1999 16:37:48
Sample Name: autocal4 - A03           Collected  : 01/02/1999 13:50:59
Inject #    : 3                       Vial #      : A03
Method File : C:\PEAKNET\METHOD\NOX-VAP.MET Calibrated : 01/04/1999 08:25:44
System Name : Anions (WC48876)        Detector   : ED40:COND
Column Type : Dionex AS4A-SC          Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50          1  2400  5.00 Hz  0.00  8.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.67	Nitrite	1.250	35186	121205	1	0.00
Totals			1.250	35186	121205		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.45		0.000	519	1114	1	
3	2.63		0.000	622	2884	1	
4	5.35		0.000	5697	59348	1	
Totals			0.000	6838	63346		

File: i-cal400.d03 Sample: autocal4 - A03

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```

=====
Data File   : d:\i-cal500.d02          Report Date: 04/22/1999 16:37:48
Sample Name: autocal5 - A02           Collected  : 01/02/1999 13:41:19
Inject #    : 2                       Vial #      : A02
Method File : C:\PEAKNET\METHOD\NOX-VAP.MET Calibrated : 01/04/1999 08:25:47
System Name : Anions (WC48876)        Detector    : ED40:COND
Column Type : Dionex AS4A-SC          Operator    : M. Duchsherer
=====
  
```

```

-----
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.68	Nitrite	2.500	73997	248487	1	0.00
Totals			2.500	73997	248487		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.45		0.000	575	1316	1	
3	2.64		0.000	960	4574	1	
4	5.35		0.000	4698	49377	1	
Totals			0.000	6233	55267		

File: i-cal500.d02 Sample: autocal5 - A02

```

=====
Data File   : i-cal600.d51          Report Date: 04/21/1999 12:23:06
Sample Name: Cal Level 6 (10 ug/ml) - A09  Collected  : 03/22/1999 18:01:34
Inject #    : 51                    Vial #       : A09
Method File: c:\peaknet\method\nox-vap.met  Calibrated  : 01/07/1999 13:03:31
System Name: Anions (WC48876)           Detector   : ED40:COND
Column Type: Dionex AS4A-SC             Operator    : M. Duchsherer
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00	1000	

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
5	1.69	Nitrite	12.087	304513	1205542	1	0.40
Totals			12.087	304513	1205542		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.46		0.000	1286	4072	2	
6	2.17		0.000	790	2645	1	
7	2.58		0.000	7140	33609	1	
8	5.26		0.000	6277	64866	1	
Totals			0.000	15493	105191

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Data File : ccb00000.d07	Report Date: 03/22/1999 18:26:10
Sample Name: 5653-136-C ICB/CCB - A07	Collected : 03/18/1999 21:58:05
Inject # : 7	Vial # : A07
Method File: C:\PEAKNET\METHOD\VS006NOX.MET	Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)	Detector : ED40:COND
Column Type: Dionex AS4A-SC	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
5	1.67	Nitrite	0.128	191	1028	1	-0.40
Totals			0.128	191	1028		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.47		0.000	1676	4700	2	
6	2.63		0.000	202	1935	1	
8	5.26		0.000	838	8082	2	
Totals			0.000	2716	14717		

File: ccb00000.d07 Sample: 5653-136-C ICB/CCB - A07

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Data File : ccb00000.d08	Report Date: 03/22/1999 18:26:16
Sample Name: 5653-136-C ICB/CCB - A07	Collected : 03/18/1999 22:07:35
Inject # : 8	Vial # : A07
Method File: C:\PEAKNET\METHOD\VS006NOX.MET	Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)	Detector : ED40:COND
Column Type: Dionex AS4A-SC	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.47		0.000	1495	3898	1	
6	2.67		0.000	383	1622	1	
7	5.26		0.000	817	8287	1	
Totals			0.000	2694	13807		

File: ccb00000.d08 Sample: 5653-136-C ICB/CCB - A07

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```

=====
Data File   : ccvs0000.d09                      Report Date: 03/22/1999 18:26:21
Sample Name: 5653-140-C ICVS/CCVS - B04         Collected  : 03/18/1999 22:17:14
Inject #    : 9                                Vial #      : B04
Method File: C:\PEAKNET\METHOD\VS006NOX.MET    Calibrated  : 03/22/1999 18:15:25
System Name: Anions (WC48876)                   Detector    : ED40:COND
Column Type: Dionex AS4A-SC                      Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume   Dilution Points   Rate   Start   Stop Area Reject
-----
External            50                1  2400   5.00 Hz   0.00   8.00       1000
=====
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
5	1.67	Nitrite	0.658	17383	65666	1	-0.40
Totals			0.658	17383	65666		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.45		0.000	2669	7262	1	
7	2.64		0.000	1230	5868	1	
8	5.24		0.000	4342	45461	1	
Totals			0.000	8242	58591		

File: ccvs0000.d09 Sample: 5653-140-C ICVS/CCVS - B04

Std Value = 0.625 ug/ml

$$\% \text{ Recovery} = \frac{0.658}{0.625} \times 100 = 105.2 \%$$

MJD
4/23/99

```

=====
Data File   : t01-b000.d10          Report Date: 03/22/1999 18:26:26
Sample Name : VS006-204-TR01b - C01 Collected  : 03/18/1999 22:26:54
Inject #    : 10                   Vial #       : C01
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated : 03/22/1999 18:15:25
System Name : Anions (WC48876)      Detector    : ED40:COND
Column Type : Dionex AS4A-SC        Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50           1  2400  5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.63 Nitrite	0.166	1295	5710	1	-2.78
Totals		0.166	1295	5710		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43	0.000	220731	1020719	1	
5	2.60	0.000	3103	18765	2	
7	3.75	0.000	594631	7704163	2	
8	4.77	0.000	1360293	25018764	2	
9	6.58	0.000	725	10964	1	
Totals		0.000	2179483	33773375		

File: t01-b000.d10 Sample: VS006-204-TR01b - C01

```

=====
Data File   : t02-b000.d11          Report Date: 03/22/1999 18:26:33
Sample Name : VS006-209-TR02b - C02  Collected  : 03/18/1999 22:36:49
Inject #    : 11                    Vial #       : C02
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name : Anions (WC48876)       Detector    : ED40:COND
Column Type : Dionex AS4A-SC         Operator    : M. Duchsherer
=====

```

```

-----
Calibration Volume  Dilution Points  Rate Start  Stop Area Reject
-----
External           50                1  2400  5.00 Hz  0.00   8.00      1000

```

***** Component Report: All Components *****

Pk. Num	Ret Component Time Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.63 Nitrite	0.166	1257	5695	1	-2.78
Totals		0.166	1257	5695		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Component Time Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43	0.000	219890	987183	1	
5	2.60	0.000	3106	18824	2	
7	3.77	0.000	565006	7159932	2	
8	4.78	0.000	1307850	23526442	1	
10	6.60	0.000	774	11112	2	
Totals		0.000	2096625	31703493		

File: t02-b000.d11 Sample: VS006-209-TR02b - C02

```

=====
Data File   : t03-d000.d12          Report Date: 03/23/1999 06:57:35
Sample Name : VS006-214-TR03d - C03  Collected  : 03/18/1999 22:46:40
Inject #    : 12                    Vial #       : C03
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name : Anions (WC48876)       Detector    : ED40:COND
Column Type : Dionex AS4A-SC         Operator   : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.64 Nitrite	1.795	39899	204242	2	-2.38
Totals		1.795	39899	204242		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43	0.000	219350	1025762	2	
3	2.29	0.000	280	1764	1	
5	2.59	0.000	19569	120335	2	
7	3.76	0.000	583747	7495731	2	
8	4.78	0.000	1319729	23831404	1	
10	6.57	0.000	743	10789	2	
Totals		0.000	2143418	32485786		

File: t03-d000.d12 Sample: VS006-214-TR03d - C03

Data File : t04-b000.d13	Report Date: 03/22/1999 18:26:47
Sample Name: VS006-219-TR04b - C04	Collected : 03/18/1999 22:56:38
Inject # : 13	Vial # : C04
Method File: C:\PEAKNET\METHOD\VS006NOX.MET	Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)	Detector : ED40:COND
Column Type: Dionex AS4A-SC	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.63	Nitrite	0.249	2947	15774	4	-3.17
Totals			0.249	2947	15774		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.42		0.000	220572	1035829	3	
3	2.29		0.000	279	1678	1	
5	2.60		0.000	3038	18516	2	
7	3.75		0.000	593248	7659385	2	
8	4.77		0.000	1330304	24200963	1	
9	6.58		0.000	794	12920	1	
Totals			0.000	2148235	32929290		

File: t04-b000.d13 Sample: VS006-219-TR04b - C04

```

=====
Data File   : t05-b000.d14          Report Date: 03/22/1999 18:26:53
Sample Name : VS006-224-TR05b - C05 Collected  : 03/18/1999 23:06:31
Inject #    : 14                    Vial #       : C05
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name : Anions (WC48876)      Detector    : ED40:COND
Column Type : Dionex AS4A-SC        Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.63	Nitrite	0.163	1257	5342	1	-3.17
Totals			0.163	1257	5342		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.42		0.000	220325	1009793	1	
3	2.29		0.000	233	1541	1	
5	2.59		0.000	2852	16565	2	
7	3.75		0.000	594615	7702207	2	
8	4.77		0.000	1304634	23512195	1	
9	6.56		0.000	764	11825	1	
Totals			0.000	2123423	32254125		

File: t05-b000.d14 Sample: VS006-224-TR05b - C05

```

=====
Data File   : t06-b000.d15          Report Date: 03/22/1999 18:27:00
Sample Name : VS006-229-TR06b - C06 Collected  : 03/18/1999 23:16:24
Inject #    : 15                   Vial #       : C06
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name : Anions (WC48876)      Detector    : ED40:COND
Column Type : Dionex AS4A-SC        Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.63	Nitrite	0.168	1339	5924	1	-2.78
Totals			0.168	1339	5924		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	243939	1161381	1	
5	2.60		0.000	3281	20009	2	
7	3.74		0.000	630808	8332665	2	
8	4.74		0.000	1460032	28100330	2	
9	6.59		0.000	829	12747	1	
Totals			0.000	2338888	37627132		

File: t06-b000.d15 Sample: VS006-229-TR06b - C06

```

=====
Data File   : t07-b000.d16      Report Date: 03/22/1999 18:27:07
Sample Name : VS006-234-TR07b - C07  Collected  : 03/18/1999 23:26:19
Inject #    : 16                Vial #       : C07
Method File : C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated : 03/22/1999 18:15:25
System Name : Anions (WC48876)   Detector    : ED40:COND
Column Type : Dionex AS4A-SC     Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50           1  2400  5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.63	Nitrite	0.165	1316	5563	1	-2.78
Totals			0.165	1316	5563		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	239503	1136779	1	
5	2.60		0.000	2947	18097	2	
7	3.73		0.000	630311	8334228	2	
8	4.73		0.000	1466014	28271937	2	
9	6.57		0.000	788	13098	1	
Totals			0.000	2339563	37774139		

File: t07-b000.d16 Sample: VS006-234-TR07b - C07

```

=====
Data File   : t08-b000.d17          Report Date: 03/22/1999 18:27:14
Sample Name : VS006-239-TR08b - C08 Collected  : 03/18/1999 23:36:10
Inject #    : 17                    Vial #       : C08
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name : Anions (WC48876)      Detector    : ED40:COND
Column Type : Dionex AS4A-SC        Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50                1  2400  5.00 Hz  0.00  8.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.63 Nitrite	0.163	1264	5354	1	-2.78
Totals		0.163	1264	5354		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43	0.000	218860	995110	1	
5	2.60	0.000	2904	17475	2	
7	3.76	0.000	570076	7299515	2	
8	4.77	0.000	1291521	23301977	1	
9	6.59	0.000	874	13705	1	
Totals		0.000	2084235	31627783		

File: t08-b000.d17 Sample: VS006-239-TR08b - C08

```

=====
Data File   : t09-b000.d18          Report Date: 03/22/1999 18:27:21
Sample Name: VS006-244-TR09b - C09  Collected  : 03/18/1999 23:46:05
Inject #    : 18                    Vial #       : C09
Method File: C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name: Anions (WC48876)       Detector    : ED40:COND
Column Type: Dionex AS4A-SC         Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.63	Nitrite	0.260	3271	17148	4	-3.17
Totals			0.260	3271	17148		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.42		0.000	253577	1266441	3	
5	2.59		0.000	2920	18131	2	
7	3.71		0.000	654017	8777964	2	
8	4.70		0.000	1537986	30831098	3	
9	6.56		0.000	845	15300	4	
Totals			0.000	2449345	40908935		

File: t09-b000.d18 Sample: VS006-244-TR09b - C09

```

=====
Data File   : t20-b000.d19                      Report Date: 03/22/1999 18:27:28
Sample Name: VS006-298-TR20b - C10              Collected  : 03/18/1999 23:55:57
Inject #    : 19                                Vial #      : C10
Method File: C:\PEAKNET\METHOD\VS006NOX.MET    Calibrated  : 03/22/1999 18:15:25
System Name: Anions (WC48876)                  Detector    : ED40:COND
Column Type: Dionex AS4A-SC                     Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50           1 2400  5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.63	Nitrite	0.165	1299	5590	1	-2.78
Totals			0.165	1299	5590		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	241978	1152420	1	
6	2.61		0.000	1253	5029	1	
8	3.73		0.000	630532	8371522	2	
9	4.72		0.000	1481567	29076957	3	
10	6.57		0.000	834	15373	4	
Totals			0.000	2356164	38621300		

File: t20-b000.d19 Sample: VS006-298-TR20b - C10

HNF-4440 Rev. 0

```

=====
Data File   : ccb00000.d20          Report Date: 03/22/1999 18:27:35
Sample Name: 5653-136-C ICB/CCB - A07  Collected  : 03/19/1999 00:05:48
Inject #    : 20                    Vial #       : A07
Method File: C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)         Detector    : ED40:COND
Column Type: Dionex AS4A-SC           Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50                1  2400  5.00 Hz  0.00   8.00       1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.48		0.000	1451	3931	1	
6	2.67		0.000	406	1910	1	
7	5.27		0.000	841	8379	1	
Totals			0.000	2698	14220		

File: ccb00000.d20 Sample: 5653-136-C ICB/CCB - A07

HNF-4440 Rev. 0

Data File : ccvs0000.d21 Sample Name: 5653-140-C ICVS/CCVS - B04 Inject # : 21 Method File: C:\PEAKNET\METHOD\VS006NOX.MET System Name: Anions (WC48876) Column Type: Dionex AS4A-SC	Report Date: 03/22/1999 18:27:40 Collected : 03/19/1999 00:15:26 Vial # : B04 Calibrated : 03/22/1999 18:15:25 Detector : ED40:COND Operator : M. Duchsherer
---	---

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
5	1.69	Nitrite	0.649	17574	64506	1	0.79
Totals			0.649	17574	64506		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.47		0.000	2582	7011	1	
7	2.66		0.000	1215	5683	1	
9	5.25		0.000	4229	43908	1	
Totals			0.000	8025	56601		

File: ccvs0000.d21 Sample: 5653-140-C ICVS/CCVS - B04

Std Value = 0.625 µg/ml
% Recovery = $\frac{0.649}{0.625} \times 100 = 103.8\%$
MJD 4/23/99

```

=====
Data File   : t21-b000.d22          Report Date: 03/22/1999 18:27:46
Sample Name: VS006-301-TR21b - C11  Collected  : 03/19/1999 00:25:05
Inject #    : 22                    Vial #       : C11
Method File: C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name: Anions (WC48876)       Detector    : ED40:COND
Column Type: Dionex AS4A-SC         Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50           1  2400  5.00 Hz  0.00   8.00       1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	391707	2387519	1	
2	2.27		0.000	344	3837	1	
3	2.60		0.000	4579	31871	1	
4	3.58		0.000	1063696	16915208	2	
5	4.57		0.000	2058112	49922826	3	
6	6.44		0.000	786	19182	4	
Totals			0.000	3519225	69280442		

File: t21-b000.d22 Sample: VS006-301-TR21b - C11

```

=====
Data File   : t22-b000.d23          Report Date: 03/22/1999 18:27:52
Sample Name: VSAMP-203-TR22b - C12  Collected  : 03/19/1999 00:35:00
Inject #    : 23                    Vial #       : C12
Method File: C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name: Anions (WC48876)       Detector    : ED40:COND
Column Type: Dionex AS4A-SC         Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50           1. 2400  5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	387787	2421632	1	
4	2.60		0.000	5891	40977	2	
6	3.58		0.000	1072613	16999113	2	
7	4.55		0.000	2098200	51639455	2	
Totals			0.000	3564490	71101177		

File: t22-b000.d23 Sample: VSAMP-203-TR22b - C12

```

=====
Data File   : t23-b000.d24          Report Date: 03/22/1999 18:27:59
Sample Name: VSAMP-209-TR23b - C13  Collected  : 03/19/1999 00:44:55
Inject #    : 24                    Vial #       : C13
Method File: C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name: Anions (WC48876)       Detector    : ED40:COND
Column Type: Dionex AS4A-SC          Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50                1  2400  5.00 Hz  0.00  8.00        1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.42		0.000	382594	2363985	1	
4	2.59		0.000	5066	34832	2	
6	3.56		0.000	1086596	17503367	2	
7	4.56		0.000	2036504	49508653	3	
8	6.46		0.000	818	19755	4	
Totals			0.000	3511578	69430593		

File: t23-b000.d24 Sample: VSAMP-209-TR23b - C13

Data File : t24-b000.d25	Report Date: 03/22/1999 18:28:06
Sample Name: VS006-MPB-TR24b - C14	Collected : 03/19/1999 00:54:50
Inject # : 25	Vial # : C14
Method File: C:\PEAKNET\METHOD\VS006NOX.MET	Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)	Detector : ED40:COND
Column Type: Dionex AS4A-SC	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.42		0.000	359060	2184526	1	
5	2.59		0.000	2509	13520	1	
7	3.57		0.000	1023471	16156907	2	
8	4.57		0.000	1987172	47524848	2	
Totals			0.000	3372211	65879802		

File: t24-b000.d25 Sample: VS006-MPB-TR24b - C14

```

=====
Data File   : t01-d000.d26          Report Date: 03/22/1999 18:28:13
Sample Name: VS006-204-TR01d - C15  Collected  : 03/19/1999 01:04:45
Inject #    : 26                    Vial #       : C15
Method File: C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name: Anions (WC48876)       Detector    : ED40:COND
Column Type: Dionex AS4A-SC          Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.65	Nitrite	0.879	18197	92589	2	-1.59
Totals			0.879	18197	92589		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	192630	899577	2	
6	2.61		0.000	7506	37399	1	
9	3.77		0.000	539787	6802655	1	
11	4.79		0.000	1209211	21252300	2	
Totals			0.000	1949134	28991931		

File: t01-d000.d26 Sample: VS006-204-TR01d - C15

```

=====
Data File   : t02-d000.d27          Report Date: 03/22/1999 18:28:19
Sample Name : VS006-209-TR02d - C16  Collected  : 03/19/1999 01:14:39
Inject #    : 27                    Vial #       : C16
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated : 03/22/1999 18:15:25
System Name : Anions (WC48876)       Detector    : ED40:COND
Column Type : Dionex AS4A-SC         Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50           1  2400  5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.66 Nitrite	1.193	25367	130786	2	-1.19
Totals		1.193	25367	130786		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.44	0.000	202939	957647	2	
6	2.61	0.000	11018	58677	1	
8	3.75	0.000	573685	7417316	2	
10	4.77	0.000	1275606	23144857	2	
12	6.57	0.000	754	11152	2	
Totals		0.000	2064001	31589649		

File: t02-d000.d27 Sample: VS006-209-TR02d - C16

```

=====
Data File   : t03-b000.d28          Report Date: 03/23/1999 06:57:41
Sample Name : VS006-214-TR03b - C17 Collected  : 03/19/1999 01:24:29
Inject #    : 28                    Vial #       : C17
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name : Anions (WC48876)      Detector    : ED40:COND
Column Type : Dionex AS4A-SC        Operator    : M. Duchsherer
=====

```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00	1000	

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.64	Nitrite	0.253	2956	16236	4	-2.38
Totals			0.253	2956	16236		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	225603	1114610	3	
6	2.59		0.000	846	7879	1	
8	3.71		0.000	618926	8223939	3	
9	4.57		0.000	914	2127	4	
10	4.71		0.000	1433226	28000075	3	
11	6.37		0.000	259	1099	4	
12	6.53		0.000	797	12948	4	
Totals			0.000	2280571	37362678		

File: t03-b000.d28 Sample: VS006-214-TR03b - C17

```

=====
Data File   : t04-d000.d29          Report Date: 03/22/1999 18:28:33
Sample Name : VS006-219-TR04d - C18 Collected  : 03/19/1999 01:34:22
Inject #    : 29                   Vial #       : C18
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated : 03/22/1999 18:15:25
System Name : Anions (WC48876)      Detector    : ED40:COND
Column Type : Dionex AS4A-SC        Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.65	Nitrite	2.144	47785	246667	2	-1.59
Totals			2.144	47785	246667		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	193827	925555	2	
5	2.61		0.000	22298	138199	2	
8	3.75		0.000	554308	7062401	1	
10	4.77		0.000	1247045	22490674	2	
Totals			0.000	2017477	30616829

```

=====
Data File   : t05-d000.d30          Report Date: 03/22/1999 18:28:40
Sample Name : VS006-224-TR05d - C19 Collected  : 03/19/1999 01:44:18
Inject #    : 30                   Vial #       : C19
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated : 03/22/1999 18:15:25
System Name : Anions (WC48876)      Detector    : ED40:COND
Column Type : Dionex AS4A-SC        Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.65	Nitrite	3.120	70615	365689	2	-1.98
Totals			3.120	70615	365689		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	201034	960797	2	
5	2.59		0.000	32038	198011	2	
7	3.74		0.000	552471	7031117	2	
9	4.75		0.000	1281009	23410608	2	
11	6.55		0.000	806	12273	2	
Totals			0.000	2067358	31612807		

File: t05-d000.d30 Sample: VS006-224-TR05d - C19

Data File : t06-d000.d31	Report Date: 03/22/1999 18:28:47
Sample Name: VS006-229-TR06d - C20	Collected : 03/19/1999 01:54:13
Inject # : 31	Vial # : C20
Method File: C:\PEAKNET\METHOD\VS006NOX.MET	Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)	Detector : ED40:COND
Column Type: Dionex AS4A-SC	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.65 Nitrite	3.118	70642	365372	2	-1.59
Totals		3.118	70642	365372		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43	0.000	194243	927379	2	
5	2.60	0.000	32948	204298	2	
8	3.74	0.000	562905	7229537	1	
10	4.76	0.000	1232280	22176605	2	
Totals		0.000	2022377	30537820		

File: t06-d000.d31 Sample: VS006-229-TR06d - C20

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```

=====
Data File   : ccb00000.d32          Report Date: 03/22/1999 18:28:54
Sample Name: 5653-136-C ICB/CCB - A07  Collected  : 03/19/1999 02:04:06
Inject #    : 32                    Vial #       : A07
Method File: C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)         Detector    : ED40:COND
Column Type: Dionex AS4A-SC           Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50                1  2400  5.00 Hz  0.00   8.00       1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.48		0.000	1510	3963	1	
6	2.67		0.000	402	1904	1	
7	5.23		0.000	867	8855	1	
Totals			0.000	2779	14722		

File: ccb00000.d32 Sample: 5653-136-C ICB/CCB - A07

```

=====
Data File   : ccvs0000.d33                      Report Date: 03/22/1999 18:28:59
Sample Name: 5653-140-C  ICVS/CCVS  - B04       Collected  : 03/19/1999 02:13:45
Inject #    : 33                               Vial #       : B04
Method File: C:\PEAKNET\METHOD\VS006NOX.MET    Calibrated   : 03/22/1999 18:15:25
System Name: Anions (WC48876)                  Detector     : ED40:COND
Column Type: Dionex AS4A-SC                     Operator      : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
5	1.69	Nitrite	0.629	16794	62124	1	0.79
Totals			0.629	16794	62124		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.47		0.000	2398	6493	1	
7	2.67		0.000	1179	5644	1	
8	5.23		0.000	4066	41871	1	
Totals			0.000	7644	54007		

File: ccvs0000.d33 Sample: 5653-140-C ICVS/CCVS - B04

```

=====
Data File   : t07-d000.d34          Report Date: 03/22/1999 18:29:05
Sample Name : VS006-234-TR07d - C21 Collected  : 03/19/1999 02:23:19
Inject #    : 34                   Vial #       : C21
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated : 03/22/1999 18:15:25
System Name : Anions (WC48876)      Detector    : ED40:COND
Column Type : Dionex AS4A-SC        Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50           1  2400  5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.66	Nitrite	1.880	40869	214570	2	-1.19
Totals			1.880	40869	214570		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.44		0.000	213830	1044224	2	
5	2.62		0.000	20490	128638	2	
7	3.74		0.000	595557	7841661	2	
8	4.75		0.000	1320917	24615016	2	
Totals			0.000	2150794	33629539		

File: t07-d000.d34 Sample: VS006-234-TR07d - C21

```

=====
Data File   : t08-d000.d35                      Report Date: 03/22/1999 18:29:12
Sample Name : VS006-239-TR08d - C22             Collected  : 03/19/1999 02:33:11
Inject #    : 35                               Vial #     : C22
Method File : C:\PEAKNET\METHOD\VS006NOX.MET   Calibrated  : 03/22/1999 18:15:25
System Name : Anions (WC48876)                 Detector   : ED40:COND
Column Type : Dionex AS4A-SC                    Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate Start  Stop Area Reject
-----
External           50                1  2400  5.00 Hz  0.00   8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.65	Nitrite	1.882	40702	214797	2	-1.59
Totals			1.882	40702	214797		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	204052	998249	2	
5	2.61		0.000	21317	133849	2	
8	3.74		0.000	584714	7599627	1	
10	4.75		0.000	1287335	23655109	2	
Totals			0.000	2097418	32386835		

File: t08-d000.d35 Sample: VS006-239-TR08d - C22

Data File : t09-d000.d36	Report Date: 03/22/1999 18:29:18
Sample Name: VS006-244-TR09d - C23	Collected : 03/19/1999 02:43:04
Inject # : 36	Vial # : C23
Method File: C:\PEAKNET\METHOD\VS006NOX.MET	Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)	Detector : ED40:COND
Column Type: Dionex AS4A-SC	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.65	Nitrite	1.216	25403	133634	2	-1.98
Totals			1.216	25403	133634		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	203077	968213	2	
6	2.61		0.000	10963	58303	1	
9	3.73		0.000	573018	7418196	1	
11	4.75		0.000	1264412	23095819	2	
13	6.44		0.000	417	1261	2	
14	6.57		0.000	903	12515	2	
Totals			0.000	2052790	31554308		

File: t09-d000.d36 Sample: VS006-244-TR09d - C23

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```

=====
Data File   : t20-d000.d37                      Report Date: 03/22/1999 18:29:25
Sample Name: VS006-298-TR20d - C24              Collected  : 03/19/1999 02:52:59
Inject #    : 37                                Vial #       : C24
Method File: C:\PEAKNET\METHOD\VS006NOX.MET    Calibrated   : 03/22/1999 18:15:25
System Name: Anions (WC48876)                  Detector     : ED40:COND
Column Type: Dionex AS4A-SC                     Operator      : M. Duchsherer
=====
  
```

```

=====
alibration Volume Dilution Points Rate Start Stop Area Reject
-----
external          50           1 2400 5.00 Hz 0.00 8.00      1000
=====
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	198403	908365	1	
9	3.75		0.000	542912	6909607	1	
11	4.77		0.000	1206951	21484985	2	
Totals			0.000	1948265	29302956		

File: t20-d000.d37 Sample: VS006-298-TR20d - C24

```

=====
Data File   : t21-d000.d38          Report Date: 03/22/1999 18:29:32
Sample Name : VS006-301-TR21d - C25 Collected  : 03/19/1999 03:02:54
Inject #    : 38                   Vial #       : C25
Method File : C:\PEAKNET\METHOD\VS006NOX.MET Calibrated : 03/22/1999 18:15:25
System Name : Anions (WC48876)     Detector    : ED40:COND
Column Type : Dionex AS4A-SC       Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate Start  Stop Area Reject
-----
External           50           1 2400 5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.41		0.000	335586	2029431	1	
3	2.30		0.000	569	3389	2	
6	2.59		0.000	2836	15560	1	
8	3.55		0.000	1012380	15962519	2	
9	4.53		0.000	1964310	48043669	2	
Totals			0.000	3315681	66054567		

File: t21-d000.d38 Sample: VS006-301-TR21d - C25

```

=====
Data File   : t22-d000.d39          Report Date: 03/22/1999 18:29:39
Sample Name: VSAMP-203-TR22d - C26   Collected  : 03/19/1999 03:12:46
Inject #    : 39                    Vial #       : C26
Method File: C:\PEAKNET\METHOD\VS006NOX.MET Calibrated: 03/22/1999 18:15:25
System Name: Anions (WC48876)        Detector    : ED40:COND
Column Type: Dionex AS4A-SC          Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.41		0.000	333401	2074883	1	
5	2.60		0.000	2172	11109	1	
7	3.55		0.000	1035283	16573877	2	
8	4.54		0.000	1911892	46281150	2	
Totals			0.000	3282748	64941019		

File: t22-d000.d39 Sample: VSAMP-203-TR22d - C26

```

=====
Data File   : t23-d000.d40          Report Date: 03/22/1999 18:29:46
Sample Name: VSAMP-209-TR23d - C27  Collected  : 03/19/1999 03:22:41
Inject #    : 40                    Vial #       : C27
Method File: C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)        Detector    : ED40:COND
Column Type: Dionex AS4A-SC          Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate Start  Stop Area Reject
-----
External           50           1 2400 5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.41		0.000	330498	2061108	1	
3	2.31		0.000	548	3212	2	
6	2.60		0.000	2295	11907	1	
8	3.55		0.000	1030125	16550704	2	
9	4.54		0.000	1917071	46630501	2	
Totals			0.000	3280536	65257432		

File: t23-d000.d40 Sample: VSAMP-209-TR23d - C27

```

=====
Data File   : t24-d000.d41          Report Date: 03/22/1999 18:29:53
Sample Name: VS006-MPB-TR24d - C28  Collected  : 03/19/1999 03:32:37
Inject #    : 41                    Vial #       : C28
Method File: C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)         Detector    : ED40:COND
Column Type: Dionex AS4A-SC           Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50           1  2400  5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.41		0.000	324058	1992048	1	
3	2.31		0.000	554	3210	2	
6	2.60		0.000	2675	14125	1	
8	3.57		0.000	962821	14993801	2	
9	4.55		0.000	1881320	45005233	2	
Totals			0.000	3171427	62008417		

File: t24-d000.d41 Sample: VS006-MPB-TR24d - C28

```

=====
Data File   : t05b-ms0.d42          Report Date: 03/22/1999 18:30:00
Sample Name : VS006-224-TR05b MS   - C29      Collected  : 03/19/1999 03:42:29
Inject #    : 42                    Vial #       : C29
Method File : C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated   : 03/22/1999 18:15:25
System Name : Anions (WC48876)       Detector    : ED40:COND
Column Type : Dionex AS4A-SC         Operator    : M. Duchsherer
=====
  
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.66	Nitrite	0.425	7456	37205	2	-1.19
Totals			0.425	7456	37205		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.45		0.000	197387	879975	2	
7	2.63		0.000	733	2739	1	
10	3.76		0.000	528419	6694322	1	
12	4.77		0.000	1193254	21326308	2	
Totals			0.000	1919793	28903344		

File: t05b-ms0.d42 Sample: VS006-224-TR05b MS - C29

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```

=====
Data File   : t05b-msd.d43      Report Date: 03/29/1999 12:24:36
Sample Name: VS006-224-TR05b MSD - C30  Collected  : 03/19/1999 03:52:21
Inject #    : 43                Vial #       : C30
Method File: C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)    Detector    : ED40:COND
Column Type: Dionex AS4A-SC      Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.65	Nitrite	0.416	7251	36138	2	-1.59
Totals			0.416	7251	36138		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.43		0.000	194378	868272	2	
7	3.75		0.000	526706	6674026	2	
9	4.77		0.000	1191177	21255386	2	
Totals			0.000	1912261	28797683		

File: t05b-msd.d43 Sample: VS006-224-TR05b MSD - C30

```
=====
Data File   : ccb00000.d44          Report Date: 03/22/1999 18:30:14
Sample Name : 5653-136-C ICB/CCB - A07  Collected  : 03/19/1999 04:02:12
Inject #    : 44                    Vial #       : A07
Method File : C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated : 03/22/1999 18:15:25
System Name : Anions (WC48876)         Detector   : ED40:COND
Column Type : Dionex AS4A-SC           Operator    : M. Duchsherer
=====
```

```
=====
Calibration Volume Dilution Points Rate Start Stop Area Reject
-----
External          50           1 2400 5.00 Hz 0.00 8.00      1000
=====
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
6	2.68		0.000	429	1989	1	
7	5.24		0.000	934	9760	1	
Totals			0.000	1363	11749		

File: ccb00000.d44 Sample: 5653-136-C ICB/CCB - A07

HNF-4440 Rev. 0

```

=====
Data File   : ccvs0000.d45                      Report Date: 03/22/1999 18:30:19
Sample Name : 5653-140-C ICVS/CCVS - B04        Collected  : 03/19/1999 04:11:49
Inject #    : 45                                Vial #       : B04
Method File : C:\PEAKNET\METHOD\VS006NOX.MET   Calibrated  : 03/22/1999 18:15:25
System Name : Anions (WC48876)                 Detector    : ED40:COND
Column Type : Dionex AS4A-SC                     Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50                1  2400  5.00 Hz  0.00   8.00       1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
5	1.69	Nitrite	0.623	15848	61423	1	0.40
Totals			0.623	15848	61423		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.47		0.000	2332	6300	1	
7	2.67		0.000	1131	5480	1	
8	5.23		0.000	3974	41833	1	
Totals			0.000	7437	53613		

File: ccvs0000.d45 Sample: 5653-140-C ICVS/CCVS - B04

std Value = 0.625 ug/ml
 % Recovery = $\frac{0.623}{0.625} \times 100 = 99.7\%$
 MSD
 4/23/99

```

=====
Data File   : t05d-ms0.d46          Report Date: 03/22/1999 18:30:25
Sample Name: VS006-224-TR05d MS - C31  Collected  : 03/19/1999 04:21:28
Inject #    : 46                    Vial #       : C31
Method File: C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated  : 03/22/1999 18:15:25
System Name: Anions (WC48876)          Detector   : ED40:COND
Column Type: Dionex AS4A-SC            Operator    : M. Duchsherer
=====

```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50                1  2400  5.00 Hz  0.00  8.00      1000
=====

```

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.66	Nitrite	3.407	77840	400632	2	-1.19
Totals			3.407	77840	400632		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.44		0.000	205376	964594	2	
5	2.61		0.000	32329	200750	2	
8	3.75		0.000	537102	6799909	1	
10	4.76		0.000	1255162	22819868	2	
11	6.57		0.000	769	11813	1	
Totals			0.000	2030739	30796934		

File: t05d-ms0.d46 Sample: VS006-224-TR05d MS - C31

```

=====
Data File   : t05d-msd.d47          Report Date: 03/22/1999 18:30:32
Sample Name: VS006-224-TR05d MSD - C32  Collected  : 03/19/1999 04:31:23
Inject #    : 47                    Vial #       : C32
Method File : C:\PEAKNET\METHOD\VS006NOX.MET  Calibrated  : 03/22/1999 18:15:25
System Name : Anions (WC48876)          Detector   : ED40:COND
Column Type : Dionex AS4A-SC            Operator   : M. Duchsherer
=====
  
```

```

=====
Calibration Volume  Dilution Points  Rate  Start  Stop Area Reject
-----
External           50             1  2400  5.00 Hz  0.00   8.00      1000
  
```

***** Component Report: All Components *****

Pk. Num	Ret Component Time Name	Concentration	Height	Area	Bl. Code	%Delta
2	1.66 Nitrite	3.326	76459	390698	2	-1.19
Totals		3.326	76459	390698		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Component Time Name	Concentration	Height	Area	Bl. Code	%Delta
1	1.44	0.000	200546	932825	2	
5	2.61	0.000	31357	193505	2	
9	3.75	0.000	531403	6682290	1	
11	4.75	0.000	1245298	22671509	2	
Totals		0.000	2008604	30480128		

File: t05d-msd.d47 Sample: VS006-224-TR05d MSD - C32

HNF-4440 Rev. 0

```

=====
Data File   : ccb00000.d48
Sample Name: 5653-136-C ICB/CCB - A07
Inject #    : 48
Method File: C:\PEAKNET\METHOD\VS006NOX.MET
System Name: Anions (WC48876)
Column Type: Dionex AS4A-SC

Report Date: 03/22/1999 18:30:39
Collected  : 03/19/1999 04:41:18
Vial #      : A07
Calibrated  : 03/22/1999 18:15:25
Detector    : ED40:COND
Operator    : M. Duchsherer
=====
  
```

```

=====
Calibration Volume   Dilution Points   Rate   Start   Stop Area Reject
-----
External            50                1   2400   5.00 Hz   0.00   8.00         1000
=====
  
```

***** Component Report: All Components *****

Peak Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
0	0.00	Nitrite	0.000	0	0	0	0.00
Totals			0.000	0	0		

***** Peak Report: Unknown Peaks *****

Peak Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
5	1.49		0.000	1393	3063	2	
7	2.69		0.000	385	1789	1	
8	5.25		0.000	864	8885	1	
Totals			0.000	2643	13736		

File: ccb00000.d48 Sample: 5653-136-C ICB/CCB - A07

HNF-4440 Rev. 0

Data File : ccvs0000.d49	Report Date: 03/22/1999 18:30:45
Sample Name: 5653-140-C ICVS/CCVS - B04	Collected : 03/19/1999 04:50:58
Inject # : 49	Vial # : B04
Method File: C:\PEAKNET\METHOD\VS006NOX.MET	Calibrated : 03/22/1999 18:15:25
System Name: Anions (WC48876)	Detector : ED40:COND
Column Type: Dionex AS4A-SC	Operator : M. Duchsherer

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	50	1	2400	5.00 Hz	0.00	8.00		1000

***** Component Report: All Components *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
5	1.69	Nitrite	0.628	16440	62001	1	0.40
Totals			0.628	16440	62001		

***** Peak Report: Unknown Peaks *****

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Bl. Code	%Delta
4	1.47		0.000	2417	6662	1	
7	2.67		0.000	1151	5548	1	
8	5.22		0.000	3992	41346	1	
Totals			0.000	7560	53556		

File: ccvs0000.d49 Sample: 5653-140-C ICVS/CCVS - B04

Std Value = 0.625 ug/ml
% Recovery = $\frac{0.628}{0.625} \times 100 = 100.5\%$
MSD
4/23/99

2.8 Determination of Dibutyl Phosphate and Tributyl Phosphate in PUF Filters

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2.8.1 Narrative

This section contains descriptions of the analytical method and quality assurance used during analysis.

2.8.1.1 Determination of Dibutyl Phosphate and Tributyl Phosphate in PUF Filters

PUF filters were analyzed for dibutyl phosphate (DBP) and tributyl phosphate (TBP) following procedure LA-523-428. The analytes were not detected above the detection limit (150 ppbv) for samples VS006-205-P001 and VS006-215-P003, VS006-225-P005, VS006-240-P008, VS006-302-P021 and VSAMB-204-P022.

Procedure LA-523-428 is based on EPA Method TO10 which is a method designed to trap and determine the concentration of organochlorine pesticides in ambient air. Dibutyl phosphate and tributyl phosphate are collected by drawing headspace vapors through a polyurethane foam (PUF) filter. The PUF traps semi-volatile compounds which are extracted, using an organic solvent in continuous soxhlet extraction, then analyzed using gas chromatography/mass spectroscopy.

The extraction apparatus consists of a soxhlet extractor with a 50 mL extractor capacity and a 125 mL flask. The PUF filters are continuously extracted for a period of 16 hours using methyl t-butyl ether (MTBE) as the extraction solvent.

After extraction, the solvent volume is reduced to approximately ½ mL using a Turbovap Evaporator. The extract is then diluted to one mL with MTBE. An aliquot of the extract is treated with BSTFA (N,O-bis(Trimethylsilyl)trifluoroacetamide), a derivatization reagent, to convert DBP to a compound that is stable to conditions encountered in gas chromatographic analysis. BSTFA converts DBP to the trimethylsilyl ester (DBP-TMSE).

The instrumentation consists of a Hewlett-Packard model 5890 Series II gas chromatograph equipped with a 0.53-mm inside diameter by 15-m long DB-5 fused-silica column and a Hewlett-Packard model 5972 mass-selective detector.

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2.8.1.2 Analytical Quality Assurance for the Analysis of PUF Filters

Headspace samples collected on PUF filters were analyzed following procedure LA-523-428. Standard and sample preparation is documented in logbook WHC-N-1411-1, pages 143-145. The GC/MS instrument maintenance and run log is documented in logbook WHC-N-1025-4, pages 23-24.

The instrument was calibrated using the internal standard method with a five point calibration curve. The average response factor was used for quantitation of surrogates and target analytes. The percent relative standard deviations (%RSD) of the calibration points was 14% or less for all the analytes except DPP (36%). DPP was calibrated using a linear regression with an r^2 value of 0.997.

DBP and TBP were calibrated down to 10 micrograms, the detection limit for samples. Assuming 100% recovery from the PUF filter, a 25 liter sample would detection limits of 46 ppbv for DBP and 38 ppbv for TBP based on a 10 microgram detector response.

Procedure LA-523-428 requires that internal area counts for samples must be within 50 – 150% of the area counts of the daily C CVS. A C CVS was not required for this analysis so the average internal standard response from the five calibration standards was used as the reference. The internal standard responses and the percent deviations are tabulated in the Sample Summary Table. The internal standard response for sample VSAMB-204-P022 exceeded the method requirements and was therefore flagged in the Sample Summary Table.

Two surrogates, octachloronaphthlene (OCN) and diphenyl phosphate (DPP) were spiked onto PUF filters prior to the extraction step. OCN is used in EPA Method TO10 to monitor the recovery of non-polar organochlorine compounds. Diphenyl phosphate is derivatized along with DBP and therefore serves as both a surrogate for the derivatization step and as a surrogate for the extraction of the phosphates from PUF filters.

Three PUF filters were spiked with OCN, DPP, DBP, and TBP. Recovery of DPP from those samples averaged 73% compared to 78% for DBP and 60% for TBP. The recovery of DBP from one spiked filter was less than 10 micrograms. It is possible that the DBP spike was not applied to the filter. DBP recoveries were based on two instead of three spiked filters.

The average recovery of DPP from the headspace matrix (4 samples) was 63% and the recovery from the ambient air sample was 42%. The reporting limit was set at 150 ppbv for all the samples to provide a safety factor of at least 3 for DBP and 4 for TBP compared to a 100% recovery of 10 micrograms/sample.

The results of the analysis were flagged with an “ * “ to point out the low surrogate and spike recoveries.

Extrapolation below the minimum reporting value is not advisable because MDLs have not been established for this procedure.

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2.8.2 Sample Summary Table

The sample summary table summarizes the quality control and results of the DBP and TBP analysis. All reported values have been corrected to 25 °C and 1 atmosphere pressure.

Sample Summary Table C-106 Phase II

QC Sample Summary Table

Logbook Sample ID:	PUF Spike 1411-1-141.06	PUF Spike 1411-1-143.04	PUF Spike 1411-1-143.05	Solvent Blank 1411-1-143.06	(Field Blank) VS006-302-P021	
Internal Standard (DDE)						
Area Counts:	344585 (105%)	351760 (107%)	377604 (115%)	373073 (113%)	%Recovery	
Surrogates:	Amount Detected & %Recovery				Average	Range
Octachloronaphthalene	195 ng (96%)	158 ng (79%)	157 ng (79%)	164 ug/ml (82%)	85%	17%
DPP-TMSE (Surrogate)	151 ng (76%)	134 ng (67%)	154 ng (77%)	114 ug/ml (57%)	73%	10%
Target Analytes:						
DBP-TMSE	154 ng (77%)	157 ng (79%)		< 10 ug	78%	2%
TBP	139 ng (70%)	118 ng (59%)	103 ng (52%)	< 10 ug	60%	18%
						< 10 ug
						< 10 ug

HNF-4440 Rev. 0

Vapor Sample Summary Table

Sample Number:	VS006-205-P001	VS006-215-P003	VS006-225-P005	VS006-240-P008	VSAMB-204-P022
Internal Standard (DDE)					
Area Counts:	378730 (115%)	381729 (116%)	372729 (113%)	456351 (138%)	608550 (184%)
Surrogates:	Amount Detected & %Recovery				
Octachloronaphthalene	143 ng (72%)	138 ng (69%)	135 ng (68%)	148 ng (75%)	138 ng (69%)
DPP-TMSE (Surrogate)	140 ng (70%)	111 ng (56%)	117 ng (59%)	132 ng (66%)	83 ng (42%)
Target Analytes:	Reported Concentrations				
DBP-TMSE	<150 ppbv	<150 ppbv	<150 ppbv	<150 ppbv	<150 ppbv
Flag:	<1.4 mg/m ³ M*	<1.4 mg/m ³ M*	<1.4 mg/m ³ M*	<1.4 mg/m ³ M*	<1.4 mg/m ³ M*
TBP	<150 ppbv	<150 ppbv	<150 ppbv	<150 ppbv	<150 ppbv
Flag:	<1.8 mg/m ³ M*	<1.8 mg/m ³ M*	<1.8 mg/m ³ M*	<1.8 mg/m ³ M*	<1.8 mg/m ³ M*

Note: Extrapolation below these values is not advisable because MDLs have not been established.

Flags: * = Data did not meet quality control requirements; refer to data package case narrative.

M = Target analyte was absent (not detected) in sample.

2.8.3 Supporting Data

This section contains relevant supporting data used for the tuning and calibration of the instrument, and the analysis and quantitation of the organic compounds. The following are included:

- Response Factor and Compound List Report
- Mass spectrometer tune report
- Quantitation Reports and chromatograms.

HNF-4440 Rev. 0
Response Factor Report 5971 - VO

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Initial Calibration

Calibration Files

100	=V9050605.D	200	=V9050606.D	50	=V9050604.D
25	=V9050603.D	10	=V9050602.D		

Compound	100	200	50	25	10	Avg	%RSD
1) p,p'-DDE	-----ISTD-----						
2) Dibutyl phosphate-TMS	2.267	2.070	1.954	1.991	2.005	2.057	6.04
3) Tributyl phosphate	3.216	2.966	2.823	2.623	2.202	2.766	13.81
4) S Diphenyl phosphate-TM	0.826	0.801	0.643	0.477	0.314	0.612	35.53
5) Octachloronaphthlene	1.099	1.063	1.077	0.960	0.891	1.018	8.72

(#) = Out of Range

V90506P.M

Wed May 12 13:24:18 1999

HNF-4440 Rev. 0
Compound List Report 5971 - VO

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Initial Calibration
Total Cpnds : 5

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	p,p'-DDE	246	19.77	1.000	L	2	A	B
2	Dibutyl phosphate-TMSE	155	11.96	0.605	A	2	A	B
3	Tributyl phosphate	99	13.71	0.693	A	2	A	B
4 S	Diphenyl phosphate-TMSE	213	.17.56	0.888	L	2	A	B
5	Octachloronaphthlene	404	27.48	1.390	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

V90506P.M Wed May 12 13:25:35 1999

HP5971 Standard Spectra AutoTune

Instrument: 5971 - VOA

Thu May 06 13:35:35 1999

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

Scan: 10.00 - 650.00 Samples: 16 Thresh: 150 Step: 0.10
84 peaks Base: 68.95 Abundance: 231744

Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
68.95	231744	100.00	69.95	2622	1.13
218.90	122600	52.90	219.90	4961	4.05
501.95	9312	4.02	502.95	1062	11.40

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\V90506\V9050612.D
Acq On : 6 May 99 10:50 pm
Sample : VS006-205-P001
Misc :
Quant Time: May 7 11:46 1999

Vial: 12
Operator: Bonfoey
Inst : 5971 - VO
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) p,p'-DDE	19.78	246	378730	50.00	ug/ml	0.00

System Monitoring Compounds					%Recovery
4) Diphenyl phosphate-TMSE	17.58	213	843627	140.21	ug/ml 70.11%

Target Compounds					Qvalue
2) Dibutyl phosphate-TMSE	11.97	155	35133	2.25	ug/ml# 92
3) Tributyl phosphate	13.72	99	106655	5.09	ug/ml# 88
5) Octachloronaphthlene	27.52	404	1105422	143.35	ug/ml 93

(#) = qualifier out of range (m) = manual integration
V9050612.D V90506P.M Fri May 07 11:46:48 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\V90506\V9050612.D
Operator : Bonfoey
Acquired : 6 May 99 10:50 pm using AcqMethod DIRTBP
Instrument : 5971 - VO
Sample Name: VS006-205-P001
Misc Info :
Vial Number: 12

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\V90506\V9050613.D
Acq On : 6 May 99 11:27 pm
Sample : VS006-215-P003
Misc :
Quant Time: May 7 11:47 1999

Vial: 13
Operator: Bonfoey
Inst : 5971 - VO
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) p,p'-DDE	19.79	246	381729	50.00	ug/ml	0.02

System Monitoring Compounds					%Recovery
4) Diphenyl phosphate-TMSE	17.58	213	660955	110.83	ug/ml 55.42%

Target Compounds					Qvalue
2) Dibutyl phosphate-TMSE	11.97	155	26852	1.71	ug/ml 95
3) Tributyl phosphate	13.72	99	134868	6.39	ug/ml 99
5) Octachloronaphthlene	27.54	404	1073236	138.09	ug/ml# 87

(#) = qualifier out of range (m) = manual integration
V9050613.D V90506P.M Fri May 07 11:47:41 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\V90506\V9050613.D
Operator : Bonfoey
Acquired : 6 May 99 11:27 pm using AcqMethod DIRTBP
Instrument : 5971 - VO
Sample Name: VS006-215-P003
Misc Info :
Vial Number: 13

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\V90506\V9050614.D
Acq On : 7 May 99 12:04 am
Sample : VS006-225-P005
Misc :
Quant Time: May 7 11:47 1999

Vial: 14
Operator: Bonfoey
Inst : 5971 - VO
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) p,p'-DDE	19.80	246	372729	50.00	ug/ml	0.02

System Monitoring Compounds					%Recovery
4) Diphenyl phosphate-TMSE	17.58	213	682067	116.66	ug/ml 58.33%

Target Compounds					Qvalue
2) Dibutyl phosphate-TMSE	11.98	155	616	0.04	ug/ml 91
3) Tributyl phosphate	13.73	99	6305	0.31	ug/ml# 89
5) Octachloronaphthlene	27.55	404	1021085	134.55	ug/ml 93

(#) = qualifier out of range (m) = manual integration
V9050614.D V90506P.M Fri May 07 11:48:31 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\V90506\V9050614.D
Operator : Bonfoey
Acquired : 7 May 99 12:04 am using AcqMethod DIRTBP
Instrument : 5971 - VO
Sample Name: VS006-225-P005
Misc Info :
Vial Number: 14

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\V90506\V9050616.D
Acq On : 7 May 99 1:18 am
Sample : VS006-240-P008
Misc :
Quant Time: May 7 11:49 1999

Vial: 16
Operator: Bonfoey
Inst : 5971 - VO
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) p,p'-DDE	19.80	246	456351	50.00	ug/ml	0.02

System Monitoring Compounds					%Recovery
4) Diphenyl phosphate-TMSE	17.59	213	951488	131.77	ug/ml 65.89%

Target Compounds					Qvalue
2) Dibutyl phosphate-TMSE	11.94	155	180	0.01	ug/ml# 56
3) Tributyl phosphate	13.70	99	525	0.02	ug/ml# 68
5) Octachloronaphthlene	27.56	404	1375066	147.99	ug/ml# 90

(#) = qualifier out of range (m) = manual integration
V9050616.D V90506P.M Fri May 07 11:50:14 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\V90506\V9050616.D
Operator : Bonfoey
Acquired : 7 May 99 1:18 am using AcqMethod DIRTBP
Instrument : 5971 - VO
Sample Name: VS006-240-P008
Misc Info :
Vial Number: 16

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\V90506\V9050617.D
Acq On : 7 May 99 1:55 am
Sample : VS006-302-P021
Misc :
Quant Time: May 7 11:50 1999

Vial: 17
Operator: Bonfoey
Inst : 5971 - VO
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) p,p'-DDE	19.80	246	458837	50.00	ug/ml	0.02

System Monitoring Compounds					%Recovery
4) Diphenyl phosphate-TMSE	17.59	213	1013624	139.12	ug/ml 69.56%

Target Compounds					Qvalue
2) Dibutyl phosphate-TMSE	11.98	155	46575	2.47	ug/ml# 93
3) Tributyl phosphate	13.73	99	140475	5.53	ug/ml# 90
5) Octachloronaphthlene	27.58	404	1317915	141.07	ug/mlm 52

(#) = qualifier out of range (m) = manual integration
V9050617.D V90506P.M Fri May 07 11:51:01 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\V90506\V9050617.D
Operator : Bonfoey
Acquired : 7 May 99 1:55 am using AcqMethod DIRTBP
Instrument : 5971 - VO
Sample Name: VS006-302-P021
Misc Info :
Vial Number: 17

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\V90506\V9050618.D
Acq On : 7 May 99 2:32 am
Sample : VSAMB-204-P022
Misc :
Quant Time: May 7 11:51 1999

Vial: 18
Operator: Bonfoey
Inst : 5971 - VO
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) p,p'-DDE	19.80	246	608550	50.00	ug/ml	0.02
System Monitoring Compounds						%Recovery
4) Diphenyl phosphate-TMSE	17.59	213	770748	83.29	ug/ml	41.65%
Target Compounds						Qvalue
2) Dibutyl phosphate-TMSE	11.98	155	50623	2.02	ug/ml#	75
3) Tributyl phosphate	13.74	99	201666	5.99	ug/ml	98
5) Octachloronaphthlene	27.57	404	1704693	137.58	ug/ml#	90

(#) = qualifier out of range (m) = manual integration
V9050618.D V90506P.M Fri May 07 11:52:14 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\V90506\V9050618.D
Operator : Bonfoey
Acquired : 7 May 99 2:32 am using AcqMethod DIRTBP
Instrument : 5971 - VO
Sample Name: VSAMB-204-P022
Misc Info :
Vial Number: 18

HNF-4440 Rev. 0

Quantitation Report

Data File : C:\HPCHEM\1\DATA\V90506\V9050620.D
Acq On : 7 May 99 3:46 am
Sample : VS006-MPB-P024
Misc :
Quant Time: May 7 11:53 1999

Vial: 20
Operator: Bonfoey
Inst : 5971 - VO
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) p,p'-DDE	19.80	246	473015	50.00	ug/ml	0.03

System Monitoring Compounds					%Recovery
4) Diphenyl phosphate-TMSE	17.59	213	1135961	150.52	ug/ml 75.26%

Target Compounds					Qvalue
2) Dibutyl phosphate-TMSE	11.95	155	61	0.00	ug/ml# 1
3) Tributyl phosphate	13.74	99	19588	0.75	ug/ml# 77
5) Octachloronaphthlene	27.57	404	1226474	127.35	ug/mlm 55

(#) = qualifier out of range (m) = manual integration
V9050620.D V90506P.M Fri May 07 11:54:08 1999

HNF-4440 Rev. 0

File : C:\HPCHEM\1\DATA\V90506\V9050620.D
Operator : Bonfoey
Acquired : 7 May 99 3:46 am using AcqMethod DIRTBP
Instrument : 5971 - VO
Sample Name: VS006-MPB-P024
Misc Info :
Vial Number: 20

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\V90506\V9050607.D
Acq On : 6 May 99 7:44 pm
Sample : MTBE Blank 1411-1-119.07
Misc :
Quant Time: May 7 11:40 1999

Vial: 7
Operator: Bonfoey
Inst : 5971 - VO
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) p,p'-DDE	19.78	246	281703	50.00	ug/ml	0.00

System Monitoring Compounds					%Recovery
4) Diphenyl phosphate-TMSE	0.00	213	0	0.00	ug/ml 0.00%

Target Compounds					Qvalue
2) Dibutyl phosphate-TMSE	11.95	155	436	0.04	ug/ml# 83
3) Tributyl phosphate	13.71	99	54	0.00	ug/ml# 68

(#) = qualifier out of range (m) = manual integration
V9050607.D V90506P.M Fri May 07 11:40:31 1999

HNF-4440 Rev. 0
Quantitation Report

Data File : C:\HPCHEM\1\DATA\V90506\V9050611.D
Acq On : 6 May 99 10:13 pm
Sample : Blank 1411-1-143.06
Misc :
Quant Time: May 7 11:44 1999

Vial: 11
Operator: Bonfoey
Inst : 5971 - VO
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\V90506P.M
Title :
Last Update : Fri May 07 11:34:15 1999
Response via : Multiple Level Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) p,p'-DDE	19.78	246	373073	50.00	ug/ml	0.01

System Monitoring Compounds					%Recovery
4) Diphenyl phosphate-TMSE	17.58	213	665390	113.92	ug/ml 56.96%

Target Compounds					Qvalue
2) Dibutyl phosphate-TMSE	11.98	155	37987	2.47	ug/ml 98
3) Tributyl phosphate	13.73	99	103676	5.02	ug/ml# 94
5) Octachloronaphthlene	27.53	404	1244610	163.85	ug/ml# 77

(#) = qualifier out of range (m) = manual integration
V9050611.D V90506P.M Fri May 07 11:45:46 1999

3.0 References

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3.0 REFERENCES

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- NHC, 1997, *Sample Chain of Custody, Acceptance, and Disposal*, LO-090-450, Rev. B-1, Numatec Hanford Corporation, Richland, Washington.

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