Tank Farms Backlog Soil Sample and Analysis Results Supporting a Contained-In Determination

Catrina L. Jackson

Rust Federal Services Hanford, Richland, WA 99352
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Abstract: The Backlog Waste Program was established to characterize and determine the proper disposal method for backlog soil waste. The backlog waste consisted of 2276 containers generated from Tank Farms operations during 1989 through early 1993. A sampling campaign was undertaken in 1992 and 1996. This report presents the results and evaluations from that campaign which, based on the "decision rule", supports a "Contained-In Determination."

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1.0 INTRODUCTION

Soil waste is generated from Tank Farms and associated Tank Farms facilities operations. The soil is a mixed waste because it is an environmental media which contains tank waste, a listed mixed waste. The soil is designated with the listed waste codes (F001 through F005) which have been applied to all tank wastes. The scope of this report includes Tank Farms soil managed under the Backlog program. The Backlog Tank Farm soil in storage consists of 769 drums and 5 boxes (originally 828 drums).

The Backlog Waste Program dealt with 2276 containers of solid waste generated by Tank Farms operations during the time period from 1989 through early 1993. The containers were mismanaged by being left in the field for an extended period of time without being placed into permitted storage. As a corrective action for this situation, these containers were placed in interim storage at the Central Waste Complex (CWC) pending additional characterization. The Backlog Waste Analysis Plan (BWAP) (RL 1993) was written to define how Backlog wastes would be evaluated for proper designation and storage. The BWAP was approved in August 1993 and all work required by the BWAP was completed by July 1994.

This document presents results of testing performed in 1992 & 1996 that supports the attainment of a Contained-In Determination for Tank Farm Backlog soils. The analytical data contained in this report is evaluated against a prescribed decision rule. If the decision rule is satisfied then the Washington State Department of Ecology (Ecology) may grant a Contained-In Determination. A Contained-In Determination for disposal to an unlined burial trench will be requested from Ecology. The decision rule and testing requirements provided by Ecology are described in the *Tank Farms Backlog Soil Sample Analysis Plan (SAP)* (WHC 1996).

2.0 SCOPE

The purpose of this report is to present and evaluate the test data per the decision rule for the purpose of obtaining a Contained-In determination for Tank Farms Backlog soil. The document will present analysis data collected per the SAP and analysis data collected in 1992. These data will be compared to the acceptance levels specified in the SAP, if the decision rule is satisfied then a request for a Contained-In Determination will be submitted to Ecology.

3.0 TEST RESULTS

3.1 Sample Collection

Two sampling and testing campaigns were undertaken in 1992 & 1996. In the campaign of 1992 eight drums were sampled and tested. Then the samples were split and sent to Westinghouse Hanford Company (WHC) and Ecology contract laboratories for analysis. The Ecology lab results are used here in the decision making.

There were a total of 70 drums sampled in 1996. Three of the 70 were reanalyses of 1992 drums so only 67 new drums were tested. Specific sample analyses for constituents of major concern were requested and the results were reported per requirements in the SAP.

3.1.1 Sample Collection Campaign for 1996

The project in 1996 consisted of sampling 70 drums, field testing samples and testing the samples in a laboratory. Samples were sent to Waste Sampling and Characterization Facility (WSCF) laboratory for analysis. Duplicate or split samples for selected drums were sent to Quanterra and Ecology laboratory. Samples were collected and tested in accordance with *Test Methods for the Evaluation of Solid Waste- Physical/Chemical Methods, SW-846 (EPA 1986)* methods and protocols (see reference section). The dose rates on the samples did not exceed 5 mrem/hr. There were two types of samples taken, a grab sample for Volatile Organic Analysis (VOA) and Semivolatile Organic Analysis (SVOA) and a composite sample. The grab samples were collected from the interior of the drum. The sample bottles were filled immediately following the extraction of the soil. The composite samples were collected by extracting at least one core of soil, depositing the core(s) in a bowl, mixing the soil and then filling the sample bottles. Also a set of VOA trips for each day, 6 sets of field blanks and 4 split samples were sent to the laboratories as field QA samples. The blanks consisted of a clean sand material.

The analyses requested for the samples sent to WSCF and Quanterra laboratories were Toxicity Characteristic Leaching Procedure (TCLP) metals, Inductive Coupled Plasma Spectroscopy (ICP) metals conducted on 19 samples, SVOA, VOA, sulfide, cyanide, flashpoint (as needed) and pH, herbicides, pesticides and radiochemistry.

3.1.2 Sample Collection Campaign for 1992

Eight drums of backlog soil were sampled. The samples were split and tested at two different laboratories. One set of samples was sent for analysis to a laboratory under contract with WHC, the other set was relinquished to Ecology personnel who sent the samples to a different laboratory for analysis.

Samples were collected in November of 1992 and managed in adherence with *Test Methods for the Evaluation of Solid Waste- Physical/Chemical Methods, SW-846 (EPA 1986)* methods and protocols. Twenty drums were selected by Ecology for sample collection and testing, but only eight from SX Farm were sampled due to delays and difficulties. All dose rates from the selected drums are less than 10 mrem/Hr. Samples were collected from the top inch of soil for volatile organic analysis. All other samples were collected by obtaining at least one core, compositing the core into a bowl and then filling the sample bottles.

A set of five trip blanks were also sent to each laboratory as field QA samples. The trip blanks

were a clean sand material.

During sample collection the vapor space in the drum was monitored using a photo ionizing detector. No vapors were detected.

Analyses requested for Ecology samples were anions, ICP metals, VOA, SVOA, sulfide and cyanide reactivity, pH, herbicides and pesticides.

3.2 1996 Data

The 1996 data is comprised of laboratory analysis and field data for 70 drums that were sampled and analyzed for the constituents of concern.

3.2.1 Analytical Data

The laboratory and field results represent the analytical data for the 70 drums sampled and analyzed in 1996. Three of the 70 drums were retests for specific analyses of the 1992 tests. Major data qualifications are shown in the Appendices. The laboratory results (Appendix A) were extracted from validated summary data packages provided by the laboratory. The field data results are listed in Appendix B.

There were four samples tested for pesticides that possessed a major deficiency due to low surrogate recoveries. These results are not be used for decision making.

A major deficiency is noted in hold time exceedances for pesticide analyses. The hold time exceedance was not significant based on scientific studies which indicate that the pesticides in question (organochlorine pesticides) are persistent and do not readily degrade. Significant losses of organochlorine pesticides are usually measured in years. The amount of degradation that would occur due to weeks or months of the hold time exceedance would be very small and difficult to measure (see pesticide listings in reference section). For this reason, the results for the pesticides that are qualified for hold time deficiency are used in the decision making.

A low spike recovery of silver was noted as a major deficiency. The spike recoveries are not significant because: 1) the analytical results were non-detectable and 2) in all cases the results are greatly below the regulatory threshold by a factor of 58. Therefore, despite major deficiency the quality of the data results for the silver are adequate for making a decision.

A major deficiency is noted in the semivolatile analyses due to a surrogate recovery of less than 10%. These data are not useable for decision making for some semivolatile constituents. So 73 results remained for decision making for some semivolatile constituents. The constituents are noted in Appendix A. The surrogate and low spike recoveries are chemicals which are added to a sample to confirm the effectiveness of the test procedure. A low recovery indicates an error

may have occurred that may cause the results to be low, thus biasing the results.

It may be noted that Polychlorinated Biphenyls (PCBs) were detected in 40 soil samples and listed in Appendix A. They are not used for decision making because PCBs are not listed as (according to the SAP) constituents of concern to obtain a Contained-In Determination.

Field data recorded includes: Organic Vapor Monitoring results (OVM), paint filter test, pH and recorded room temperature when a drum was opened. As per the SAP if no liquids were present in the soil samples, the flashpoint test was not necessary. Field data is presented in Appendix B.

A drum of absorbed liquid was tested and reported. The results are presented as miscellaneous data (Appendix A). The results were not included in the decision making.

3.2.2 Quality Assurance Data

Analysis of deionized water used for dampening the soil during sample collection was performed in the 1996 sampling campaign. Insignificant levels of contamination are reported in the water. The data was reported as miscellaneous data (Appendix A).

The trip blanks were tested for volatiles in the 1996 data results detected acetone. The presence of the constituent could be the result of contamination of samples, producing a false positive. As the test results are well below the Model Toxic Control Act (MTCA) threshold (listed in Tables 1 & 2), no attempt was made to correct for the bias in the acetone results. The data is included in the decision making.

Duplicate samples of selected drums were sent to Quanterra. The analyses of both laboratories detected the constituents: barium, benzo(b)fluoranthene and PCBs. It was noted that the results for barium analyzed in the Quanterra laboratory were greater than the results taken from WSCF by a factor of 2. A difference in the results between the laboratories appears to exist for barium. The higher Quanterra result was used for the decision making.

3.3 1992 Data

3.3.1 Analytical Data

Ecology & WHC tested samples from eight drums of soil in 1992. The Ecology results were included in the Appendix D and are used for decision making. The Ecology data was not validated but rather used as provided. All of these results are used for decision making except those retested in 1996.

It is noted that one sulfide-releasable and two flashpoint tests exceeded their threshold limits. To confirm the results, the constituents were reanalyzed in 1996. The new analyses yielded results

Table 1. Constituents of Concern Thresholds

Chemical Name	Characteristic Threshold (mg/L)	MTCA Threshold (mg/kg)
Ignitability	fp. < 140°F and free liquid	na
Corrosivity	pH < 2 or pH > 12.5	na
Reactive CN (mg HCN/kg)	250 mg HCN/kg	
Reactive S (mg H ₂ S/kg)	500 mg H ₂ S/kg	
Acetone	na	8000
Arsenic	5	na
Barium	100	na
Benzene	0.5	na
Cadmium	1	na
Carbon Tetrachloride	0.5	na
Chlordane	0.03	na
Chlorobenzene	100	na
Chloroform	6	na
Chromium	5	na
o-Cresol & m-Cresol	200	400
p-Cresol	200	4000
2,4-D	10	na
1,4-Dichlorobenzene	7.5	na
1,2-Dichloroethane	0.5	na
1,1-Dichloroethylene	0.7	na
2,4-Dinitrotoluene	0.13	na
Endrin	0.02	na
Heptachlor epoxide	0.008	na
Hexachlorobenzene	0.13	na
Hexachlorobutadiene	0.5	na
Hexachloroethane	3	na

Table 1. Constituents of Concern Thresholds (cont'd)

Chemical Name	Characteristic Threshold (mg/L)	MTCA Threshold (mg/kg)
Lead	5	na
Lindane	0.4	na
Mercury	0.2	na
Methoxychlor	10	na
Methyl Ethyl Ketone	200	48000
Methyl Isobutyl Ketone	na	4000
Methylene Chloride	na	133
Nitrobenzene	2	na
Pentachlorophenol	100	na
Pyridine	5	na
Selenium	1	na
Silver	5	na
Tetrachloroethylene	0.7	na
Toxaphene	0.5	na
2,4,5-TP (silvex)	1	na
1,1,1-Trichloroethane	na	72000
Trichloroethylene	0.5	na
2,4,5-Trichlorophenol	400	na
2,4,6-Trichlorophenol	2	na
Vinyl Chloride	2	na
Polycyclic Aromatic Hydrocarbon	1% PAH	na
Halogenated Hydrocarbon	.01% HH	na
criteria toxic	.001% EC	na

Note: This table is representative of all major constituents of concern and the associated thresholds.

Table 2. Detected Constituents of Concern and Maximum Results

Chemical Name	Result Converted to Threshold (mg/L)	Maximum Results
Ignitability		>100°C
Corrosivity		9.72
Reactive CN (mg HCN/kg)	4.495	89.9 mg/kg
Reactive S (mg H ₂ S/kg)	12.8	256 mg/kg
Acetone	.0044	0.088 mg/kg
Barium	0.677	.677 mg/L
Chromium	0.166	0.166 mg/L
o-Cresol & m-Cresol	.00265	0.053 mg/kg
2,4-D	.0000275	0.00055 mg/kg
Lead	2.99	2.99 mg/L
Mercury	.00055	0.011 mg/kg
Methyl Ethyl Ketone	.0003	0.006 mg/kg
Methyl Isobutyl Ketone	.0016	0.032 mg/kg
Methylene Chloride	.00015	0.003 mg/kg
Silver	0.086	.086 mg/L
2,4,5-TP (silvex)	.00035	0.007 mg/kg
Polycyclic Aromatic Hydrocarbon	0.0003479%	na
Halogenated Hydrocarbon	0.0079056%	na
criteria toxic	0.00%	na

Note: This table consists of detected constituents of concern and the maximum results for each.

detected below the threshold limits. The 1996 results were used for decision making, in lieu of the 1992 results for the constituents because the results are corroborated by the 1992 WHC test results.

3.3.2 Quality Assurance data

Eight split samples were taken by WHC with the Ecology samples. The WHC flashpoints and reactive sulfide results were below regulatory thresholds, which did not corroborate with the Ecology results. The other WHC results agree with the Ecology results.

3.4 Decision Rule

The decision rule stated here is extracted verbatim from the SAP. Each result is compared to the appropriate standard or threshold. If a listed constituent is detected, then the result will be compared to the MTCA standard or regulatory threshold for the characteristic, which ever is lower. If not a listed constituent then the result is compared to the constituent characteristic regulatory threshold. Washington State criteria thresholds are also evaluated for the listed constituents (Table 1). The statistical test to determine if a constituent is less than its threshold for the waste stream is dependent upon the distribution of the data. The decision rule is:

1. For each constituent of concern 71 results (except 6010 metals, 7 results is adequate) must exist and the distribution of a transform (e.g., lognormal) is determined to be normal. If so, a confidence interval approach is employed. The upper confidence interval on the true soil concentration is less than the soil threshold shown on Table 1. Statistical tests shall be performed at a Type 1 error level of 0.05 (one-tailed test of the null hypothesis that the true soil concentration of a hazardous substance exceeds the threshold). If a transform is not normal then proceed to step 2.
2. For each constituent of concern 71 results (except 6010 metals, 7 results is adequate) must exist and all the results (nonparametric approach) must be below the appropriate standard of Table 1. For each exceedance four more tests must be performed that are below the appropriate standard of Table 1 for that constituent.

If either 1 or 2 above are successful for each constituent of concern listed on Table 1 then, statistically adequate data has been collected to obtain a Contained-In determination, thus, satisfying the Data Quality Objective (DQO). The purpose of the Data Quality Objective is to demonstrate that constituents of concern are below MTCA standards for listed constituents and that the soil possesses no dangerous waste characteristics or criteria.

3.4.1 Evaluation of Data for Decision Making

In evaluating the data for satisfaction of the decision rule, decision rule option 2 is used. A

determination of the normality of a transform of the data was not attempted.

There are 67 new (1996) and 8 old (1992) points existing for a possible total of 75 results. After considering the data qualifications described in sections 3.2 & 3.3 for each constituent there exists 71 to 75 valid results for decision making. As stated in section 3.2.1 the 71 pesticide and 73 of some semivolatile constituents possess adequate quality for decision making. Thus, the minimum requirement of 71 results was met for each constituent. Therefore, enough quality data exists to make a decision per the decision rule in the SAP.

The applicable MTCA standards and regulatory thresholds for characteristics or state criteria for major constituents of concern are listed in Table 1. As shown in Table 2 all detected results are less than the standards (thresholds). If not shown in Table 2, the constituent was not detected and the constituent detection limit is below the threshold. The maximum result listed in Table 2 is the result that is the greatest of the qualified data for that constituent.

Calculations were performed to determine the state of the Washington criteria status. The presence of Polycyclic Aromatic Hydrocarbons (PAH), Halogenated Hydrocarbon (HH) and Toxicity characteristics (EC) results are all below the threshold limits. Calculations are provided in Appendix E (PAH & HH Table and the EC% analyses). The EC% analyses are shown in the corresponding Solid Waste Engineering Analysis sheets. All of the calculations employ the maximum results and weight percentages for each constituent (Table 3), used in decision making.

4.0 CONCLUSION

An adequate amount of quality data (71 results) exists to satisfy the decision rule. The analytical results for the detected major constituents of concern fell far below the threshold limits established per the decision rule. Thus, the waste is suitable to obtain a Contained-In Determination for Tank Farm Backlog soil from Ecology.

Table 3. State Persistent Chemicals: Maximum Results & Percentages

Polycyclic Aromatic Hydrocarbons (PAH)		
Chemical Name	Maximum Result (mg/kg)	Weight%
Acenathene	0.04	0.000004
Anthracene	0.12	0.000012
Benzo(a)anthracene	0.29	0.000029
Benzo(a)pyrene	0.16	0.000016
Benzo(b)fluoranthene	0.16	0.000016
Benzo(g,b,i)perylene	0.063	0.0000063
Benzo(k)fluoranthene	0.069	0.0000069
Chrysene	0.44	0.000044
Dibenz(a,h)anthracene	0.049	0.0000049
Fluoranthene	0.35	0.000035
Fluorene	0.049	0.0000049
Indeno(1,2,3-c,d) pyrene	0.049	0.0000049
Phenanthrene	0.74	0.000074
Pyrene	0.9	0.00009
Total (PAH)%		0.0003479%

Table 3. State Persistent Chemicals: Maximum Results & Percentages (cont'd)

Halogenated Hydrocarbon (HH)		
Chemical Name	Maximum Result (mg/kg)	Weight%
2,4-D	0.011	0.0000011
Methyl Ethyl Ketone	0.006	0.0000006
Methyl Isobutyl Ketone	0.032	0.0000032
PCBs	79	0.0079
2,4,5-TP (Silvex)	0.007	0.0000007
Total (HH)%		0.0079056%

- Notes:**
1. The table is representative of PAH & HH constituents of concern that have been detected.
 2. The PAH & HH constituents are also listed in Tables 1 & 2.
 3. The total PAH and HH percents are the sums of the weight percents of the constituents.
 4. The weight % is the result of multiplying the maximum result by 10,000.

5.0 REFERENCES

DOE/RL 1993, *Waste Analysis Plan for Confirmation of Completion of Tank Farms Backlog Soil Waste Designation*, DOE-RL-93-70, Rev. 1, U.S. Department of Energy, Richland Operations Office, Richland, WA.

EPA 1986, *Test Methods for the Evaluation of Solid Waste- Physical / Chemical Methods*, SW-846, 3rd Ed., U.S. Environmental Protection Agency, Washington, D.C.

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APPENDIX A

1996 Laboratory Results

Comprised of 7 pages including the cover page

Glossary of Organic Data Reporting Qualifiers

- B-** Indicates the constituent was analyzed for and detected in the associated laboratory blank. This qualifier is applied by the laboratory. During the process of data validation this qualifier may be replaced by other appropriate qualifiers as defined by the validation procedures. The associated data should be considered usable for decision making purposes.
- U-** Indicates the constituent was analyzed for and not detected. The concentration reported is the sample quantitation limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ-** Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration reported may not accurately reflect the sample quantitation limit. The associated data should be considered usable for decision making purposes.
- J-** Indicates the constituent was analyzed for and detected. This qualifier may be applied by the laboratory to indicate a concentration which is less than the contract required quantitation limit (CRQL) but greater than the instrument detection limit (IDL). During data validation this qualifier may be applied to indicate a minor quality control deficiency. However, in either case, the associated data should be considered usable for decision making purposes.
- NJ-** Indicates presumptive evidence of a constituent at an estimated value. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- N-** Indicates presumptive evidence of a constituent. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- JN-** Indicates a tentatively identified compound (TIC) whose concentration and identification have been determined to be valid as a result of data validation. The associated data should be considered usable for decision making purposes.
- UJN-** Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.
- UR-** Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.
- R-** Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

Sample #	Tripart Q	psi	Reactive C%	Arrest	Isotopic	Calculation	Crustal	Lead	Slope	Seabed	Measures	Yield Alpha	Total Beta	Q134	U	1917g	Sp90	Co66	Re15	Se113
W-0001	NA	8.36	U	U	U	0.321	U	U	U	U	U	21.70	17900	U	17179	NA	U	U	U	U
W-0002	WTF-92-100-13	W-0003	U	U	U	0.31	U	U	U	U	U	11.80	11700	U	12800	NA	U	U	U	U
W-0004	WTF-92-100-45	W-0005	U	U	U	0.314	U	U	U	U	U	11.53	1154	U	12400	NA	U	U	U	3960
W-0006	WTF-92-100-48	W-0007	U	U	U	0.325	U	U	U	U	U	24.45	2766	U	21000	64.80	U	U	U	U
W-0008	WTF-92-100-51	W-0009	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0010	WTF-92-100-74	W-0011	U	U	U	0.329	U	U	U	U	U	8.77	2647	U	3000	NA	U	U	U	U
W-0012	WTF-92-100-95	W-0013	U	U	U	0.343	U	U	U	U	U	1.74	3225	U	4000	NA	U	U	U	U
W-0014	WTF-92-100-98	W-0015	U	U	U	0.344	U	U	U	U	U	2.70	57.80	U	44	NA	U	U	U	U
W-0016	WTF-92-101-45	W-0017	U	U	U	0.348	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0018	WTF-92-101-45	W-0019	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0020	WTF-92-101-45	W-0021	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0022	WTF-92-101-45	W-0023	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0024	WTF-92-101-45	W-0025	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0026	WTF-92-101-45	W-0027	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0028	WTF-92-101-45	W-0029	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0030	WTF-92-101-45	W-0031	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0032	WTF-92-101-45	W-0033	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0034	WTF-92-101-45	W-0035	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0036	WTF-92-101-45	W-0037	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0038	WTF-92-101-45	W-0039	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0040	WTF-92-101-45	W-0041	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0042	WTF-92-101-45	W-0043	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0044	WTF-92-101-45	W-0045	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0046	WTF-92-101-45	W-0047	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0048	WTF-92-101-45	W-0049	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0050	WTF-92-101-45	W-0051	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0052	WTF-92-101-45	W-0053	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0054	WTF-92-101-45	W-0055	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0056	WTF-92-101-45	W-0057	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0058	WTF-92-101-45	W-0059	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0060	WTF-92-101-45	W-0061	U	U	U	0.324	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0062	WTF-92-106-03	W-0063	U	U	U	0.326	U	U	U	U	U	6.550	2848	U	3135	NA	U	U	U	U
W-0064	WTF-92-106-03	W-0065	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0066	WTF-92-106-03	W-0067	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0068	WTF-92-106-03	W-0069	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0070	WTF-92-106-03	W-0071	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0072	WTF-92-106-03	W-0073	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0074	WTF-92-106-03	W-0075	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0076	WTF-92-106-03	W-0077	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0078	WTF-92-106-03	W-0079	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0080	WTF-92-106-03	W-0081	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0082	WTF-92-106-03	W-0083	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0084	WTF-92-106-03	W-0085	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0086	WTF-92-106-03	W-0087	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0088	WTF-92-106-03	W-0089	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0090	WTF-92-106-03	W-0091	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0092	WTF-92-106-03	W-0093	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0094	WTF-92-106-03	W-0095	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0096	WTF-92-106-03	W-0097	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0098	WTF-92-106-03	W-0099	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0100	WTF-92-106-03	W-0101	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0102	WTF-92-106-03	W-0103	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0104	WTF-92-106-03	W-0105	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0106	WTF-92-106-03	W-0107	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0108	WTF-92-106-03	W-0109	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0110	WTF-92-106-03	W-0111	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0112	WTF-92-106-03	W-0113	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0114	WTF-92-106-03	W-0115	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0116	WTF-92-106-03	W-0117	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0118	WTF-92-106-03	W-0119	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0120	WTF-92-106-03	W-0121	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0122	WTF-92-106-03	W-0123	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0124	WTF-92-106-03	W-0125	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0126	WTF-92-106-03	W-0127	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0128	WTF-92-106-03	W-0129	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0130	WTF-92-106-03	W-0131	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0132	WTF-92-106-03	W-0133	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0134	WTF-92-106-03	W-0135	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0136	WTF-92-106-03	W-0137	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0138	WTF-92-106-03	W-0139	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0140	WTF-92-106-03	W-0141	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0142	WTF-92-106-03	W-0143	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0144	WTF-92-106-03	W-0145	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0146	WTF-92-106-03	W-0147	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0148	WTF-92-106-03	W-0149	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0150	WTF-92-106-03	W-0151	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0152	WTF-92-106-03	W-0153	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0154	WTF-92-106-03	W-0155	U	U	U	0.326	U	U	U	U	U	NA	NA	NA	NA	NA	U	U	U	U
W-0156	WTF-92-106-03	W-0157	U	U																

DATE OF BIRTH	DATE OF DEATH	AGE	SEX	EDUCATION
1911	1911	1911	1911	1911

1. All metal analyzers are in microgram (ug) or

2. Alpha & Beta results are in picocuries per gram (pCi/g).

3. Cyanide & Sulfide results are in milligrams per kilogram (mg/kg).

Drum PIN #	Field Sample #	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium
WTFP-92-308-45	W-0045	6330		U	54.7	U	U	7350B	8.49	6.01	7.7	14400	U	NA
WTFP-92-308-74	W-0074	4630	0.23	U	55.6	U	U	5630	5.95	6.35	6.24	15600	U	NA
ETFP-90-0292	W-0292	4320	0.22	U	51	U	U	6600	7.76	6.63	6.94	15200	U	NA
ETFP-91-035-10	W-3610	4300	.667	U	53.5	U	U	9840B	7.14	5.25	8.03	12100	4.26	NA
EKEH-91-249-05	W-4905	4180	0.163	U	50.7	U	U	5920B	6.78	5.91	8.24	14100	U	NA
ETFP-91-175-09	W-7509	3950	0.19	U	66.1	U	U	5560	7.46	5.61	8.07	13300	U	NA
EKEH-91-081-03	W-8103	4690	0.233	U	54.9	U	U	6610B	6.40	7.02	6.40	15900	U	NA
Detection Limit	NA	3.421 TO 38.2		0.15	0.781 TO 6.735	0.351 TO 6.408	0.526 TO 0.612	13.16 TO 15.31	0.614 TO 0.714	1.228 TO 1.429	0.439 TO 0.51	4.386 TO 5.102	2.456 TO 2.857	NA

Drum PIN #	Field Sample #	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Vanadium	Zinc	
WTFP-92-300-48	W-0048	3490B	222	U	7.7	939	U	U	139	18.4	U	22.4	33.5B	
WTFP-92-300-74	W-0074	3430	233	0.251	7.34	872	2.51U	U	135	16.8U	U	23.5	36.1	
ETFP-90-0292	W-0292	3530	265	0.29	6.84	750	2.51U	U	148	19.3	U	21	27.2	
ETFP-91-035-10	W-3610	3750B	236	.283	8.62	899	U	123	19.5U	U	14.2	27.8B		
EKEH-91-249-05	W-4905	3540B	206	0.251	6.89	843	2.51U	U	192	22.7U	U	17.7	34.4B	
WTFP-91-175-09	W-7509	3240	232	0.28	8.43	753	2.51U	U	138	18.8	U	15.6	27.5	
EKEH-91-081-03	W-8103	4230B	291	0.263	7.45	929	2.51U	U	168	29.9U	U	22.6	30.8	
Detection Limit	NA	3.947 TO 4.992	0.351 TO 0.408		0.15	1.228 TO 1.429	91.23 TO 186.1	2.5	0.526 TO 0.612	2.632 TO 3.061	0.05	11.1 TO 12.96	1.228 TO 1.429	0.351 TO 0.408

Drum PIN #	Field Sample #	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium
WTFP-92-308-45	W-0045	6090		0.2	< 6.47	57.5	< 0.3920	< 0.590	5620B	7.65	7.65	8.53	20000	4.31
WTFP-92-308-46	W-0046	6570	0.2	< 6.468	57.72	< 0.3920	< 0.5880	4684B	9.904	7.39	7.915	20900	4.515	NA
WTFP-92-300-52	W-0052	6780	0.2	< 6.336	66.63	< 0.3840	< 0.5760	5030B	9.585	7.242	6.573	20800	7.159	NA
ETFP-91-040-12	W-4312	4609	0.2	< 6.336	66.30	< 0.3840	< 0.5760	6000B	7.144	5.243	4.948	14300B	5.649	NA
ETFP-91-045-15	W-4315	5320	0.3	< 6.336	54.32	< 0.3840	< 0.5760	4378B	7.665	6.053	5.421	16000B	5.666	NA
ETFP-91-155-01	W-5501	3770	0.2	< 6.608	51.59	< 0.4000	< 0.6000	4393B	12.28	11.78	8.293	18400	2.809	NA
WTFP-92-142-01	W-4301	6160	0.2	< 6.468	63.76	< 0.3920	< 0.5880	6150B	13.55	6.990	6.738	22400	5.361	NA
ETFP-91-085-11	W-8511	5630	0.2	< 6.336	50.13	< 0.3840	< 0.5760	5540B	7.404	6.269	5.916	16000	< 2.688	NA
WTFP-92-197-14	W-9714	5890	0.163	U	63.34	U	U	5200B	8.515	7.479	6.071	19500	4.909	NA
WTFP-92-197-71	W-9771	6720	0.3	< 6.336	65.10	< 0.3840	< 0.5760	3820B	10.62	7.066	6.440	26100	4.447	NA
WTFP-92-197-74	W-9774	6040	0.2	< 6.336	66.11	< 0.3840	< 0.5760	7330B	10.79	6.908	6.928	30200B	2.967	NA
Detection Limit	NA	3.421 TO 38.2		0.15	0.781 TO 6.735	0.351 TO 6.408	0.526 TO 0.612	13.16 TO 15.31	0.614 TO 0.714	1.228 TO 1.429	0.439 TO 0.51	4.386 TO 5.102	2.456 TO 2.857	NA

Drum PIN #	Field Sample #	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Selenium	Silver	Sodium	Strontium	Thallium	Vanadium	Zinc	
WTFP-92-300-45	W-0045	4330	289	U	9.22B	1050	14B	< 0.590	270	15.9	< 13.4	43.1	41.5B	
WTFP-92-300-46	W-0046	4542	282.6	U	10.24B	1144	3.88U	< 0.5880	278.6	14.9	< 12.45	42.54	41.85B	
WTFP-92-300-52	W-0052	4006	312.8	U	9.240B	1307	U	< 0.5760	197.2	15.4	< 12.19	46.87	44.01B	
ETFP-91-040-12	W-4312	3124	225.6	U	6.712	809.0	10B	< 0.5760	343.6	19.1	< 12.19	28.37	35.41B	
ETFP-91-045-15	W-4315	3363	213.9	U	6.989	975.2	7B	< 0.5760	324.3	20.0	< 12.19	34.12	38.05B	
ETFP-91-155-01	W-5501	2524	240.0	U	10.49B	843.2	5.88U	< 0.6000	207.2	13.9	< 12.70	38.33	40.51B	
WTFP-92-142-01	W-4301	4263	314.2	U	8.651B	1975	6.58U	< 0.5880	249.4	18.0	< 12.45	45.34	58.84B	
ETFP-91-085-11	W-8511	3334	236.7	U	7.818B	998.3	U	< 0.5760	332.5	20.9	< 12.19	32.60	34.79B	
WTFP-92-197-14	W-9714	3768	275.8	0.28	6.445B	1132	U	< 0.5760	174.7	17.33	U	45.09	41.66B	
WTFP-92-197-71	W-9771	3986	292.1	U	10.11B	1203	U	< 0.5760	228.9	15.7	< 12.19	42.12	46.66B	
WTFP-92-197-74	W-9774	4042	301.1	U	10.76	1073	U	< 0.5760	222.4	17	< 12.19	44.50	43.03B	
Detection Limit	NA	3.947 TO 4.992	0.351 TO 0.408		0.15	1.228 TO 1.429	91.23 TO 186.1	2.5	0.526 TO 0.612	2.632 TO 3.061	0.05	11.1 TO 12.96	1.228 TO 1.429	0.351 TO 0.408

Note: 1. All metals are reported in micrograms per gram (ug/g).

Rev. 0

Note: 1. All organic results are reported in micrograms per kilogram (ug/kg)
2. The samples that are labeled have a mean deficiency in their organic carbon content.

2. The samples that are italicized have a major deficiency in their surrogate recoveries for semivolatiles.

Volatiles, Pesticides and Herbicides

HNF-SD-WM-TD-01

Rev. 0

[illegible]

Detection Limit	NA	1 TO 5	1.6 TO 8	2.3 TO 12	1.5 TO 7.5	1.1 TO 5.5	1
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Note: 1. Chlordane is a mixture of alpha-chlordane and gamma-chlordane

2. PCB results are reported for Aroclor 1254 and 1260.

3. All volatile, nonfields, herbicide and DCP results are reported in micrograms per kilogram (µg/kg).

3. All volatile, pesticide, herbicide and PCB results are reported in micrograms per kilogram (ug/kg).

HNF-SD-WM-TD-018

HNP-SD-WM-TD-018													
Rev. 0													
PIN #	Sample #	Flash point (°F)	pH	Reactive CN	Reactive S	Aromatic	Berium	Catalium	Chromium	Lead	Silver	Stannum	Mercury
EXE19-105-17	W-PWRP	>100 C	8.31	U	U	U	U	0.991	U	U	U	U	U
W-ELEC		>100 C	5.81	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	0.01	0.1	0.08	1	0.08	0.008	0.008	0.009	0.044	0.008	0.179	6
PIN #	Sample #	a-Chloral	m & p-Chloral	Hexachlorocyclopentadiene	Hexachlorobutadiene	Hexachloroethane	Hexachloroethane	Hexachloroethane	Hexachloroethane	Hexachloroethane	Hexachloroethane	Hexachloroethane	Hexachloroethane
EXE19-105-17	W-ELEC	U	U	U	U	U	U	U	U	U	U	U	U
W-PWRP		U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	50	50	50	50	50	50	50	50	50	50	50	50
PIN #	Sample #	Fluorene	Anthracene	Phenanthrene	Benzo(a)anthracene	Benzo(b)anthracene	Benzo(k)anthracene	Pyrene	Chrysene	Benzo(a)pyrene	Benzo(b)pyrene	Benzo(e)pyrene	Benzo(g,h,i)perylene
EXE19-105-17	W-PWRP	U	U	U	U	U	U	U	U	U	U	U	U
W-ELEC		U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	50	50	50	50	50	50	50	50	50	50	50	50
PIN #	Sample #	1,1,1-Trichloroethane	Acetone	Methyl Isobutyl Ketone	Methyl Ethyl Ketone	Methylene Chloride	Benzene	Carbon Tetrachloride	Chlorobenzene	Chloroform	1,4-Dichlorobenzene	1,2-Dichlorobenzene	1,1-Dichloroethane
EXE19-105-17	W-PWRP	U	U	U	U	U	U	U	U	U	U	U	U
W-ELEC		U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	1	1.6	2.3	1.5	1.1	1	1	1	1	1	1	1
PIN #	Sample #	Tetrahydrofuran	Trichloroethylene	Vinyl Chloride	2,4,6-TP	Chloroacetic Acid	Endrin	Heptachlor Epoxide	Heptachlor Epoxide	Heptachlor Epoxide	Heptachlor Epoxide	Heptachlor Epoxide	Heptachlor Epoxide
EXE19-105-17	W-PWRP	U	U	U	U	U	U	U	U	U	U	U	U
W-ELEC		U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	1.2	1	0.6	2.5	2.5	4	4	4	4	4	4	4
PIN #	Sample #	Temperature (°F)	PID Reading	PID Reading	PID Reading	PID Reading	PID Reading	PID Reading	PID Reading	PID Reading	PID Reading	PID Reading	PID Reading
EXE19-105-17	W-ELEC	68	35	30	30	30	30	30	30	30	30	30	30
EXE19-105-68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PIN #	Sample #	Aluminum	Antimony	Arsenic	Berillium	Cadmium	Cerium	Chromium	Cobalt	Copper	Iron	Lead	Zinc
EXE19-105-17	W-PWRP	U	U	U	U	U	U	U	U	U	U	U	U
W-ELEC		U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	42.9	1.0	72.6	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
PIN #	Sample #	Magnesium	Manganese	Nickel	Phosphorus	Selenium	Silver	Sodium	Strontium	Titanium	Vanadium	Zinc	Zinc
EXE19-105-17	W-PWRP	U	U	U	U	U	U	U	U	U	U	U	U
W-ELEC		U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	49.5	4.4	0.3	15.4	11.4	5	6.6	3.3	13.7	15.4	15.4	15.4

Note: 1. W-0517 refers to a drum of absorbed liquid.

2. W-PWRP & W-ELEC refer to the deionized water samples that were analyzed.

3. All organic results are reported in micrograms per kilogram (ug/kg).

4. All inorganic results are reported in micrograms per liter (ug/L).

5. PID & PTD readings are reported in parts per million (ppm).

ote: 1. W-0517 refers to a drum of absorbed liquid.
2. W-PWRP & W-EJEC refer to the deionized water samples that were analyzed.
3. All organic results are reported in micrograms per kilogram (ug/kg).
4. All inorganic results are reported in micrograms per liter (ug/L).
5. PID & FID readings are reported in parts per million (ppm).

APPENDIX B

1996 Field Data

Comprised of 2 pages including the cover page

PIN #	Sample #	Temperature (F)	PID Reading (ppm)	FID Reading (ppm)	pH	Paint Filter
WTF9-91-200-06	W-0006	76	<1	<1	6	Neg
WTF9-92-300-18	W-0018	68	0.1	<0	7	Neg
WTF9-92-300-45	W-0045	76	0.15	0.3	7	Neg
WTF9-92-300-46	W-0046	76	0.05	0.22	7	Neg
WTF9-92-300-47	W-0047	76	<1	<1	7	Neg
WTF9-92-300-48	W-0048	70	0.19	<0.1	5	Neg
WTF9-92-300-52	W-0052	76	0.2	0.5	6	Neg
WTF9-92-300-74	W-0074	70	0.1	<1	5	Neg
WTF9-92-300-95	W-0095	76	0.35	0.32	7	Neg
WTF9-92-301-42	W-0142	70	14	12	5	Neg
ETFF-90-0283	W-0283	70	1.25	0.5	5	Neg
ETFF-90-0285	W-0285	70	2.5	0.17	7	Neg
ETFF-90-0287	W-0287	64	<1	<1	4	Neg
ETFF-90-0291	W-0291	70	0.1	0.1	4	Neg
ETFF-90-0292	W-0292	64	0.5	2.2	5	Neg
ETFF-91-036-9	W-0369	76	2	0.7	6	Neg
ETFF-90-0488	W-0488	70	0.2	0.4	6	Neg
ETFF-90-0498	W-0498	70	0.5	0.5	4	Neg
WTF9-92-106-02	W-0602	70	0.46	0.1	5	Neg
WTF9-92-106-03	W-0603	76	<1	<1	6	Neg
EKEH-91-108-12	W-0812	70	0.15	0.33	5	Neg
EKEH-91-108-45	W-0845	70	<0.1	0.1	4	Neg
EKEH-91-108-92	W-0892	68	0.13	<0	6	Neg
ETFF-90-0943	W-0943	70	<1.0	250	5	Neg
ETFF-90-0946	W-0946	70	0.1	2,500	5	Neg
ETFF-90-0969	W-0969	76	<1	<1	6	Neg
WTF9-92-311-57	W-1157	68	0.02	<0	7	Neg
EKEH-91-112-20	W-1220	68	0.1	>5,000	6	Neg
ETFF-90-1257	W-1257	70	0.08	0.16	6	Neg
ETFF-91-213-02	W-1302	88	16	18	10	Neg
WTF9-93-015-04	W-1504	64	0.25	0.25	4	Neg
EKEH-91-121-08	W-2108	70	0.3	0.18	4	Neg
WKEH-91-323-01	W-2301	70	0.5	0.2	4	Neg
ETFF-93-027-01	W-2701	88	0.22	0.48	5	Neg
ETFF-93-027-03	W-2703	69	26.8	0.1	5	Neg
WTF9-91-329-44	W-2904	70	0.3	0.14	4	Neg
ETFF-91-333-21	W-3321	70	0.5	0.23	6	Neg
ETFF-91-235-03	W-3503	64	2	1.5	6	Neg
WTF9-92-136-02	W-3602	70	0.3	<1	5	Neg
ETFF-91-036-10	W-3610	68	0.11	<0	6	Neg
ETFF-91-036-12	W-3612	64	3	2	4	Neg
WKEH-92-140-05	W-4005	68	0.12	3.5	7	Neg
ETFF-93-042-05	W-4205	70	0.09	<1	6	Neg
ETFF-91-043-12	W-4312	76	0.09	0.28	7	Neg
ETFF-91-043-15	W-4315	76	0.14	0.25	6	Neg
ETFF-91-043-16	W-4316	76	<1	<1	6	Neg
EKEH-91-249-05	W-4905	70	0.2	0.24	5	Neg
ETFF-91-155-01	W-5501	76	2	>350	6	Neg
WTF9-91-157-03	W-5703	64	1.2	5	4	Neg
WTF9-92-163-01	W-6301	76	0.2	1.2	7	Neg
WTF9-92-297-106	W-7106	64	0.3	<1	6	Neg
EKEH-91-172-21	W-7221	69	1	0.5	6	Neg
EKEH-91-172-24	W-7224	68	0.03	<0	6	Neg
WTF9-91-175-05	W-7505	64	0.2	<1	6	Neg
WTF9-91-175-09	W-7509	64	0.5	<2	4	Neg
WTF9-92-079-07	W-7907	70	<1	<1	5	Neg
EKEH-91-081-03	W-8103	70	0.1	<0.1	6	Neg
EKEH-91-081-04	W-8104	69	0.5	11	6	Neg
ETFF-92-184-01	W-8401	64	<1	0.3	4	Neg
ETFF-91-085-11	W-8511	76	5.24	0.5	7	Neg
WTF9-91-086-11	W-8611	68	0.18	<0	6	Neg
ETFF-91-087-03	W-8703	64	<1	<1	4	Neg
ETFF-91-087-11	W-8711	76	<1	<1	7	Neg
WKEH-91-290-29	W-9029	68	2.4	<0	6	Neg
WTF9-92-297-14	W-9714	76	<1	<1	7	Neg
WTF9-92-297-22	W-9722	68	0.04	<0	7	Neg
WTF9-92-297-71	W-9771	68	0.04	0.15	7	Neg
WTF9-92-297-72	W-9772	76	<1	<1	6	Neg
WTF9-92-297-73	W-9773	70	0.01	0.2	4	Neg
WTF9-92-297-74	W-9774	76	0.15	0.2	6	Neg

Notes: 1. The paint filter result "Neg" means that no liquid was observed.

APPENDIX C

1996 Quality Assurance Data

Comprised of 5 pages including the cover page

Glossary of Organic Data Reporting Qualifiers

- B-** Indicates the constituent was analyzed for and detected in the associated laboratory blank. This qualifier is applied by the laboratory. During the process of data validation this qualifier may be replaced by other appropriate qualifiers as defined by the validation procedures. The associated data should be considered usable for decision making purposes.
- U-** Indicates the constituent was analyzed for and not detected. The concentration reported is the sample quantitation limit corrected for aliquot size, dilution and percent solids (in the case of solid matrices) by the laboratory. The associated data should be considered usable for decision making purposes.
- UJ-** Indicates the constituent was analyzed for and not detected. Due to a minor quality control deficiency identified during data validation the concentration reported may not accurately reflect the sample quantitation limit. The associated data should be considered usable for decision making purposes.
- J-** Indicates the constituent was analyzed for and detected. This qualifier may be applied by the laboratory to indicate a concentration which is less than the contract required quantitation limit (CRQL) but greater than the instrument detection limit (IDL). During data validation this qualifier may be applied to indicate a minor quality control deficiency. However, in either case, the associated data should be considered usable for decision making purposes.
- NJ-** Indicates presumptive evidence of a constituent at an estimated value. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- N-** Indicates presumptive evidence of a constituent. This qualifier is normally applied to GC analysis data (such as organochlorine pesticide and PCB data). The associated data should be considered usable for decision making purposes.
- JN-** Indicates a tentatively identified compound (TIC) whose concentration and identification have been determined to be valid as a result of data validation. The associated data should be considered usable for decision making purposes.
- UJN-** Indicates a tentatively identified compound (TIC) that has been determined to be presumptive and valid (JN) in terms of identification and quantitation and has been qualified as undetected (U) due to associated blank contamination.
- UR-** Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.
- R-** Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

Variations in Sample Analysis Results taken from WSCF and Quanterra

WSCF: Packet#96001100-WSC-036

Quanterra Packet#W1088-QES-543

WSCF

Sample#	TCLP (ug/ml)
W-0291-3	Ba=.425
W-0048-3	Ba=.286
W-0283-3	Ba=.338
W-0943-3	Ba=.236

Sample#	Semi-Volatiles
W-0283-4	Benzo(b)Fluor.= 89 ug/mg Chrysene = 81 ug/mg

Quanterra

Sample#	TCLP (ug/l)
Q-0291-3	Ba=677.0
Q-0048-3	Ba=575.0
Q-0283-3	Ba=661
Q-0943-3	Ba= 396.0

Sample#	Semi-Volatiles
Q-0283-4	Benzo(b)Fluor.=99ug/L

Notes: 1. The chart is representative of analysis results reported by two laboratories.
for the purpose of comparing results.

2. The Waste Sampling & Characterization Facility (WSCF) results begin with "W",
while Quanterra results begin with "Q".

Field Duplicate Sample Data

Quantities Data (1996)

PC#	Sample #	Reactive CV	Reactive S	Aromatic	Barium	Calcium	Chromium	Lead	Silver	Sulfur	Mercury
WTF# 92-300-48	0-0048	8.77	U	U	U	U	U	U	U	U	U
ETTF# 90-0283	0-0283	8.74	U	U	U	U	U	U	U	U	U
ETTF# 90-0291	0-0291	8.9	U	U	U	U	U	U	U	U	U
ETTF# 90-0943	0-0943	7.56	U	U	U	U	U	U	U	U	U
Detection Limit	NA	NA	U	U	U	U	U	U	U	U	0.0002

PC#	Sample #	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead
WTF# 92-300-48	0-0048	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0283	0-0283	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0291	0-0291	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0943	0-0943	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	NA	U	U	U	U	U	U	U	U	U

PC#	Sample #	Barium	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead
WTF# 92-300-48	0-0048	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0283	0-0283	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0291	0-0291	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0943	0-0943	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	NA	U	U	U	U	U	U	U	U	U	U

PC#	Sample #	1,1,1-Trichloroethane	Acetone	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	Barium	Chromium	Lead	Chromium	Lead	Chromium	Lead
WTF# 92-300-48	0-0048	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0283	0-0283	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0291	0-0291	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0943	0-0943	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	NA	U	U	U	U	U	U	U	U	U	U

PC#	Sample #	1,1-Dichloroethene	Trichloroethene	Trichloroethene	1,2-Dichloroethane	2,4-D	2,4,5-TP	Chromium	Lead	Chromium	Lead	Chromium	Lead
WTF# 92-300-48	0-0048	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0283	0-0283	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0291	0-0291	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0943	0-0943	U	U	U	U	U	U	U	U	U	U	U	U
Trp Blank	0-0943	U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	NA	U	U	U	U	U	U	U	U	U	U	U

PC#	Sample #	Aromatic	Barium	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead
WTF# 92-300-48	0-0048	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0283	0-0283	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0291	0-0291	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0943	0-0943	U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	NA	U	U	U	U	U	U	U	U	U	U	U

PC#	Sample #	Antimony	Barium	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead
WTF# 92-300-48	0-0048	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0283	0-0283	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0291	0-0291	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0943	0-0943	U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	NA	U	U	U	U	U	U	U	U	U	U	U

PC#	Sample #	Antimony	Barium	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead	Chromium	Lead
WTF# 92-300-48	0-0048	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0283	0-0283	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0291	0-0291	U	U	U	U	U	U	U	U	U	U	U	U
ETTF# 90-0943	0-0943	U	U	U	U	U	U	U	U	U	U	U	U
Detection Limit	NA	NA	U	U	U	U	U	U	U	U	U	U	U

Notes: 1. All inorganic results are reported in micrograms per kilogram (ug/kg) unless otherwise stated.
2. All inorganic results are reported in micrograms per liter (ug/L) except PCP results are reported in micrograms per gram (ug/g).
3. Cyanide & Sulfide are reported in milligrams per kilogram (mg/kg).

APPENDIX D

1992 Laboratory Results

Comprised of 3 pages including the cover page

Glossary of Organic Data Reporting Qualifiers

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- UR-** Indicates the constituent was analyzed for and not detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.
- R-** Indicates the constituent was analyzed for and detected. The concentration reported has been qualified as unusable due to a major quality control deficiency identified during data validation. The associated data should be considered unusable for decision making purposes.

HNF-SD-WM-TD-018
Rev. 0

[illegible]

APPENDIX E

1996 Calculations

Comprised of 6 pages including the cover page

Chemical Name	Calculation of Weight%	Weight%
Acenathene	.040 mg/kg / 10,000 = .000004%	0.000004%
Anthracene	.12 mg/kg / 10,000 = .000012%	0.000012%
Benzo(a)anthracene	.29 mg/kg / 10,000 = .000029%	0.000029%
Benzo(a)pyrene	.16 mg/kg / 10,000 = .000016%	0.000016%
Benzo(b)fluoranthene	.16 mg/kg / 10,000 = .000016%	0.000016%
Benzo(g,h,i)perylene	.063 mg/kg / 10,000 = .0000063%	0.0000063%
Benzo(k)fluoranthene	.069 mg/kg / 10,000 = .0000069%	0.0000069%
Chrysene	.440 mg/kg / 10,000 = .000044%	0.000044%
Dibenz(a,h)anthracene	.049 mg/kg / 10,000 = .0000049%	0.0000049%
Fluoranthene	.35 mg/kg / 10,000 = .000035%	0.000035%
Fluorene	.049 mg/kg / 10,000 = .0000049%	0.0000049%
Indeno(1,2,3-c,d) pyren	.049 mg/kg / 10,000 = .0000049%	0.0000049%
Phenanthrene	.740 mg/kg / 10,000 = .000074%	0.000074%
Pyrene	.9 mg/kg / 10,000 = .00009%	0.00009%
Total PAH%		0.0003479%

Note: Total PAH% is the sum of the weight percent of the constituents.

Chemical Name	Calculation of Weight%	Weight%
2,4-D	.011 mg/kg / 10,000 = .0000011%	0.0000011%
Methyl Ethyl Ketone	.006 mg/kg / 10,000 = .0000006%	0.0000006%
Methyl Isobutyl Ketone	.032 mg/kg / 10,000 = .0000032%	0.0000032%
PCBs	79 mg/kg / 10,000 = .0079%	0.0079%
2,4,5-TP (Silvex)	.007 mg/kg / 10,000 = .0000007%	0.0000007%
Total HH%		0.0079056%

Metals & Organics

Chemical Name	Maximum Result
Acetone	88 ug/kg x mg/1000 ug = .088 mg/kg
Barium	.677 ug/ml x mg/1000 ug x 1000 ml/L = .677 mg/L
Chromium	.166 ug/ml x mg/1000 ug x 1000 ml/L = .166 mg/L
o-Cresol & m-Cresol	53 ug/mg x mg/ 1000 ug = .053 mg/kg
Lead	2.99 ug/ml x mg/1000 ug x 1000 ml/L = 2.99 mg/L
Mercury	11 ug/ml x mg/1000 ug x 1000 ml/L = 11 mg/L
Methylene Chloride	3 ug/kg x mg/1000 ug = .003 mg/kg
Silver	.086 ug/ml x mg/1000 ug x 1000 ml/L = .086 mg/L

SOLID WASTE ENGINEERING ANALYSIS

HAZARDOUS ANALYSIS SMART (HAS) SYSTEM
HAS SYSTEM REPORT FOR REQUEST # BACKLOG

PAGE - 1

CURRENT DATE -- 2/18/97

MATERIAL -- EQUIVALENT CONCENTRATIONS FOR HALOGENATED HYDROCARBONS, POLYAROMATIC HYDROCARBONS AND ORGANICS

ANALYSIS DATE - 12/20/96

CONTAINER -

WASTE PHYSICAL STATE - L

TC PHYSICAL STATE - L

pH - DESIGNATOR - CLJ
FLASHPOINT - °F WASTE WEIGHT - K
DENSITY - g/CC WASTE STATUS -

CONSTITUENT LIST FOR ITEM #2-EC&HHPERCENT

CAS# MSDS#/RGN	CHEMICAL NAME	WEIGHT PERCENT	TOX	EC #	PERS/ LDR	SOURCES Use-Code-cls LDR (Ww/OT)	PRODUCT	D1	D2	D3	40 CFR	TOXICITY CHARACTERISTIC Code-DW conc. - LDR conc.	GENERAL INFORMATION
108-10-1 FORM-	4-METHYL-2-PENTANONE	.0000	D	.0000		S-F003-DW -DW	0.05ppm 0.33ppm	CODE - U161 CLASS - DW LDR-LDR- POISON -	I			- - -	RQ-2270 K FP-73 °F RD-5/17/95
TOT. % OF CHEM. IN WASTE MATRIX .0000												NOTES: 0.8 G/ML DOT NAME: METHYL ISOBUTYL KETONE	
120-12-7 FORM- 16	ANTHRACENE	.0000	N	0.0000	PAH	- - - -	CODE - CLASS - LDR- - POISON -					- - -	RQ-2270 K FP- °F RD-1/26/95
TOT. % OF CHEM. IN WASTE MATRIX .0000												NOTES:	
129-00-0 FORM-	PYRENE	.0001	D	.0000	PAH	- - - -	CODE - CLASS - LDR- - POISON -					- - -	RQ-2270 K FP- °F RD-10/25/94
TOT. % OF CHEM. IN WASTE MATRIX .0001												NOTES:	
1319-77-3 FORM- 31	CRESOL	.0000	D	.0000		S-F004-DW -DW	2.82ppm 0.75ppm	CODE - U052 CLASS - DW LDR-LDR- POISON -	X			D026-200 ppm - - -200 ppm	RQ-454 K FP- °F RD-1/09/95
TOT. % OF CHEM. IN WASTE MATRIX .0000												NOTES: 1.04 G/ML	
1336-36-3 FORM-	POLYCHLORINATED BIPHENYLS	.0079	D	.0000	HH LDR	- - - -	CODE - CLASS - LDR- - POISON -					- - -	RQ-0.454 K FP-368 °F RD-05/22/96
TOT. % OF CHEM. IN WASTE MATRIX .0079												NOTES:	
191-24-2 FORM-	BENZO (GHI) PERYLENE	.0000	N	0.0000	PAH	- - - -	CODE - CLASS - LDR- - POISON -					- - -	RQ-2270 K FP- °F RD-12/30/94
TOT. % OF CHEM. IN WASTE MATRIX .0000												NOTES:	
193-39-5 FORM-	INDENO(1,2,3-cd)PYRENE	.0000	N	0.0000	PAH	- - - -	CODE - U137 CLASS - DW LDR-LDR- POISON -					- - -	RQ-45.4 K FP- °F RD-9/26/94
TOT. % OF CHEM. IN WASTE MATRIX .0000												NOTES:	
205-99-2 FORM-	BENZ(e)ACEPHENANTHR YLENE	.0000	N	0.0000	PAH	- - - -	CODE - CLASS - LDR- - POISON -					- - -	RQ-.454 K FP- °F RD-9/26/94
TOT. % OF CHEM. IN WASTE MATRIX .0000												NOTES:	

HAS SYSTEM REPORT FOR REQUEST # BACKLOG

PAGE - 2

CURRENT DATE -- 2/18/97

MATERIAL -- EQUIVALENT CONCENTRATIONS FOR HALOGENATED HYDROCARBONS, POLYAROMATIC HYDROCARBONS AND ORGANICS

ANALYSIS DATE - 12/20/96

CONTAINER -

WASTE PHYSICAL STATE - L

TC PHYSICAL STATE - L

pH -
 FLASHPOINT - °F
 DENSITY - g/CC

DESIGNATOR - CLJ
 WASTE WEIGHT - K
 WASTE STATUS -

CONSTITUENT LIST FOR ITEM #2-EC&HPERCENT

CAS# MSDS#/RGN	CHEMICAL NAME	WEIGHT PERCENT	TOX	EC %	PERS/ LDR	SOURCES		PRODUCT	40 CFR			TOXICITY CHARACTERISTIC		GENERAL INFORMATION
						Use-Code-cls	LDR (WW/OT)		D1	D2	D3	Code-DW conc. -	-LDR conc. -	
206-44-0 FORM- TOT. % OF CHEM. IN WASTE MATRIX	FLUORANTHENE	.0000	D	.0000	PAH	- -		CODE - U120 CLASS - DW LDR-LDR- POISON -				- - - - - - - - -		RQ-45.4 K FP- °F RD-1/26/95
		.0000										NOTES:		
207-08-9 FORM- TOT. % OF CHEM. IN WASTE MATRIX	BENZO (K) FLUORANTHENE	.0000	N	0.0000	PAH	- - - -		CODE - CLASS - LDR- - POISON -				- - - - - - - - -		RQ-2270 K FP- °F RD-1/26/95
		.0000										NOTES:		
218-01-9 FORM- 16 TOT. % OF CHEM. IN WASTE MATRIX	CHRYSENE	.0000	N	0.0000	PAH	- - - -		CODE - U050 CLASS - DW LDR-LDR-1 POISON -				- - - - - - - - -		RQ-45.4 K FP- °F RD-1/26/95
		.0000										NOTES:		
50-32-8 FORM- 16 TOT. % OF CHEM. IN WASTE MATRIX	BENZO (A) PYRENE	.0000	N	0.0000	PAH	- - - -		CODE - U022 CLASS - DW LDR-LDR-1 POISON -				- - - - - - - - -		RQ-.454 K FP- °F RD-12/30/94
		.0000										NOTES:		
53-70-3 FORM- TOT. % OF CHEM. IN WASTE MATRIX	DIBENZANTHRACENE, 1,2,5,6-	.0000	N	0.0000	PAH	- - - -		CODE - U063 CLASS - AHW LDR-LDR-1 POISON -				- - - - - - - - -		RQ-.454 K FP- °F RD-12/30/94
		.0000										NOTES:		
56-55-3 FORM- TOT. % OF CHEM. IN WASTE MATRIX	BENZ(a)ANTHRACENE	.0000	N	0.0000	PAH	- - - -		CODE - U018 CLASS - DW LDR-LDR- POISON -				- - - - - - - - -		RQ-4.54 K FP- °F RD-1/26/95
		.0000										NOTES:		
67-64-1 FORM-L 19 TOT. % OF CHEM. IN WASTE MATRIX	ACETONE	.0000	N	0.0000		S-F003-DW -DW	0.05ppm 0.59ppm	CODE - U002 CLASS - DW LDR-LDR-1 POISON -	I			- - - - - - - - -		RQ-2270 K FP-0 °F RD-11/2/95
		.0000										NOTES:0.79 G/ML		
75-09-2 FORM-L TOT. % OF CHEM. IN WASTE MATRIX	DICHLOROMETHANE	.0000	D	.0000	HH	D-F001-DW S-F002-DW	0.20ppm 0.96ppm	CODE - U080 CLASS - DW LDR-LDR- POISON -				- - - - - - - - -		RQ-454 K FP- °F RD-11/1/95
		.0000										NOTES:1.33 G/ML DOT NAME: METHYLENE CHLORIDE		

HAS SYSTEM REPORT FOR REQUEST # BACKLOG

CURRENT DATE -- 2/18/97

MATERIAL -- EQUIVALENT CONCENTRATIONS FOR HALOGENATED HYDROCARBONS, POLYAROMATIC HYDROCARBONS AND ORGANICS

ANALYSIS DATE - 12/20/96

CONTAINER -

WASTE PHYSICAL STATE - L

TC PHYSICAL STATE - L

pH - DESIGNATOR - CLJ
 FLASHPOINT - °F WASTE WEIGHT - K
 DENSITY - g/CC WASTE STATUS -

CONSTITUENT LIST FOR ITEM #2-EC&HHPERCENT

CAS# MSDS#/RGN	CHEMICAL NAME	WEIGHT PERCENT	TOX	EC #	PERS/ LDR	SOURCES		PRODUCT	40 CFR			TOXICITY CHARACTERISTIC		GENERAL INFORMATION
						Use-Code-cls	LDR (WW/OT)		D1	D2	D3	Code-DW conc.-	-LDR conc.	
78-93-3 FORM-L 19 TOT. % OF CHEM. IN WASTE MATRIX	METHYL ETHYL KETONE	.0000	D	.0000		S-F005-DW - -DW	12.7ppm 0.96ppm	CODE - U159 CLASS - DW LDR-LDR-1 POISON -	I			D035-200 ppm - - -200 ppm		RQ-2270 K FP-26 °F RD-9/20/94
83-32-9 FORM- 16 TOT. % OF CHEM. IN WASTE MATRIX	ACENAPHTHENE	.0000	N	0.0000	PAH	- - - -		CODE - CLASS - LDR- POISON -				- - - -	-	RQ-45.4 K FP- °F RD-3/28/95
85-01-8 FORM- TOT. % OF CHEM. IN WASTE MATRIX	PHENANTHRENE	.0001	N	0.0000	PAH	- - - -		CODE - CLASS - LDR- POISON -				- - - -	-	RQ-2270 K FP- °F RD-1/26/95
86-73-7 FORM- TOT. % OF CHEM. IN WASTE MATRIX	FLUORENE	.0000	N	0.0000	PAH	- - - -		CODE - CLASS - LDR- POISON -				- - - -	-	RQ-2270 K FP- °F RD-1/10/95
93-72-1 FORM-S TOT. % OF CHEM. IN WASTE MATRIX	2,4,5-TP SILVEX	.0000	D	.0000	HH LDR	O-F027-DW - -DW	N/A NONE	CODE - CLASS - LDR- POISON -				D017-1 ppm - - -1 ppm		RQ-45.4 K FP-NONE °F RD-11/13/95
GCN001 FORM- TOT. % OF CHEM. IN WASTE MATRIX	REMAINDER NON- HAZARDOUS PER THE MANUFACTURER	100.0000	N	0.0000		- - - -		CODE - CLASS - LDR- POISON -				- - - -	-	RQ-NONE K FP- °F RD-10/24/91

HAS SYSTEM REPORT FOR REQUEST # BACKLOG

CURRENT DATE -- 2/18/97

MATERIAL -- EQUIVALENT CONCENTRATIONS FOR HALOGENATED HYDROCARBONS, POLYAROMATIC HYDROCARBONS AND ORGANICS

ANALYSIS DATE -- 12/20/96

CONTAINER -

WASTE PHYSICAL STATE - L

TC PHYSICAL STATE - L

pH - DESIGNATOR - CLJ
 FLASHPOINT - °F WASTE WEIGHT - K
 DENSITY - g/cc WASTE STATUS -

CONSTITUENT LIST FOR ITEM #2-EC&HHPERCENT

CAS# MSDS#/RGN	CHEMICAL NAME	WEIGHT PERCENT	TOX	EC %	PERS/ LDR	SOURCES Use-Code-cls LDR (WM/OT)	PRODUCT	40 CFR D1 D2 D3	TOXICITY CHARACTERISTIC Code-DW conc. - LDR conc.	GENERAL INFORMATION
CONSTITUENT SUMX 100.0083									TC Codes _____	
WAC-173-303-101 Total ECX .00000									DW _____	
ECX ≥ 1% WT01-EHW 0.001% ≤ ECX < 1% WT02-DW _____									LDRs _____	
No Data _____ or ECX < 0.001% Non-Reg. _____						Flashpoint (FP) < 140°F IGNITABLE (I) _____ OXIDIZER (O) _____			WAC 173-303-090, 8	
HH > 1.0%, WP01-EHW _____ 0.01% ≤ HH ≤ 1.0%, WP02-DW _____						If RCRA D001, see Note* WAC-173-303-090, 5 (Always LDR) D001-DW _____			WASTE SHIPPING SUMMARY	
PAH > 1.0%, WP03-EHW _____ Non-regulated _____						pH ≤ 2 or pH ≥ 12.5 (Liquids LDR) D002-DW _____ WAC-173-303-090, 6 (Solids Only) WSC2 _____			DOT Reg. _____ Is Waste RQ? _____	
WAC-173-303-102 (LDR-Land Ban HH > 1000 ppm If Fed. Reg.)						WAC-173-303-090, 7 (Always LDR) D003-DW _____			TSCA Reg. _____ RCRA Reg. _____ State Reg. _____	
40 CFR 268.32 (LDR-Land Ban CL ≥ 1000 ppm If Fed. Reg.)										
» » Exclude all State Waste Codes except W001 and WSC2 if » »										
» » Federal Waste Codes Apply » »										
DESIGNATION INFORMATION FOR ITEM # 2-EC&HHPERCENT OF REQUEST #BACKLOG										
APPLICABLE WASTE CODES _____				WASTE CLASS _____			LDR CODES _____			
PROPER SHIPPING NAME _____				HAZARD CLASS _____			DOT ID NO _____			
LABELS _____				PACKAGING REQUIREMENTS _____			PG _____			
SHIP TO _____				CELL (IF APPLICABLE) _____						

* Reference 49 CFR 173.120, and 173.121 for DOT Proper Shipping Name and Packing Group

z Halogenated Hydrocarbons (HH) not applicable per the testing method described in WAC 173-303-110

CL California List Halogenated Organic Compounds subject to LDR if concentration of CL compound ≥ 1000 ppm and RCRA hazardous waste