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SOIL SAMPLING AND ANALYSIS

AUG 2.6 1991 BUREAU OF SOLID . MAZARDOUS WASTE MANAGEMENT

Container Storage/Tanker Storage Areas and Area Adjacent to Incinerators Saukville, Wisconsin Cook Composites and Polymers Co.

Prepared for:

COOK COMPOSITES AND POLYMERS CO. Saukville, Wisconsin

Prepared by:

HATCHER-SAYRE, INC. Richmond, Virginia

Job No. 0001-001

August, 1991



HATCHER-SAYRE, INC.



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Wisconsin Department of Natural Resources Hazardous Waste Management Section 101 S. Webster Street, GEF II P. O. Box 7921 Madison, Wisconsin 53707-7921

1777-9-17 779 2000 B

Attn: Mrs. Jill Fermanich Hydrogeologist

> Re: Soil Sampling and Analysis Report, Cook Composites and Polymers Co. Saukville, Wisconsin Job No. 0001-001

Dear Mrs. Fermanich:

Please find three (3) copies of the above referenced report enclosed. If you need any additional information, please call me.

Sincerely,

HATCHER-SAYRE, INC.

one J

Robert D. Money, P.G. Project Hydrogeologist

RDM/sp ferman.ltr Enclosures

cc: Mr. Craig Bostwick, Cook Composites and Polymers Co. (2 copies of report)

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SOIL SAMPLING AND ANALYSIS CONTAINER STORAGE AND TANKER STORAGE AREAS, AND AREA ADJACENT TO INCINERATORS

1.0 INTRODUCTION

This sampling and analysis report is submitted in response to the request from Wisconsin Department of Natural Resources for additional subsurface investigations in the Incinerator Area of the Cook Composites and Polymers Co. (formerly Freeman Chemical Corporation) Saukville Facility. The Site Location Map is presented as Figure 1 and the General Site Plan is shown as Figure 2. Background information regarding waste handling/ storage conducted at the facility is included in the Draft Closure Plan Amendment Interim-Licensed Hazardous Waste Incineration and Storage facility document submitted by Hatcher-Sayre, Inc. on May 10, 1990 to the Wisconsin Department of Natural Resources.

The purpose of this investigation is three fold. Based upon correspondence and meetings with the Wisconsin Department of Natural Resources (WDNR), Cook Composites and Polymers Co. (CCP) and Hatcher-Sayre, Inc. the following issues are to be addressed:

- 1. Establish the extent of contamination within the Incinerator Area and comparison of the chemical data collected to background soil conditions within the Incinerator Background Area.
- 2. Analyze for the presence of other organic compounds in addition to the indicator parameters within the immediate vicinity of the incinerator.
- 3. Investigate the physical characteristics of the soils within the Incinerator Area and develop a pilot study plan for potential remedial actions.

The following sections provide the details of the results of the Soil Sampling and Analysis Plan for the Incinerator Area which was submitted and subsequently approved by the WDNR in May, 1991.





2.0 SAMPLING AND ANALYSIS

The sampling and analysis procedures described below were used to 1) establish the extent of contamination in the Incinerator Area, 2) identify target compound list (TCL), volatile and semivolatile organic parameters in the immediate vicinity of the old incinerator and 3) gather data on the physical characteristics of the soils in the Incinerator Area for subsequent remedial activities pilot study. Each of these three issues are addressed in the following sections.

2.1 Soil Sampling Methodology

In order to obtain the information necessary to establish the vertical and horizontal extent of contamination in the Incinerator Area and to establish background soil conditions, stratified soil sampling was conducted. The boring/sample locations are shown on Figure 3. The sample location grid was established using 40 foot centers on an area of 280 feet by 200 feet. This grid is based upon WDNR guidance for areal sampling. This area is referred to as the Incinerator Area Background or Background Area, the center of which is located near MW-47. As shown on Figure 3, eight (8) background soil boring locations are identified. The area referred to as the Incinerator Area, lies within the Background Area and has the dimensions of 200 feet by 140 feet. Eight (8) soil boring locations are identified on Figure 3. Prior to boring/sampling activities, the grid described above was established on-site with the boring locations marked.

Four (4) soil samples were collected from each boring at depths (centers) of two (2), five (5), eight (8) and ten (10) feet below ground surface, for subsequent chemical analyses as discussed below. The samples were obtained by using a drilling rig equipped with solid-stem continuous flight augers to drill to the appropriate sampling depth. Split-spoon samplers were used to collect soil samples from each boring at the following intervals:



1.5 to 3 feet, 4.5 to 6 feet, 7.5 to 9 feet and 9.5 to 11 feet. Inorder to obtain enough sample at each interval, the required volume of soil for the analytical testing was removed from the split-spoon sampler at equal lengths (if possible) from the previously described depths (centers) of two, five, eight and ten feet. For health and safety precautions, the samples were monitored for volatile organic compounds (VOCs) as they were logged in the field using a HNU brand photoionization detector (PID) equipped with an 9.8 eV probe. The boring logs are presented as Appendix A. These samples were containerized in the appropriate sample containers immediately, labelled, placed in a cooler and maintained at the required temperature (4°C).

Following sample collection and containerization, the sample shuttles were delivered following chain of custody procedures to Wadsworth/Alert Laboratories, Inc. in North Canton, Ohio. Specific protocols concerning sample integrity are discussed in a subsequent section.

The equipment decontamination procedures used during the sampling program were as follows:

- a. The auger flights were steam cleaned between borings or before reuse.
- b. The split-spoon samplers were cleaned between sample intervals or before reuse using a soapy (alconox) water solution and rinsed with tap water and finally rinsed in distilled water and air dried.

2.2 <u>Chemical Analyses</u>

In order to establish the presence of chemical parameters in the Incinerator Area and the Background Area, soil samples were analyzed by SW846-Method 8020. This method is used to quantify the concentrations of various aromatic VOCs by gas chromatography (GC)/photoionization detector (PID). The rationale behind using SW846-Method 8020 is based upon the knowledge of the CCP site conditions. The current groundwater monitoring program conducted

quarterly at CCP Saukville Plant, which includes analytical testing by both EPA Method 602 (aromatic VOCs) and EPA Method 624 (VOCs), generally show the greatest concentrations of VOCs present on-site are benzene, toluene, ethylbenzene and xylenes (BTEX).

The concentrations of the VOCs detected in the Background and Incinerator Area soil samples for each sampling depth are listed in Tables 1, 2, 3 and 4 for sample intervals of 1.5 to 3, 4.5 to 6, 7.5 to 9 and 9.5 to 11 feet, respectively. The Certificates of Analysis and Chain of Custody are presented as Appendix B.

Benzene was not detected in the soil samples collected from the Incinerator Area. Two detections of benzene were recorded in the Background Area, both in BI-6 at 0.004 mg/kg at the eight (8) feet depth and at 0.01 mg/kg at the ten (10) feet depth. In general, the concentrations of BTEX were below a concentration of one (1) mg/kg individually or collectively in the Background Area samples.

The greatest concentration of total VOCs in the Incinerator Area samples occurred in I-1, I-3, I-4, I-5 and I-7 at the five (5) feet depth interval. This is the area immediately adjacent to the location of the previously operating incinerator. Xylene concentrations range from 890 mg/kg at I-5 to 12,000 mg/kg at I-3 (at the five (5) feet depth in the above listed borings). Borings I-3 and I-4 were located nearest to the old incinerator location.

In order to establish the presence of other organic compounds in the Incinerator Area, four (4) stratified soil samples from one boring (I-4) in the immediate vicinity of the Incinerator were analyzed for VOCs (SW846-Method 8240), semi-volatile organic compounds (SVOCs) by SW846-Method 8270 and a library search of unknown compounds. The library search identified the ten highest unknown concentration peaks found during Method 8240 and the twenty highest unknown concentration peaks found during Method 8270 analyses.

Tables 5, 6, 7 and 8 list the parameters detected in the soil samples collected from I-4 (in addition to the VOCs discussed

Analytical Results of Soil Samples from 1.5' - 3.0' Depth

Inciner	ator Area	VOCs Detected (mg/kg)				
Boring/Sample I.D.		<u>Benzene</u>	<u>Toluene</u>	Ethylbenzene	Xylenes	
I-1	3915	<0.4*	<0.4	2.1	11	
I-2	3919	<0.9	<0.9	2	<0.9	
I-3	3926	<22	74	160	740	
I-4**	3930	<6.3	25	74	360	
I-5	3934	<10	<10	50	260	
I-6	3940	<0.002	<0.002	<0.002	0.006	
I-7	3944	<0.018	<0.018	0.026	0.62	
I-8	3950	<0.004	<0.004	<0.004	0.016	

Background Area

The second secon

BI-1	3878	<0.004	<0.004	<0.004	<0.004
BI-2	3882	<0.024	<0.024	0.04	0.79
BI-3	3886	<0.004	<0.004	0.019	0.19
BI-4	3892	<0.004	<0.004	0.009	0.17
BI-5	3895	<0.004	<0.004	0.033	0.31
BI-6	3901	<0.004	<0.004	<0.004	<0.004
BI-7	3905	<0.004	<0.004	<0.004	<0.004
BI-8	3909	<0.004	<0.004	0.031	0.15

Denotes less than listed detection limit.
See Table 5 for results of other tests.

Analytical Results of Soil Samples from 4.5' - 6.0' Depth

Incinerator Area			VOCs Detected (mg/kg)				
Boring/Sample I.D.		<u>Benzene</u>	<u>Toluene</u>	Ethylbenzene	<u>Xylenes</u>		
I-1	3916	<74*	1200	1400	7000		
I-2	3920	<0.3	<0.3	<0.3	2.6		
I-3	3927	<430	1300	3000	12000		
I-4**	3931	<63	60	460	240		
I-5	3935	<20	<20	50	890		
I-6	3941	<0.002	<0.002	<0.002	4		
I-7	3945	<180	<180	930	6400		
I-8	3951	<0.004	<0.004	<0.004	<0.004		

Background Area

BI-1	3879	<0.004	<0.004	<0.004	<0.004
BI-2	3883	<0.004	<0.004	0.02	0.26
BI-3	3887	<0.004	<0.004	<0.004	<0.004
BI-4	3893	<0.004	<0.004	<0.004	<0.004
BI-5	3897	<0.004	<0.004	<0.004	<0.004
BI-6	3902	<0.004	<0.004	<0.004	0.008
BI-7	3906	<0.013	<0.013	0.013	0.008
BI-8	3910	<1.2	5.2	16	83

Denotes less than listed detection limit.
** See Table 6 for results of other tests.

Analytical Results of Soil Samples from 7.5' - 9.0' Depth

Incinera	ator Area	VOCs Detected (mg/kg)					
Boring/Sample I.D.		<u>Benzene</u>	<u>Toluene</u>	Ethylbenzene	<u>Xylenes</u>		
I-1	3917	<1*	2.6	3.5	20		
I-2	3921	<0.025	<0.025	<0.025	93		
I-3	3928	<9	23	76	300		
I-4**	3932	<1.6	1.8	11	93		
I-5	3938	<1.5	1.7	7.9	61		
I-6	3942	<0.002	0.003	0.003	0.014		
I-7	3946	<2	<2	14	96		
I-8	3952	<0.2	0.2	1.5	5		

Background Area

BI-1	3880	<0.004	<0.004	<0.004	<0.004
BI-2	3884	<0.004	0.006	0.12	0.14
BI-3	3890	<0.004	<0.004	<0.004	<0.004
BI-4	3894	<0.004	<0.004	<0.004	<0.004
BI-5	3898	<0.004	0.004	<0.004	0.011
BI-6	3903	0.004	<0.004	<0.004	0.004
BI-7	3907	<1	<1	4.7	22
BI-8	3913	<1	4.6	4.1	19

Denotes less than listed detection limit.
See Table 7 for results of other tests.

Analytical Results of Soil Samples from 9.5' - 11.0' Depth

Incinera	ator Area	VOCs Detected (mg/kg)					
Boring/Sample I.D.		<u>Benzene</u>	<u>Toluene</u>	Ethylbenzene	<u>Xylenes</u>		
I-1	3918	<0.5*	3.6	6.8	40		
I-2	3923	<0.002	0.007	0.002	0.01		
I-3	3929	<9	30	76	290		
I-4**	3933	<1.3	2.5	11	82		
I-5	3939	<2.4	<2.4	8.2	43		
I-6	3943	<0.002	0.009	0.006	0.029		
I-7	3948	<13	<13	92	670		
I-8	3953	<0.2	<0.2	1.6	5.1		

Background Area

BI-1	3881	<0.004	<0.004	<0.004	<0.004
BI-2	3885	<0.2	0.3	4.8	7.7
BI-3	3891	<0.004	<0.004	<0.004	<0.004
BI-4***	-		-	-	-
BI-5	3898	<0.004	<0.004	<0.004	<0.004
BI-6	3904	0.01	<0.004	<0.004	<0.004
BI-7	3908	<1	<1	9.8	40
BI-8	3914	<0.5	19	6.3	24

* Denotes less than listed detection limit.

** See Table 8 for results of other tests.

*** No sample obtained at this depth due to auger and sampler refusal.

Results of Expanded Analysis for I-4 from 1.5' - 3.0' Depth

Compound	<u>Concentrations (mg/kg)</u>
Bis (2-ethylhexyl) phthalate 1,2-Dichlorobenzene 2-Methylnaphthalene Naphthalene Phenanthrene	$0.4^{J,B} \\ 11.0 \\ 0.770^{J} \\ 5.8 \\ 0.25^{J} \\ \end{bmatrix}$
UAH*	20.0
UAH Цан	40.0
UAH	10.0
UALH**	20.0
UAH	10.0
UAH	9.0
Hexadecanoic acid	10.0
UK***	20.0
UK	7.0
UK	6.0
UK	8.0
UK	7.0
UK	10.0
UALH	7.0
UAH	8.0
UK	5.0
UAH	6.0
Octadecanoic acid	2.0

* UAH denotes Unknown Aromatic Hydrocarbon.

** UALH denotes Unknown Aliphatic Hydrocarbon.

*** UK denotes Unknown.

^J (Detected, but below quantitation limit; estimated value) ^B (Compound detected in method blank associated with this sample).

Results of Expanded Analysis for I-4 from 4.5' - 6.0' Depth

Compound	<u>Concentration (mg/kg)</u>
2-Methylnaphthalene	0.830 ¹
Naphthalene	3.9
UAH*	10.0
Benzene, (1-methylethyl) -	30.0
Benzene, 1-ethyl-2-methyl-	20.0
Benzene, 1-ethyl-4-methyl-	10.0
Benzene, (1-methylethenyl)-	100.0
Trimethyl benzene isomer	20.0
UAH	20.0
UK***	5.0
UK	4.0

* UAH denotes Unknown Aromatic Hydrocarbon.

** UALH denotes Unknown Aliphatic Hydrocarbon.

- *** UK denotes Unknown.
- ¹ (Detected, but below quantitation limit; estimated value)

^B (Compound detected in method blank associated with this sample).

Results of Expanded Analysis for I-4 from 7.5' - 9.0' Depth

Compound	<u>Concentration</u>	(mg/kg)
Trimethyl benzene isomer	1.6	
Di-n-butl phthalate	0.24	
Benzoic Acid	12.0	
Phenol	4.4	
Dimethyl benzene isomer	50.0	
Dimethyl benzene isomer	20.0	
1,3-Propanediol, 2,2-dimethyl-	20.0	
Trimethyl benzene isomer	2.0	
UK***	8.0	
UK	2.0	
UK	10.0	
1-Propanol, 2-(2-hydroxypropoxy)-	10.0	
1,3-Propanediol, 2-ethyl-2-(hydroxymethy	yl)- 9.0	
UK	20.0	
Ethyl methyl benzene isomer	3.0	
UK	3.0	
UK	5.0	
UK	3.0	
UK	3.0	
UK	3.0	
UK	2.0	
UK	3.0	
UK	2.0	
UK	1.0	

* UAH denotes Unknown Aromatic Hydrocarbon.

** UALH denotes Unknown Aliphatic Hydrocarbon.

*** UK denotes Unknown.

^J (Detected, but below quantitation limit; estimated value) ^B (Compound detected in method blank associated with this sample).

Results of Expanded Analysis for I-4 from 9.5' - 11.0' Depth

Compound	<u>Concentrations (mg/kg)</u>
Di-n-butyl phthalate	0.44 ^{J,B}
Naphthalene	0.53 ¹
Benzoic Acid	23.0
Phenol	4.0
UK***	30.0
UK	20.0
UAH*	10.0
UALH**	10.0
Ethanol, 2,2'-oxybis-	10.0
UK	20.0
UK	10.0
UK	10.0
UK	40.0
UK	2.0
UK	2.0
UK	2.0
UK	1.0
UAH	3.0
UAH	6.0
UAH	5.0
UALH	2.0

* UAH denotes Unknown Aromatic Hydrocarbon.

** UALH denotes Unknown Aliphatic Hydrocarbon.

*** UK denotes Unknown.

^J (Detected, but below quantitation limit; estimated value) ^B (Compound detected in method blank associated with this sample).

previously) at sample depths of two (2), five (5), eight (8) and ten (10) feet, respectively. The compounds listed in these tables are most likely a result of one or more of the following:

- 1. byproducts of incomplete combustion
- 2. products of decomposition of process chemicals
- 3. various components of process chemicals

2.3 Quality Assurance/Quality Control

2.3.1 Field Records

A bound field notebook was kept during the entire sampling trip. Basic field measurements and conditions, the sequence of observations, field instrument calibration procedures, the names of the sampling team and sampling progress was recorded for later reference and documentation. The pages in the field notebook were numbered consecutively and each sampler signed the field notebook for verification of the entries. The field notebook will be kept in secured storage to maintain their integrity for future reference.

2.3.2 Sample Integrity

The field team leader was responsible for the care and custody of the samples collected until those samples were properly dispatched to the receiving laboratory or are transferred to an assigned custodian. The field team leader assured that each sample container was in his physical possession, in view at all times, or stored in a secure, locked, tamper-proof container for safekeeping.

A chain-of-custody record was completed for each sample batch and secured to the sealed sample cooler after the samples and blanks were collected/prepared. Each sample, field blank and trip blank custody change (e.g., from the field sampler to the laboratory) was documented on the chain-of-custody record.

2.3.3. Collection of Field Blanks, Field Duplicates and Trip Blanks

Field blanks and field duplicates were collected at a frequency of one for every ten samples. The field duplicates were of the same volume and containerized and labelled as the regular investigative samples. Field blanks were filled with deionized water at the location of the tenth sampling point. These blanks were obtained by routing deionized water through a decontaminated split-spoon sampler before filling the sample vials. The analytical results of the six (6) blanks and six (6) duplicates are presented in Appendix B. In general, the field duplicates agreed with the original samples collected, however, the sample showing the greatest concentrations of indicator parameters was used in Tables 1, 2, 3 and 4, the statistical calculations and in the construction of the isoconcentration maps.

The field blanks showed concentrations near the detection limit of 0.004 mg/l for toluene and xylenes. These results are listed in Appendix B.

Trip blanks were provided by the lab and accompanied each cooler containing VOC samples at the site and back to the lab. They were documented and analyzed in the same manner as the regular samples. The analytical results of the two (2) trip blanks are presented in Appendix B. Based upon the results of the Method 8240 testing, no VOCs were detected in either of these samples.

2.3.4 Sample Transportation

Transportation of samples was in sealed containers with ice to keep the samples and blanks cool (4°C). The ice was separately packaged in the container to preserve the integrity of the samples. Hatcher-Sayre, Inc. personnel shipped these collected samples, field blanks and trip blanks to Wadsworth/Alert Laboratories, Inc. by overnight air express. The reported holding times commenced on the day the sample was collected. This procedure assured that

Wadsworth/Alert had the samples no later than 3 days after sampling. This allowed adequate time to analyze the samples within the prescribed holding time.

2.3.5 Contract Laboratory QA/QC

Wadsworth/Alert Laboratories, Inc., North Canton, Ohio, is an EPA approved contract laboratory (CLP) for RCRA and Superfund sites. When samples arrived at the laboratory, they were logged in, the chain-of-custody form signed and the condition of the samples noted and recorded (i.e., any visible signs of tampering or damage).

The analytical methods used by the lab were EPA SW846 Method 8020, 8240 and 8270 as described previously. As part of their QA/QC Program, the lab included in the field sampling kits, water and containers for field blanks and trip blanks to be analyzed along with the other samples. Laboratory QA/QC procedures include using an extracted standard or spike as a quantitative check of the samples.

3.0 GEOLOGY AND HYDROGEOLOGY

3.1 <u>Geology</u>

The unconsolidated glacial deposits underlying the CCP Plant consist of silt, silty clay, sand and gravel. The geologic crosssections constructed from the boring logs presented in Appendix A are shown as Figure 4. The general stratigraphic profile in the Incinerator Area from surface to depth consists of 1 to 2 feet of gravel fill underlain by silt or silty clay with varying amounts of sand and gravel.

Classification tests were performed on six (6) split-spoon samples of soils considered generally representative of the soils underlying the Incinerator Area. Analyses were performed to establish the physical characteristics of the soils so that various remediation options can be evaluated during the next phase of work. These results are presented in Appendix C. Descriptions are in accordance with the Unified Soil Classification System.

Natural moisture content in the samples analyzed varied from 2.5% to 16% with moisture content increasing with increasing sample depth. Only two of the six samples were fine-grained. The samples are classified as silt (nonplastic) and silty clay (low plasticity). The gravel which contained varying concentrations of sand, silt and silty clay, contained predominantly nonplastic materials.

3.2 <u>Hydrogeology</u>

The CCP Saukville Plant current groundwater remediation program requires quarterly sampling to be conducted. As a result of these activities, the potentiometric surface has been mapped for the glacial aquifer quarterly since 1988. The potentiometric surface map for the Summer Quarterly Sampling event conducted during the week of July 8, 1991 (concurrent with the Incinerator Area sampling activities) is shown as Figure 5.





Groundwater flow within the glacial aquifer is to the eastsoutheast toward the Milwaukee River. In the Incinerator Area, i.e. in the area around Well 47, the elevation of potentiometric surface is between 760 and 765 feet above mean sea level (AMSL) or approximately ten feet below the land surface (bls).

4.0 EXTENT OF CONTAMINATION

4.1 <u>Statistical Analyses</u>

In order to establish the relationship of the Background soils to the soils in the Incinerator Area, a non-parametric statistical test was performed on these independent data sets. The comparison of these data sets were performed based upon the sample interval, i.e. Background soils at two feet in depth were compared with the Incinerator Area soils at two feet in depth. Statistical tests were performed for BTEX parameters with non-detectable levels given a concentration of one-half the limit of detection. The statistical test used for comparison of Incinerator Area soils to the Background soils was the Wilcoxon Rank Sum Test (WRST).

The number of data for both sample sets (i.e., Incinerator Area and Background) was eight (8) or less. Gilbert $(1987)^1$ recommends the use of the exact WRST method for comparing populations when less than ten (10) data points are available in one or both populations. The WRST method utilized for this comparison is described in detail in Hollander and Wolf $(1973)^2$. The null hypothesis (no difference in population means) was tested against the alternative hypothesis (the populations have different means) for each of the four BTEX components and at each stratigraphic level. The results of the statistical analyses are detailed in Appendix D. In general, the results of the WRST Method indicate that the Incinerator Area soils have larger concentrations of BTEX than the Background Area soils at all stratigraphic levels.

¹ Gilbert, R.O., 1987. Statistical Methods For Environmental Pollution Monitoring. Von Nostrand Reinhold, New York, pp. 247-250.

² Hollander, M. and D. A. Wolfe, 1973. Nonparametric Statistical Methods. Wiley, New York, pp. 67-75 and Table A.5.

4.2 Isoconcentration Maps

The isoconcentration maps of total BTEX for the Background and Incinerator Area stratigraphic levels of two (2), five (5), eight (8) and ten (10) feet bls are included as Appendix E. Because of the similarity between the isoconcentration maps for the individual BTEX parameters, total BTEX was used for this report. WDNR representatives concurred to this approach on August 14, 1991. The greatest concentrations of BTEX are located adjacent to Borings I-3 and I-4 and as discussed previously, the 4.5 to 6.0 feet interval shows the greatest concentrations within the Incinerator Area. This is the area adjacent to the old incinerator location. The concentrations of total BTEX generally decrease dramatically within radius the old incinerator location а 40 feet from to concentrations of less than 1 mg/kg.

5.0 CONCLUSIONS

Based upon the information gathered during the field activities and laboratory analyses conducted during this investigation, the following conclusions are presented:

- Concentrations of indicator parameters (BTEX) in the Incinerator Area are significantly (statistically) greater than the Background Area.
- 2. Additional chemical compounds were detected in the samples collected immediately adjacent to the old incinerator location.
- 3. The concentration gradient associated with the Incinerator Area investigation shows a sharp decrease in BTEX concentrations within a 40 feet radius from the old incinerator location.
- 4. The concentrations of BTEX generally decrease with increasing depth from the land surface with the greatest concentrations found at five feet in depth in the Incinerator Area.
- 5. The unconsolidated glacial deposits underlaying the Plant consist of silty clay to gravel.
- 6. Based upon the physical characteristics of selected soil samples, a soil vapor extraction/enhanced bioremediation program is a potential remedial actions alternative. The feasibility of the system will be addressed in the Closure Plan.

A groundwater remediation program has been in progress at the Plant since 1987, and based upon the information presented in this

report, the current groundwater remediation program at the CCP Saukville Plant should continue to intercept contaminates moving through the glacial deposits in the Incinerator Area.

The Incinerator Closure Plan for the CCP Saukville Plant will be submitted to the WDNR subsequent to this report and will detail the proposed actions to be taken.

HATCHER-SAYRE, INC.

Robert D. Money, P.G. Project Hydrogeologist

Cture J.OQ.

William C. Kreye, Ph.D., P.E. V. P., Engineering

August 22, 1991 0001-001.rpt/sp



APPENDIX A

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Boring Logs

State of Wisconsin Department of Natural Resources

Instructions Soil Boring Log Information Forms Form 4400-122, Form 4400-122A (7/91)

General Instructions

Fill out a Soil Boring Log Information form for every boring drilled. Be sure to indicate the page number and boring number in the blanks at the top of each page. All applicable portions of the Soil Boring Log Information Form must be properly completed. The form must be signed.

Routing

Return this form to the project manager or plan reviewer for the Department program that required the boring. If the project manager/plan reviewer is in a District Office, send the original to the District Office and a copy to the Central Office in Madison. If the project manager/plan reviewer is in the Central Office, send the original form there and a copy to the District Office. If your project does not have a project manager or plan reviewer or you do not know who it is, send the form to the appropriate program in the Central Office.

Check the appropriate box at the top of the form to assure proper routing once the form reaches the Department. If the boring was installed as a part of a Superfund investigation, check the box labeled "Emergency Response".

General Boring Information

Facility/Project Name: The name of the landfill, lagoon, surface impoundment, spill or project.

License/Permit/Monitoring Number: The number assigned by the Department. If unknown, leave blank.

Boring Number: The site boring number or name (ie. B-1).

Boring Drilled By: The name of the drilling firm and the name of the drilling crew chief.

Date Drilling Started: The date the boring was started.

Date Drilling Completed: The date the boring was completed.

Drilling Method: The drilling method(s) used (ie. hollow stem auger).

DNR Facility Well Number: Leave blank. The Department will assign this number if needed.

Wisconsin Unique Well Number: Leave blank. The Department will assign this number if needed.

Common Well Name: The site well name if a well was constructed in the boring (ie. MW-1).

- Final Static Water Level: The static water level in the borehole in tenths of feet above mean sea level prior to abandonment or well construction.
- Surface Elevation: The surface elevation of the ground surface at the borehole in tenths of feet above mean sea level referenced to the closest USGS benchmark.

Borehole Diameter: The diameter of the borehole in tenths of inches.

NOTES TO BORING LOGS

These notes refer to and are a part of the accompanying boring logs.

1. The borings were made by a boring contractor under the continuous observation of an engineer of Hatcher-Sayre, Inc. These boring logs were compiled from Hatcher-Sayre, Inc. field logs and the results of visual examination of the soil samples in our laboratory.

2. The logs of the borings apply only at the specific boring locations and at the dates indicated. They are not warranted to be representative of subsurface conditions at other locations and times.

3. The depth of the indicated boundaries between soil or rock strata is approximate. The transition between the strata may be gradual.

4. The groundwater levels shown on the boring logs represent average or typical values observed during the period of the boring operation or shortly after completion of a boring. These observations do not reflect seasonal changes in the water table or the effects of intense rainfall or runoff. In any excavation, trickling flow or seepage may be encountered from perched water which is at levels above the water table observed in the borings.

NOTES TO BORING LOGS (continued)

Defin	itions of Terms an	d Al	obreviations										
<u>Com</u>	<u>ponents</u> GRAVEL	-	particles larger than 1/4" diameter										
	SAND	-	particles smaller than 1/4" diameter and larger than No. 20 sieve (individual grains visible to naked eye)										
	SILT	particles smaller than No. 200 sieve (individual grains not distinguishable); low plasticity to non-plastic											
	CLAY	-	particles smaller than No. 200 sieve; medium to high plasticity										
	TOPSOIL	-	surface soil containing a significant proportion of organic matter										
	FILL - man-made deposit												
Com	<u>position</u> GRAVEL, SAND,	SILT -	Γ, CLAY major component (50% or more)										
	gravelly, sandy, s	ilty, -	clayey secondary component (33% to 50%)										
	some	-	minor component (10% to 33%)										
	trace	-	minor component (1% to 10%)										
	and	-	two major components (nearly equal proportions)										
Moist	ure												
	saturated	-	below water table										
	wet	-	much above optimum										
	moist	-	near optimum										
	dry	-	much below optimum										
Struc	ture												
	stratified	-	layers 1/2 to 12 inches thick										
	laminated	-	layers less than 1/2 inch thick										
<u>Color</u>	dark light		significant difference in shade										
	wark, light	-											
	mottied	-											
		-	weight of nammer										
RQD		-	rock quality designation (% of core which is 4" or longer)										
<u>NSR</u>		-	no sample recovered										

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COOK	COMP	OSITI	es and	POLYMERS	co.									BI-	7		
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3907		6- 6- 9	ш 1 1 9	Brown find	e sandy SILT,	saturated		ML			80.0		2				
3908		6- 19- 29		Brown SIL	F, moist			ML			120.0						
l here	eby çı	ertlifv	that	the inform	ation on this fo	orm is true	e and co	rrect	to the	bes	<u>of</u> n	ny kno	owled	qe.			
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<u>NE</u> Count	_ 1/4 o y	f <u>N</u>	E_ 1/4 C	of Section	<u>35, T</u> _	<u>_11_</u> N, R _	DNR	WILor County 4 6	Code	Civil 7 SAUK	25 Fown/C VILLE	Lity/ or , WI	Fo	ge	<u>s</u>		Feet	
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<u> here</u> Signat	ure	ertlify	that	the inform	nation on	<u>this form i</u>	s true	And co Firm HAT	CHER-	to the	e bes , INC	<u>t of r</u>	ny kn 905 RICH	OWIEC SOUTI IMOND	IQƏ. HLAKE VA	BLVD. 23236		
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3926	¢	4- 8- 8		Gravel, F Dark brow	robable FILI n SILT, mois	st			ML			50.0						
3927		2- 5- 8-		Greenish	brown fine s	sandy SII	LT, wet		ML			580.0						
3928		3- 7- 8-		Light bro saturated	own SILT, son 1	ne fine s	sand,		ML			500.0		•				
3929		10- 14- 16		Gray gree	en SILT, sat	urated			ML			560.0				•		
<u>l here</u> Signan	eby ce	artlify	that,	the inform	ation on this	form is	true ai	<u>nd co</u> Firm	rrect	to the	e bes	t of n	ny kn	owled	qe.	תו זם		
		!/L	-tt	Physic	#/			HAT	CHER-	SAYRE	, INC.	•	905 RICH	MOND,	VA	выур. 23236		
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	<u>_ 1/4 o</u>	f <u>N</u> E	<u>1/4 c</u>	of Section	<u>35</u> , T_	<u>11_N, R_2</u>			ng <u>87</u> z Code	<u> </u>	<u>25</u> Town/0		Fe	eet 🗖	<u>s</u>		Feet	
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3940	¢	1- 1- 1		Gravel, H Dark gray moist	Probable H	FILL coarse sand	ły SIL	т,	ML									
3941		9- 19- 20		Brown SII and grave	LT, some f	fine to coa:	rse sa	nd	ML			20.0				-		
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3943		9- 11- 13		Brown SI	LTY CLAY,	wet			CL- ML			0.0						
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Signan	ire	L	4	hA	The	M		Firm HAT	CHER-	SAYRE,	, INC.		905 RICH	SOUTH MOND,	LAKE VA	BLVD. 23236		
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COOK	COMP	OSITI	ES AND	POLYMERS	со.									I	-8		
Boring	Drille	d By (Firm na	me and nan	ne of crew chief)		Date D	rilling	Started		Date D	rilling	Comp	leted	Drillin	g Met	nod
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3950		3- 3-	E^2	Dark gra	y SILTY CLAY, mois	t		CL- ML			0.0						
		5	E,						\mathbf{V}								ł
			F						<u> </u>								
			E4														
			E														
3951		30-	<u> </u>	Gray sil	ty fine to coarse	GRAVEL, W	ret	GW			0.0						
	,	25-	E	-	-				5								
			E 6														
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			E														
3952		6- 5-	E ª	Light br	own SILTY CLAY, sa	turated		CL- ML			1.8		2				
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Signat		///	H	The	LB .		HAT	CHER-	SAYRE	, INC.		905 RICH	SOUTH IMOND,	ilake VA	BLVD. 23236		
This fo	orm is	author	ized by	Chapters 1	44.147 and 162, Wis.	Stats. Com	pletion	of this	report	is man	datory	. Pena	lties:	Forfei	t not le	ss	
than S both fr	10 nor	more	than \$5	,000 for eac	ch violation. Fined not	less than S	10 or m	ore that	in S10	0 or in 144 00	aprisor	ied not 62.06	less th Wis S	ian 30	days, o	r	

APPENDIX B

Certificates of Analyses and Chain of Custody



WADSWORTH/ALERT LABORATORIES, INC. Sampling. testing. mobile labs

4101 Shuffel Drive N.W. / North Canton, Ohio 44720

August 16, 1991

Hatcher Sayre, Inc. 905 South Lake Boulevard Richmond, VA 23236

Attn: Bob Money

Enclosed are two copies of the revised analytical report (# 7034) for the Saukville Incinerator Closure project. The following revisions were made to the original report:

- All units for the VOC, Method 8240 were converted to micrograms.
- The Quality Control narrative includes a definition for surrogate recoveries which are referenced as "DIL" in the report.

If you need additional information feel free to contact me at 216/497-9396.

Sincerely,

Wadsworth/ALERT Laboratories, Inc.

Michael A. Paessun Project Manager

MAP/pt



Since 1938



WADSWORTH/ALERT LABORATORIES, INC. Sampling, testing, mobile labs

4101 Shuffel Drive N.W. / North Canton, Ohio 44720

REVISED ANALYTICAL REPORT

PROJECT NO. 0001-001

CCP - SAUKVILLE INCIN. CLOSURE

Presented to :

BOB MONEY

HATCHER-SAYRE INC.

WADSWORTH/ALERT LABORATORIES, INC.

uchail Talenton

Michael A. Paessun Project Manager

Marin 1 Careco

Marvin W. Stephens, Ph.D. Vice President & Corporate Technical Director

August 16, 1991



CORPORATE AND LABORATORY: North Canton, Ohio (216) 497-9396 LABORATORY: Cleveland, Ohio (216) 642-9151 LABORATORY: Pittsburgh, Pennsylvania (412) 826-5477 LABORATORY: Tampa, Florida (813) 621-0784 24-HOURALERT LINE (216) 497-9338

NARRATIVE

The following report contains the analytical results for sixty-nine solid samples and nine quality control samples submitted to Wadsworth/ALERT Laboratories, Inc. by Hatcher-Sayre Inc. from the CCP-Saukville Incin. Closure Site, project number 0001-001. The samples were received on July 11, 1991, according to documented sample acceptance procedures.

Wadsworth/ALERT Laboratories, Inc. utilizes only USEPA approved methods and instrumentation in all analytical work. The samples presented in this report were analyzed for the parameters listed in the following table in accordance with the methods indicated. A summary of QC data for these analyses is included at the rear of the report.

Compounds detected during analysis but not contained on the method lists are also included.

ANALYTICAL METHODS

Parameters

<u>Methods</u>

Volatile	Organic	Compounds
Volatile	Organic	Compounds
Base/Neut	ral/Acid	d Compounds

SW846 8240 SW846 8020 SW846 8270

Reference:

WADSWORTH/ALERT LABORATORIES, INC.

> SW846. "Test methods for Evaluating Solid Waste Physical/Chemical Methods," Third Edition, September, 1986.



ANALYTICAL RESULTS

The analytical results of the samples listed below are presented on the following pages.

LABORATORY NUMBER

SAMPLE IDENTIFICATION

7034-57438	3878	BI-1	1.5-3	7-9-91 7:40
7034-57439	3879	BI-1	4.5-6	7-9-91 7:45
7034-57440	3880	BI-1	7.5-9	7-9-91 7:50
7034-57441	3881	BI-1	9.5-11	7-9-91 7:55
7034-57442	3882	BI-2	1.5-3	7-9-91 8:15
7034-57443	3883	BI-2	4.5-6	7-9-91 8:20
7034-57444	3884	BI-2	7.5-9	7-9-91 8:25
7034-57445	3885	BI-2	9.5-11	7-9-91 8:30
7034-57446	3886	BI-3	1.5-3	7-9-91 8:45
7034-57447	3887	BI-3	4.5-6	7-9-91 8:50
7034-57448	3888	BI-3	4.5-6	7-9-91 8:50
7034-57449	3889	FB-1	7-9-91	8:50
7034-57450	3890	BI-3	7.5-9	7-9-91 8:55
7034-57451	3891	BI-3	9.5-11	7-9-91 8:59
7034-57452	3892	BI-4	1.5-3	7-9-91 9:40
7034-57453	3893	BI-4	4.5-6	7-9-91 9:45
7034-57454	3894	BI-4	7.5-9	7-9-91 9:50
7034-57455	3895	BI-5	1.5-3	7-9-91 10:25
7034-57456	3896	BI-5	4.5-6	7-9-91 10:30
7034-57457	3897	BI-5	7.5-9	7-9-91 10:35
7034-57458	3898	BI-5	9.5-11	7-9-91 10:40
7034-57459	3899	BI-5	9.5-11	7-9-91 10:40
7034-57460	3900	FB-2	7-9-91	10:40
7034-57461	3901	BI-6	1.5-3	7-9-91 10:50
7034-57462	3902	BI-6	4.5-6	7-9-91 10:55
7034-57463	3903	BI-6	7.5-9	7-9-91 11:00
7034-57464	3904	B1-6	9.5-11	7-9-91 11:05



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ANALYTICAL RESULTS CONT.

The analytical results of the samples listed below are presented on the following pages.

LABORATORY NUMBER

SAMPLE IDENTIFICATION

7034-57465 7034-57466 7034-57467	3905BI-71.5-37-9-9111:253906BI-74.5-67-9-9111:303907BI-77.5-97-9-9111:35
7034-57468 7034-57469 7034-57470	3908BI-79.5-117-9-9111:403909BI-81.5-37-9-9111:553910BI-84.5-67-9-9112:00
7034-57471 7034-57472 7034-57473	3911 BI-8 4.5-6 7-9-91 12:00 3912 FB-3 7-9-91 12:00 3913 BI-8 7.5-9 7-9-91 12:05
7034-57474 7034-57475 7034-57476	3914 BI-8 9.5-11 7-9-91 12:10 3915 I-1 1.5-3 7-9-91 12:35 3916 I-1 4.5-6 7-9-91 12:40
7034-57477 7034-57478 7034-57479	3917I-17.5-97-9-9112:453918I-19.5-117-9-9112:503919I-21.5-37-9-9113:30
7034-57480 7034-57481 7034-57482	3920I-24.5-67-9-9113:353921I-27.5-97-9-9113:403922I-29.5-117-9-9113:45
7034-57483 7034-57484 7034-57485	3923 I-2 9.5-11 7-9-91 13:45 3924 FB-4 7-9-91 13:45 3925 FIELD BLANK 7-9-91 13:48
7034-57486 7034-57487 7034-57488	3926I-31.5-37-9-9113:553927I-34.5-67-9-9114:003928I-37.5-97-9-9114:05
7034-57489 7034-57490 7034-57491	3929I-39.5-117-9-9114:103930I-41.5-37-9-9114:203931I-44.5-67-9-9114:25



WADSWORTH/ALERT LABORATORIES, INC.

ANALYTICAL RESULTS CONT.

The analytical results of the samples listed below are presented on the following pages.

LABORATORY		
NUMBER	SAMPLE IDENTIFI	CATION
7034-57492	3932 I-4 7.5-9	7-9-91 14:30
7034-57493	3933 I-4 9.5-11	7-9-91 14:35
7034-57494	3934 I-5 1.5-3	7-9-91 15:00
7034-57495	3935 I-5 4.5-6	7-9-91 15:05
7034-57496	3936 I-5 4.5-6	7-9-91 15:05
7034-57497	3937 FB-5 7-9-9	1 15:05
7034-57498	3938 I-5 7.5-9	7-9-91 15:10
7034-57499	3939 I-5 9.5-11	7-9-91 15:15
7034-57500	3940 I-6 1.5-3	7-9-91 15:45
7034-57501	3941 I-6 4.5-6	7-9-91 15:50
7034-57502	3942 I-6 7.5-9	7-9-91 15:55
7034-57503	3943 I-6 9.5-11	7-9-91 16:00
7034-57504	3944 I-7 1.5-3	7-9-91 16:10
7034-57505	3945 I-7 4.5-6	7-9-91 16:15
7034-57506	3946 I-7 7.5-9	7-9-91 16:20
7034-57507	3947 I-7 9.5-11	7-9-91 16:25
7034-57508	3948 I-7 9.5-11	7-9-91 16:25
7034-57509	3949 FB-6 7-9-9	1 16:25
7034-57510	3950 I-8 7-9-91	16:35
7034-57511	3951 I-8 7-9-91	16:40
7034-57512	3952 I-8 7-9-91	16:45
7034-57513	3953 1-8 7-9-91	16:50
7034-57514	3954 TRIP BLANK	7-9-91
7034-57515	3955 TRIP BLANK	7-9-91



COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57438 MATRIX: SOLID

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/16/91 DATE ANALYZED: 7/16/91

SAMPLE ID: 3878 BI-1 1.5-3 7-9-91 7:40

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

(Not Analyzed)	NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	e limit = 4 e limit =	ug/kg) as rec'd ug/kg) as rec'd
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SURROGATE F	ECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ene(PID)	89	(75-125)	(75-125)



<u>- 72</u>

WADSWORTH/ALERT LABORATORIES, INC.

COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57439 MATRIX: SOLID
 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/16/91

 DATE ANALYZED:
 7/16/91

SAMPLE ID: 3879 BI-1 4.5-6 7-9-91 7:45

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
·	
Toluene	ND
Xylenes	ND

NOTE:	ND ND*	(None Detec (None Detec (Not Analys	cted, lower cted, lower zed)	detectable detectable	limit = limit =	4	ug/kg) ug/kg)	as as	rec'd rec'd
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SURROGATE RECOVE	ERY:	x	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzene(PI	(D)	89	(75-125) ((75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57440 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/16/91

 DATE ANALYZED:
 7/16/91

SAMPLE ID: 3880 BI-1 7.5-9 7-9-91 7:50

Benzene	. ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND	(None Detected,	lower detectable	: limit = 4	ug/kg) as rec'd
	ND*	(None Detected,	lower detectable	e limit =	ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE RECOVERY:	: %	ACCEPTABLE	LIMITS
		WATER	SOLID
<pre>Fluorobenzene(PID)</pre>	77	(75-125)	(75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57441 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/16/91

 DATE ANALYZED:
 7/16/91

SAMPLE ID: 3881 BI-1 9.5-11 7-9-91 7:55

Benzene	, ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	н	4 u u	g/kg) g/kg)	as as	rec'd rec'd

SURROGATE RECOVERY:	2	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	77	(75-125)	(75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57442 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3882 BI-2 1.5-3 7-9-91 8:15

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	40
Toluene	ND
Xylenes	790

NOTE:	ND ND*	(None Detected, (None Detected,	lower detectable lower detectable	limit = 24 limit =	ug/kg) a ug/kg) a	as rec'd as rec'd
		(Not Analyzed)				

SURROGATE	RECOVERY:	%	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	103	(75-125)	(75-125)



COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57443 MATRIX: SOLID

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/16/91 DATE ANALYZED: 7/16/91

SAMPLE ID: 3883 BI-2 4.5-6 7-9-91 8:20

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	20
Toluene	ND
Xylenes	260

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	= 4 =	ug/kg) ug/kg)	as as	rec'd rec'd
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SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	93	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57444 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3884 BI-2 7.5-9 7-9-91 8:25

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	120
Toluene	6
Xylenes	140

NOTE: ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectabl	e limit = 4 e limit =	ug/kg) as rec'd ug/kg) as rec'd
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SURROGATE H	RECOVERY:	%	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ene(PID)	96	(75-125)	(75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57445 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3885 BI-2 9.5-11 7-9-91 8:30

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	4,800
Toluene	300
Xylenes	7,700

NOTE:	ND	(None Detected,	lower detectable	limit = 200	ug/kg) as rec'd
	ND*	(None Detected,	lower detectable	limit =	ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE RECO	OVERY:	x	ACCEPTA	BLE LIMITS
			WATER	SOLID
Fluorobenzene	(PID)	96	(75-125) (75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57446 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3886 BI-3 1.5-3 7-9-91 8:45

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	19
Toluene	ND
Xylenes	190

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 4 limit =	ug/kg) as rec'd ug/kg) as rec'd
		(NOC ANALYZEU)			

SURROGATE RECOVERY:	2	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	95	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57447 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3887 BI-3 4.5-6 7-9-91 8:50

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE: NI NI	D D* -	(None Detected, (None Detected, (Not Analyzed)	lower det lower det	tectable tectable	limit limit	= 4	4 ug/kg) ug/kg)	as as	rec'd rec'd
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SURROGATE RECOVERY:	2	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	93	(75-125)	(75-125)



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> WADSWORTH/ALERT LABORATORIES, INC.

> > COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57448 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3888 BI-3 4.5-6 7-9-91 8:50

Benzene	. ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 4 limit =	ug/kg) as rec'd ug/kg) as rec'd
	ND*	(Not Analyzed)	lower detectable	ilmit =	ug/kg) as rec'd

SURROGATE RECOVERY:	%	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	96	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57449 MATRIX: WATER

DATE RECEIVED:7/11/91DATE EXTRACTED:NADATE ANALYZED:7/23/91

SAMPLE ID: 3889 FB-1 7-9-91 8:50

Benzene .	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	1
Xvlenes	4

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectabl lower detectabl	e limit = 1 e limit =	ug/l) as rec'd ug/l) as rec'd
NOIE.	ND*	(None Detected, (Not Analyzed)	lower detectabl	e limit =	ug/l) as rec' ug/l) as rec'

SURROGATE RECOV	/ERY:	%	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzene(F	PID)	99	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57450 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3890 BI-3 7.5-9 7-9-91 8:55

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND ND*	<pre>(None Detected, (None Detected, (Not Analyzed)</pre>	lower detectable lower detectable	e limit = 4 e limit =	ug/kg) as rec'd ug/kg) as rec'd

SURROGATE RE	COVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzen	e(PID)	83	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57451 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3891 BI-3 9.5-11 7-9-91 8:59

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit = 4 limit =	4	ug/kg) ug/kg)	as as	rec'd rec'd
SUDDOG	ות קווא	FOONEDY.	er			TTMTBO			

SURROGATE RECOVERY:	2	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	86	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57452 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3892 BI-4 1.5-3 7-9-91 9:40

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1.2 Dichlenchengene	MT)
1, 3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	9
Toluene	ND
Xylenes	170

NOTE:	ND ND* 	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	e limit = 4 e limit =	ug/kg) as rec'd ug/kg) as rec'd

SURROGATE RECOVERY	: %	ACCEPTABLE	LIMITS
		WATER	SOLID
<pre>Fluorobenzene(PID)</pre>	82	(75-125)	(75-125)


> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57453 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3893 BI-4 4.5-6 7-9-91 9:45

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 4 limit =	ug/kg) as rec'd ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE REC	COVERY:	z	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzene	e(PID)	92	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57454 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3894 BI-4 7.5-9 7-9-91 9:50

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

(Not Analyzed)	NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	e limit = 4 e limit =	ug/kg) as rec'd ug/kg) as rec'd
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SURROGATE	RECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	88	(75-125) ((75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57455 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3895 BI-5 1.5-3 7-9-91 10:25

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	33
Toluene	ND
Xylenes	310

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 4 limit =	ug/kg) as rec'd ug/kg) as rec'd
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SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	89	(75-125) (75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57456 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3896 BI-5 4.5-6 7-9-91 10:30

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND	(None Detected,	lower detectable	limit = 4	ug/kg) as rec'd
	ND*	(None Detected,	lower detectable	limit =	ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE RECOV	ERY:	z	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzene(P	ID)	85	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57457 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3897 BI-5 7.5-9 7-9-91 10:35

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	4
Xylenes	11

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	e limit = 4 e limit =	ug/kg) as rec'd ug/kg) as rec'd
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SURROGATE I	RECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ene(PID)	86	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57458 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3898 BI-5 9.5-11 7-9-91 10:40

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	=	4	ug/kg) ug/kg)	as as	rec'd rec'd
		• • •								

SURROGATE RI	ECOVERY:	r	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzer	ne(PID)	79	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57459 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3899 BI-5 9.5-11 7-9-91 10:40

Benzene	NE
Chlorobenzene	NE
1,2-Dichlorobenzene	NE
1,3-Dichlorobenzene	NE
1,4-Dichlorobenzene	NE
Ethylbenzene	NE
Toluene	NE
Xylenes	NE

NOTE:	ND ND*	(None Detected (None Detected (Not Analyzed)	, lower , lower	detectable detectable	limit limit	=	4	ug/kg) ug/kg)	as as	rec'd rec'd
		(not margaca)								

SURROGATE RECOVERY	%	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	77	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57460 MATRIX: WATER

DATE RECEIVED: 7/11/91 DATE EXTRACTED: NA DATE ANALYZED: 7/23/91

SAMPLE ID: 3900 FB-2 7-9-91 10:40

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	1
Xylenes	5

NOTE:	ND	(None Detected,	lower detectable	limit = 1	ug/l) as rec'd
	ND*	(None Detected,	lower detectable	limit =	ug/l) as rec'd
		(Not Analyzed)			

SURROGATE	RECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	100	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57461 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3901 BI-6 1.5-3 7-9-91 10:50

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1 0 5 1 1 1	
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Villanas	ND
Ayrenes	ND

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 4 limit =	ug/kg) as rec'd ug/kg) as rec'd

SURROGATE RECOVERY:	%	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	85	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57462 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3902 BI-6 4.5-6 7-9-91 10:55

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	8

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 4 limit =	ug/kg) as rec'd ug/kg) as rec'd

SURROGATE I	RECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ene(PID)	78	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57463 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3903 BI-6 7.5-9 7-9-91 11:00

Benzene	4.
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	4

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	=	4	ug/kg) ug/kg)	as as	rec'd rec'd
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SURROGATE	RECOVERY:	%	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	78	(75-125) (75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57464 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3904 BI-6 9.5-11 7-9-91 11:05

Benzene	10
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND	(None Detected,	lower detectable	limit = 4	ug/kg) as rec'd
	ND≭	(None Detected,	lower detectable	limit =	ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE RI	ECOVERY:	X	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzer	ne(PID)	75	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57465 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3905 BI-7 1.5-3 7-9-91 11:25

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE: ND (None Do ND* (None Do (Not And	Detected, lower Detected, lower malyzed)	detectable detectable	limit = limit =	4	ug/kg) : ug/kg) :	as as	rec'd rec'd
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SURROGATE RECOV	VERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzene(1	PID)	81	(75-125)	(75-125)



WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57466 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/22/91

 DATE ANALYZED:
 7/22/91

SAMPLE ID: 3906 BI-7 4.5-6 7-9-91 11:30

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	13
Toluene	ND
Xylenes	320

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	e limit = 13 e limit =	ug/kg) as rec'd ug/kg) as rec'd

SURROGATE	RECOVERY:	%	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	93	(75-125)	(75-125)



WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57467 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3907 BI-7 7.5-9 7-9-91 11:35

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	4,700
Toluene	ND
Xylenes	22,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	=	1,000	ug/kg) ug/kg)	as as	rec rec	'd 'd
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SURROGATE	RECOVERY:	z	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	DIL	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57468 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/22/91

SAMPLE ID: 3908 BI-7 9.5-11 7-9-91 11:40

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	9,800
Toluene	ND
Xylenes	40,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	= =	1,000	ug/kg) ug/kg)	as as	rec'd rec'd
		(Not Analyzed)								

SURROGATE R	ECOVERY:	x	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ne(PID)	DIL	(75-125)	(75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57469 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3909 BI-8 1.5-3 7-9-91 11:55

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	31
Toluene	ND
Xylenes	150
-	

NOTE: N N -	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower (lower (detectable detectable	limit limit	= 4 =	ug/kg) ug/kg)	as as	rec'd rec'd
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SURROGATE R	ECOVERY:	z	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ne(PID)	76	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57470 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3910 BI-8 4.5-6 7-9-91 12:00

Benzene	ND .
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	200
Toluene	ND
Xylenes	2,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	=	200	ug/kg) ug/kg)	as as	rec'd rec'd
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SURROGATE RECO	OVERY:	X	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzene	(PID)	100	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57471 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

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SAMPLE ID: 3911 BI-8 4.5-6 7-9-91 12:00

Benzene	ND .
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	16,000
Toluene	5,200
Xylenes	83,000

NOTE:	ND ND*	(None Detect (None Detect (Not Analyze	ed, lower ed, lower d)	detectable detectable	limit = limit =	1,200	ug/kg) ug/kg)	as as	rec' rec'
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SURROGATE	RECOVERY:	x	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	DIL	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57472 MATRIX: WATER

DATE RECEIVED: 7/11/91 DATE EXTRACTED: NA DATE ANALYZED: 7/23/91

SAMPLE ID: 3912 FB-3 7-9-91 12:00

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	3

NOTE:	ND	(None Detected,	lower detectable	limit = 2	ug/l) as rec'd
	ND*	(None Detected,	lower detectable	e limit =	ug/l) as rec'd
		(Not Analyzed)			

SURROGATE R	ECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ne(PID)	96	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57473 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3913 BI-8 7.5-9 7-9-91 12:05

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	4,100
Toluene	4,600
Xylenes	19,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 1,000 limit =	ug/kg) as ug/kg) as	rec'd rec'd
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SURROGATE	RECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	DIL	(75-125)	(75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57474 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3914 BI-8 9.5-11 7-9-91 12:10

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	6,300
Toluene	19,000
Xylenes	24,000

ND* (None Detected, lower detectable limit = ug/kg) as rec (Not Analyzed)	NOTE:	ND* (None Detected, (Not Analyzed)	lower detectable limit =	ug/kg) as rec'o
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SURROGATE RECOVERY:	*	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	DIL	(75-125)	(75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57475 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3915 I-1 1.5-3 7-9-91 12:35

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	2,100
Toluene	ND
Xylenes	11,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Applymed)	lower detectable lower detectable	e limit = 400 e limit =	ug/kg) as rec'd ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE R	ECOVERY:	X	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ne(PID)	DIL	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57476 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3916 I-1 4.5-6 7-9-91 12:40

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	1,400,000
Toluene	1,200,000
Xylenes	7,000,000

NOTE:	ND	(None Detected,	lower detectabl	e limit = 74,000	ug/kg) as rec ^a	d
	ND≭	(None Detected,	lower detectabl	e limit =	ug/kg) as rec ^a	d
		(Not Analyzed)				

SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	DIL	(75-125)	(75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57477 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3917 I-1 7.5-9 7-9-91 12:45

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	3,500
Toluene	2,600
Xylenes	20,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 1,000 limit =	ug/kg) as rec'd ug/kg) as rec'd

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	DIL	(75-125)	(75 - 125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57478 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3918 I-1 9.5-11 7-9-91 12:50

Benzene .	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	6,800
Toluene	3,600
Xylenes	40,000

ND* (None Detected, lower detectable limit = ug/kg) as rec (Not Analyzed)	NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	= =	500	ug/k ug/k	.g) .g)	as as	rec rec	'd 'd
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SURROGATE I	RECOVERY:	x	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzo	ene(PID)	DIL	(75-125)	(75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57479 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3919 I-2 1.5-3 7-9-91 13:30

Benzene .	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	2,000
Toluene	ND
Xylenes	ND

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	<pre>% limit = 900 % limit =</pre>	ug/kg) as rec'd ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE RECO	OVERY:	x	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzene	(PID)	DIL	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57480 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3920 I-2 4.5-6 7-9-91 13:35

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	2,600

NOTE:	ND	(None Detected,	lower	detectable	limit	= 300	ug/kg)	as	rec'd
	ND*	(None Detected,	lower	detectable	limit	=	ug/kg)	as	rec'd
		(Not Analyzed)							

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	88	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57481 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3921 I-2 7.5-9 7-9-91 13:40

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	93

NOTE:	ND ND*	<pre>(None Detected, (None Detected, (Not Analyzed)</pre>	lower lower	detectable detectable	limit limit	= =	25	ug/kg) ug/kg)	as as	rec'd rec'd
		(not mary rea)								

SURROGATE REC	OVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzene	(PID)	94	(75-125)	(75-125)



6.55

WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57482 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3922 I-2 9.5-11 7-9-91 13:45

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	6
Xylenes	7

NOTE:	ND ND*	(None Detecto (None Detecto (Not Analyzed	ed, lower ed, lower d)	detectable detectable	limit = limit =	2	ug/kg) as ug/kg) as	rec'd rec'd

SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	58	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57483 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: 3923 I-2 9.5-11 7-9-91 13:45

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	2
Toluene	7
Xylenes	10

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 2 limit =	ug/kg) as rec'd ug/kg) as rec'd
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SURROGATE F	RECOVERY:	z	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ene(PID)	58	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57484 MATRIX: WATER

DATE RECEIVED: 7/11/91 DATE EXTRACTED: NA DATE ANALYZED: 7/23/91

SAMPLE ID: 3924 FB-4 7-9-91 13:45

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	3

NOTE:	ND	(None Detected,	lower detectable	e limit = 1	ug/l) as rec'd
	ND*	(None Detected,	lower detectable	e limit =	ug/l) as rec'd
		(Not Analyzed)			

SURROGATE	RECOVERY:	z	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	98	(75-125) ([75-125]



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57485 MATRIX: WATER

DATE RECEIVED:7/11/91DATE EXTRACTED:NADATE ANALYZED:7/23/91

SAMPLE ID: 3925 FIELD BLANK 7-9-91 13:48

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	2

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	= 1 =	ug/l) as rec'd ug/l) as rec'd

SURROGATE RECOVERY:	る	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	98	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57487 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3927 I-3 4.5-6 7-9-91 14:00

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	3,000,000
Toluene	1,300,000
Xylenes	12,000,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	= =	430,000	ug/kg) ug/kg)	as as	rec'd rec'd
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SURROGATE R	ECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ne(PID)	DIL	(75-125)	(75 - 125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57488 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3928 I-3 7.5-9 7-9-91 14:05

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	76,000
Toluene	23,000
Xylenes	300,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Applygod)	lower detectable lower detectable	limit = 9,000 limit =	ug/kg) a ug/kg) a	s rec'd s rec'd
		(Not Analyzed)				

SURROGATE R	ECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ne(PID)	DIL	(75-125)	(75-125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57489 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: 3929 I-3 9.5-11 7-9-91 14:10

ND
ND
ND.
ND
ND
76,000
30,000
290,000

NOTE:	ND	(None Detected,	lower detectable	e limit = 9,000	ug/kg) a	as rec'd
	ND*	(None Detected,	lower detectable	e limit =	ug/kg) a	as rec'd
		(Not Analyzed)				

SURROGATE RECOVERY:	2	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	DIL	(75-125)	(75 - 125)


> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57490 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/21/91

SAMPLE ID: 3930 I-4 1.5-3 7-9-91 14:20

VOLATILE ORGANICS USEPA METHOD 8240 - GC/MS

Acetone	ND**	cis-1,3-Dichloropropene	ND
Benzene	ND	trans-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethylbenzene	74,000
Bromoform	ND	2-Hexanone	ND**
Bromomethane	ND≭	Methylene chloride	ND
2-Butanone	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroethane	ND*	Toluene	25,000
Chloroform	ND	1,1,1-Trichloroethane	ND
Chloromethane	ND*	1,1,2-Trichloroethane	ND
Dibromochloromethane	ND	Trichloroethene	ND
1.1-Dichloroethane	ND	Vinvl acetate	ND**
1,2-Dichloroethane	ND	Vinyl chloride	ND*
1,1-Dichloroethene	ND	Total Xylenes	360,000
1,2-Dichloroethene (Total)	ND	·	-
1.2-Dichloropropane	ND		
······································			

NOTE: ND (None Detected, lower detectable limit = 6,300 ug/kg) as rec'd
ND* (None Detected, lower detectable limit = 13,000 ug/kg) as rec'd
ND** (None Detected, lower detectable limit = 63,000 ug/kg) as rec'd
J (Detected, but below quantitation limit; estimated value)
B (Compound detected in method blank associated with this sample)
-- (Not Analyzed)

SURROGATE RECOVERY:	z	ACCEPTABLE	LIMITS
		WATER	SOLID
1,2-Dichloroethane	DIL	(76-114) (70-121)
Toluene-d8	DIL	(88-110) (81-117)
Bromofluorobenzene	DIL	(86-115) ((74-121)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57490 MATRIX: SOLID

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/11/91 7/12/91 DATE ANALYZED:

ND

ND ND

SAMPLE ID: 3930 I-4 1.5-3 7-9-91 14:20

BASE/NEUTRAL EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS (1 of 2)

Acenaphthene	ND	Chrysene
Acenaphthylene	ND	Dibenzo(a,h)anthracene
Anthracene	ND	Dibenzofuran
Benzo(a)anthracene	ND	Di-n-butyl phthalate
Benzo(b)fluoranthene	ND	1,2-Dichlorobenzene
Benzo(k)fluoranthene	ND	1,3-Dichlorobenzene
Benzo(ghi)perylene	ND	1,4-Dichlorobenzene
Benzo(a)pyrene	ND	3,3'-Dichlorobenzidine
Benzyl alcohol	ND	Diethyl phthalate
Bis(2-chloroethoxy)methane	ND	Dimethyl phthalate
Bis(2-chloroethyl)ether	ND	2,4-Dinitrotoluene
Bis(2-chloroisopropyl)ether	ND	2,6-Dinitrotoluene
Bis(2-ethylhexyl)phthalate 4-Bromophenyl phenyl ether Butyl benzyl phthalate	400 JB ND ND	Di-n-octyl phthalate Fluoranthene Fluorene
4-Chloroaniline2-Chloronaphthalene4-Chlorophenyl phenyl ether	ND ND ND	Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadi

alate ND 11,000 ene ND ene ND ene nzidine ND* ND e ND ite ND ene ND ene alate ND ND ND ND ne ND ene pentadiene ND

NOTE: ND (None Detected, lower detectable limit = 1,300 ug/kg) as rec'd (None Detected, lower detectable limit = 6,000 ug/kg) as rec'd ND* J (Detected, but below quantitation limit; estimated value) (Compound detected in method blank associated with this sample) В (Not Analyzed) ---



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57490 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3930 I-4 1.5-3 7-9-91 14:20

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BASE/NEUTRAL EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS (2 of 2)

Hexachloroethane	ND
Indeno(1,2,3-cd)pyrene	ND
Isophorone	ND
2-Methylnaphthalene	770 J
Naphthalene	5,800
Nitrobenzene	ND
2-Nitronaniline	ND≭
3-Nitronaniline	ND≭
4-Nitronaniline	ND*
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	2 50 J
Pyrene	ND
1,2,4-Trichlorobenzene	ND

NOTE: ND (None Detected, lower detectable limit = 1,300 ug/kg) as rec'd ND* (None Detected, lower detectable limit = 6,000 ug/kg) as rec'd J (Detected, but below quantitation limit; estimated value)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
Nitrobenzene-d5	90	(35-114)	(23 - 120)
Fluorobiphenyl	90	(43-116)	(30 - 115)
Terphenyl-d14	79	(33-141)	(18 - 137)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57490 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3930 1-4 1.5-3 7-9-91 14:20

ACID EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS

Benzoic Acid	ND*
4-Chloro-3-methylphenol	ND
2-Chlorophenol	ND
2.4-Dichlorophenol	ND
2.4-Dimethylphenol	ND
2,4-Dinitrophenol	ND*
2-Methyl-4,6-dinitrophenol	ND*
2-Methylphenol	ND
4-Methylphenol	ND
2-Nitrophenol	ND
4-Nitrophenol	ND≭
Pentachlorophenol	ND*
Phenol	ND
2,4,5-Trichlorophenol	ND
2,4,6-Trichlorophenol	ND

NOTE: ND (None Detected, lower detectable limit = 1,300 ug/kg) as rec'd ND* (None Detected, lower detectable limit = 6,000 ug/kg) as rec'd J (Detected, but below quantitation limit; estimated value) B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
2-Fluorophenol	37	(21-100)	(25 - 121)
Phenol-d5	99	(10-94)	(24 - 113)
2,4,6-Tribromophenol	115	(10 - 123)	(19 - 122)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57490 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3930 I-4 1.5-3 7-9-91 14:20

EXTRACTABLE ORGANICS OTHER COMPOUNDS

None



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57490 MATRIX: SOLID

DATE	RECEIVED:	7/11/91
DATE	EXTRACTED:	7/11/91
DATE	ANALYZED:	7/12/91

SAMPLE ID: 3930 I-4 1.5-3 7-9-91 14:20

EXTRACTABLE ORGANICS MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

Unknown aromatic hydrocarbon	20,000	ug/kg
Unknown aromatic hydrocarbon	10,000	ug/kg
Unknown aromatic hydrocarbon	40,000	ug/kg
Unknown aromatic hydrocarbon	10,000	ug/kg
Unknown aliphatic hydrocarbon	20,000	ug/kg
Unknown aromatic hydrocarbon	10,000	ug/kg
Unknown aromatic hydrocarbon	9,000	ug/kg
Hexadecanoic acid	10,000	ug/kg
Unknown	20,000	ug/kg
Unknown	7,000	ug/kg
Unknown	6,000	ug/kg
Unknown	8,000	ug/kg
Unknown	7,000	ug/kg
Unknown	10,000	ug/kg
Unknown aliphatic hydrocarbon	7,000	ug/kg
Unknown aromatic hydrocarbon	8,000	ug/kg
Unknown	5,000	ug/kg
Unknown aromatic hydrocarbon	6,000	ug/kg
Octadecanoic acid	2,000	ug/kg



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57491 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/21/91

SAMPLE ID: 3931 I-4 4.5-6 7-9-91 14:25

VOLATILE ORGANICS USEPA METHOD 8240 - GC/MS

ND**	cis-1,3-Dichloropropene	ND
ND	trans-1,3-Dichloropropene	ND
ND	Ethylbenzene	460,000
ND	2-Hexanone	ND**
ND*	Methylene chloride	ND
ND**	4-Methyl-2-pentanone	ND**
ND	Styrene	ND
ND	1,1,2,2-Tetrachloroethane	ND
ND	Tetrachloroethene	ND
ND*	Toluene	60,000
ND	1,1,1-Trichloroethane	ND
ND*	1,1,2-Trichloroethane	ND
ND	Trichloroethene	ND
ND	Vinvl acetate	ND**
ND	Vinyl chloride	ND*
ND ND ND	Total Xylenes	2,400,000
	ND** ND ND ND* ND* ND ND ND ND ND ND ND ND ND ND ND ND	ND**cis-1,3-DichloropropeneNDtrans-1,3-DichloropropeneNDEthylbenzeneND2-HexanoneND*Methylene chlorideND**4-Methyl-2-pentanoneND1,1,2,2-TetrachloroethaneNDTetrachloroetheneND1,1,1-TrichloroethaneND1,1,2-TrichloroethaneNDVinyl acetateNDVinyl acetateNDVinyl chloride

NOTE: ND (None Detected, lower detectable limit = 63,000 ug/kg) as rec'd
ND* (None Detected, lower detectable limit = 130,000 ug/kg) as rec'd
ND** (None Detected, lower detectable limit = 630,000 ug/kg) as rec'd
J (Detected, but below quantitation limit; estimated value)
B (Compound detected in method blank associated with this sample)
-- (Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABL	E LIMITS
		WATER	SOLID
1,2-Dichloroethane	DIL	(76-114)	(70-121)
Toluene-d8	DIL	(88-110)	(81-117)
Bromofluorobenzene	DIL	(86-115)	(74-121)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57491 MATRIX: SOLID

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/11/91 DATE ANALYZED: 7/12/91

SAMPLE ID: 3931 I-4 4.5-6 7-9-91 14:25

BASE/NEUTRAL EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS (1 of 2)

Acenaphthene	ND
Acenaphthylene	ND
Anthracene	ND
Benzo(a)anthracene	ND
Benzo(b)fluoranthene	ND
Benzo(k)fluoranthene	ND
Dongo (chi) nonvilono	NID
Benzo(ghi)peryiene	UN
Benzo(a)pyrene	ND
Benzyl alcohol	ND
Big(2-chloroethoyy)methane	ND
Bis(2-chloroothyl)other	ND
Dis(2-chloroechyr)echer	
Bis(2-chioroisopropyi)ether	ND
Bis(2-ethylhexyl)phthalate	ND
4-Bromophenyl phenyl ether	ND
Butyl benzyl phthalate	ND
4-Chloroaniline	ND
2-Chloronaphthalene	ND
4-Chlorophenyl phenyl ether	ND

Chrysene	ND
Dibenzo(a,h)anthracene	ND
Dibenzofuran	ND
Di-n-butyl phthalate	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
3,3'-Dichlorobenzidine	ND*
Diethyl phthalate	ND
Dimethyl phthalate	ND
2,4-Dinitrotoluene	ND
2,6-Dinitrotoluene	ND
Di-n-octyl phthalate	ND
Fluoranthene	ND
Fluorene	ND
Hexachlorobenzene	ND
Hexachlorobutadiene	ND
Hexachlorocyclopentadiene	ND

NOTE: ND (None Detected, lower detectable limit = 3,300 ug/kg) as rec'd
ND* (None Detected, lower detectable limit = 16,000 ug/kg) as rec'd
J (Detected, but below quantitation limit; estimated value)
B (Compound detected in method blank associated with this sample)
-- (Not Analyzed)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57491 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3931 I-4 4.5-6 7-9-91 14:25

BASE/NEUTRAL EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS (2 of 2)

Hexachloroethane	ND
Indeno(1,2,3-cd)pyrene	ND
Isophorone	ND
2-Methylnaphthalene	830 J
Naphthalene	3,900
Nitrobenzene	ND
2-Nitronaniline	ND*
3-Nitronaniline	ND*
4-Nitronaniline	ND*
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

NOTE: ND (None Detected, lower detectable limit = 3,300 ug/kg) as rec'd ND* (None Detected, lower detectable limit = 16,000 ug/kg) as rec'd J (Detected, but below quantitation limit; estimated value)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	2	ACCEPTABLE LIMITS
		WATER SOLID
Nitrobenzene-d5	DIL	(35-114) $(23-120)$
Fluorobiphenyl	DIL	(43-116) (30-115)
Terphenyl-d14	DIL	(33-141) $(18-137)$



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57491 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3931 I-4 4.5-6 7-9-91 14:25

ACID EXTRACTABLE OBGANICS USEPA METHOD 8270 - GC/MS

Benzoic Acid	ND*
4-Chloro-3-methylphenol	ND
2-Chlorophenol	ND
2,4-Dichlorophenol	ND
2,4-Dimethylphenol	ND
2,4-Dinitrophenol	ND*
2-Methyl-4,6-dinitrophenol	ND*
2-Methylphenol	ND
4-Methylphenol	ND
2-Nitrophenol	ND
4-Nitrophenol	ND*
Pentachlorophenol	ND*
Phenol	ND
2,4,5-Trichlorophenol	ND
2,4,6-Trichlorophenol	ND

NOTE:	ND	(None De	etected,	lower	detectable	limit =	3,300	ug/kg)	as	rec'd
	ND*	(None De	etected,	lower	detectable	limit =	16,000	ug/kg)	as	rec'd
	J	(Detecte	ed, but	below	quantitation	ı limit;	estimated	value)		

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	2	ACCEPTABLE	PTABLE LIMITS		
		WATER	SOLID		
2-Fluorophenol	DIL	(21-100)	(25-121)		
Phenol-d5	DIL	(10-94)	(24-113)		
2,4,6-Tribromophenol	DIL	(10-123)	(19-122)		



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57491 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3931 I-4 4.5-6 7-9-91 14:25

EXTRACTABLE ORGANICS OTHER COMPOUNDS

None

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

Unknown hydrocarbon	10,000	ug/kg
Benzene, (1-methylethyl)-	30,000	ug/kg
Benzene, 1-ethyl-2-methyl-	20,000	ug/kg
Benzene, 1-ethyl-4-methyl-	10,000	ug/kg
Benzene, (1-methylethenyl)-	100,000	ug/kg
Trimethyl benzene isomer	20,000	ug/kg
Unknown hydrocarbon	20,000	ug/kg
Unknown	5,000	ug/kg
Unknown	4,000	ug/kg



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57492 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/22/91

SAMPLE ID: 3932 I-4 7.5-9 7-9-91 14:30

VOLATILE ORGANICS USEPA METHOD 8240 - GC/MS

Acetone	ND**	cis-1,3-Dichloropropene	ND
Benzene	ND	trans-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethylbenzene	11,000
Bromoform	ND	2-Hexanone	ND**
Bromomethane	ND*	Methylene chloride	ND
2-Butanone	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroethane	ND*	Toluene	1,800
Chloroform	ND	1,1,1-Trichloroethane	ND
Chloromethane	ND*	1,1,2-Trichloroethane	ND
Dibromochloromethane	ND	Trichloroethene	ND
1.1-Dichloroethane	ND	Vinvl acetate	ND**
1,2-Dichloroethane	ND	Vinyl chloride	ND*
1,1-Dichloroethene	ND	Total Xylenes	93,000
1,2-Dichloroethene (Total)	ND	v	•
1.2-Dichloropropane	ND		
1.2-DICDIOropropane	ND		

NOTE:	ND	(None Detected, lower detectable limit = 1,600	ug/kg) a:	s rec'd
	ND*	(None Detected, lower detectable limit = 3,200	ug/kg) a	s rec'd
	ND**	(None Detected, lower detectable limit = 16,000	ug/kg) a	s rec'd
	J	(Detected, but below quantitation limit; estimated	value)	
	В	(Compound detected in method blank associated with	this sample	e)
		(Not Analyzed)		

SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
1,2-Dichloroethane	92	(76-114)	(70-121)
Toluene-d8	83	(88 - 110)	(81 - 117)
Bromofluorobenzene	77	(86-115)	(74-121)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57492 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/22/91

SAMPLE ID: 3932 I-4 7.5-9 7-9-91 14:30

VOLATILE ORGANICS OTHER COMPOUNDS

None

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

Trimethyl benzene isomer

1,600 ug/kg



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57492 MATRIX: SOLID

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/11/91 DATE ANALYZED: 7/12/91

SAMPLE ID: 3932 I-4 7.5-9 7-9-91 14:30

BASE/NEUTRAL EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS (1 of 2)

Acenaphthene	ND
Acenaphthylene	ND
Anthracene	ND
Benzo(a)anthracene	ND
Benzo(b)fluoranthene	ND
Benzo(k)fluoranthene	ND
Benzo(ghi)perylene	ND
Benzo(a)pyrene	ND
Benzyl alcohol	ND
Bis(2-chloroethoxy)methane	ND
Bis(2-chloroethyl)ether	ND
Bis(2-chloroisopropyl)ether	ND
Bis(2-ethylhexyl)phthalate	ND
4-Bromophenyl phenyl ether	ND
Butyl benzyl phthalate	ND
4-Chloroaniline	ND
2-Chloronaphthalene	ND
4-Chlorophenyl phenyl ether	ND

Chrysene	ND	
Dibenzo(a,h)anthracene	ND	
Dibenzofuran	ND	
Di-n-butyl phthalate	240	J
1,2-Dichlorobenzene	ND	
1,3-Dichlorobenzene	ND	
1,4-Dichlorobenzene	ND	
3,3'-Dichlorobenzidine	ND*	
Diethyl phthalate	ND	
Dimethyl phthalate	ND	
2,4-Dinitrotoluene	ND	
2,6-Dinitrotoluene	ND	
Di-n-octyl phthalate	ND	
Fluoranthene	ND	
Fluorene	ND	
Hexachlorobenzene	ND	
Hexachlorobutadiene	ND	
Hexachlorocyclopentadiene	ND	

NOTE: ND (None Detected, lower detectable limit = 1,300 ug/kg) as rec'd
ND* (None Detected, lower detectable limit = 6,000 ug/kg) as rec'd
J (Detected, but below quantitation limit; estimated value)
B (Compound detected in method blank associated with this sample)
-- (Not Analyzed)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57492 MATRIX: SOLID

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/11/91 DATE ANALYZED: 7/12/91

SAMPLE ID: 3932 I-4 7.5-9 7-9-91 14:30

BASE/NEUTRAL EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS (2 of 2)

Hexachloroethane	ND
Indeno(1,2,3-cd)pyrene	ND
Isophorone	ND
2-Methylnaphthalene	ND
Naphthalene	ND
Nitrobenzene	ND
2-Nitronaniline	ND*
3-Nitronaniline	ND*
4-Nitronaniline	ND*
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

NOTE: ND (None Detected, lower detectable limit = 1,300 ug/kg) as rec'd ND* (None Detected, lower detectable limit = 6,000 ug/kg) as rec'd J (Detected, but below quantitation limit; estimated value)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
Nitrobenzene-d5	92	(35-114)	(23-120)
Fluorobiphenyl	84	(43-116)	(30 - 115)
Terphenyl-d14	74	(33-141)	(18-137)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57492 MATRIX: SOLID

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/11/91 DATE ANALYZED: 7/12/91

SAMPLE ID: 3932 I-4 7.5-9 7-9-91 14:30

ACID EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS

Benzoic Acid	12,000
4-Chloro-3-methylphenol	ND
2-Chlorophenol	ND
2,4-Dichlorophenol	ND
2,4-Dimethylphenol	ND
2,4-Dinitrophenol	ND*
2-Methyl-4,6-dinitrophenol	ND*
2-Methylphenol	ND
4-Methylphenol	ND
2-Nitrophenol	ND
4-Nitrophenol	ND*
Pentachlorophenol	ND*
Phenol	4,400
2,4,5-Trichlorophenol	ND
2,4,6-Trichlorophenol	ND

NOTE: ND (None Detected, lower detectable limit = 1,300 ug/kg) as rec'd ND* (None Detected, lower detectable limit = 6,000 ug/kg) as rec'd J (Detected, but below quantitation limit; estimated value) B (Compound detected in method blank associated with this sample) -- (Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
2-Fluorophenol	84	(21 - 100)	(25-121)
Phenol-d5	110	(10 - 94)	(24-113)
2,4,6-Tribromophenol	124*	(10 - 123)	(19 - 122)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57492 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3932 I-4 7.5-9 7-9-91 14:30

EXTRACTABLE ORGANICS OTHER COMPOUNDS

None

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

Dimethyl bengene isomer	50 000	nd /led
Dimethyl benzene isoner	00,000	ug/kg
Dimetnyi benzene isomer	20,000	ug/kg
1,3-Propanediol, 2,2-dimethyl-	20,000	ug/kg
Trimethyl benzene isomer	2,000	ug/kg
Unknown	8,000	ug/kg
Unknown	2,000	ug/bg
UIKIIOWII	2,000	ug/ ng
Unknown	10,000	ug/kg
1-Propanol, 2-(2-hvdroxypropoxy)-	10,000	ug/kg
1.3-Propanediol. 2-ethyl-2-(hydroxymethyl)-	9,000	ng/kg
i,o iropanoaior, z congr z (ngaronymoongr)	0,000	~3/ **3
Unknown	20,000	ug/kg
Ethyl methyl benzene isomer	3,000	ug/kg
Unknown	3,000	ug/kg
	- ,	-3/3
Unknown	5,000	ug/kg
Unknown	3,000	ug/kg
Unknown	3,000	ng/kg
	0,000	~ 2/ • 2
Unknown	3,000	ug/kg
Unknown	2,000	ug/kg
Unknown	3,000	110/60
	-,	- 3/ **3
Unknown	2,000	ug/kg
Unknown	1,000	ug/kg



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57493 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/21/91

SAMPLE ID: 3933 I-4 9.5-11 7-9-91 14:35

VOLATILE ORGANICS USEPA METHOD 8240 - GC/MS

Acetone .	ND**	cis-1,3-Dichloropropene	ND
Benzene	ND	trans-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethylbenzene	11,000
Bromoform	ND	2-Hexanone	ND**
Bromomethane	ND*	Methylene chloride	ND
2-Butanone	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroethane	ND*	Toluene	2,500
Chloroform	ND	1.1.1-Trichloroethane	ND
Chloromethane	ND*	1,1,2-Trichloroethane	ND
Dibromochloromethane	ND	Trichloroethene	ND
1,1-Dichloroethane	ND	Vinyl acetate	ND**
1,2-Dichloroethane	ND	Vinyl chloride	ND*
1,1-Dichloroethene	ND	Total Xylenes	82,000
1,2-Dichloroethene (Total)	ND		
1.2-Dichloropropane	ND		

NOTE: ND (None Detected, lower detectable limit = 1,300 ug/kg) as rec'd
ND* (None Detected, lower detectable limit = 3,000 ug/kg) as rec'd
ND** (None Detected, lower detectable limit = 13,000 ug/kg) as rec'd
J (Detected, but below quantitation limit; estimated value)
B (Compound detected in method blank associated with this sample)
-- (Not Analyzed)

SURROGATE RECOVERY:	x	ACCEPTABLI	E LIMITS
		WATER	SOLID
1,2-Dichloroethane	95	(76-114)	(70-121)
Toluene-d8	94	(88-110)	(81-117)
Bromofluorobenzene	106	(86-115)	(74-121)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57493 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3933 I-4 9.5-11 7-9-91 14:35

BASE/NEUTRAL EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS (1 of 2)

Acenaphthene	ND
Acenaphthylene	ND
Anthracene	ND
Benzo(a)anthracene	ND
Benzo(b)fluoranthene	ND
Benzo(k)fluoranthene	ND
Benzo(ghi)perylene	ND
Benzo(a)pyrene	ND
Benzyl alcohol	ND
Bis(2-chloroethoxy)methane	ND
Bis(2-chloroethyl)ether	ND
Bis(2-chloroisopropyl)ether	ND
Bis(2-ethylhexyl)phthalate	ND
4-Bromophenyl phenyl ether	ND
Butyl benzyl phthalate	ND
4-Chloroaniline	ND
2-Chloronaphthalene	ND
4-Chlorophenyl phenyl ether	ND

Chrysene	ND	
Dibenzo(a,h)anthracene	ND	
Dibenzofuran	ND	
Di-n-butyl phthalate	440	JB
1,2-Dichlorobenzene	ND	
1,3-Dichlorobenzene	ND	
1,4-Dichlorobenzene	ND	
3,3'-Dichlorobenzidine	ND*	
Diethyl phthalate	ND	
Dimethyl phthalate	ND	
2.4-Dinitrotoluene	ND	
2,6-Dinitrotoluene	ND	
Di-n-octvl phthalate	ND	
Fluoranthene	ND	
Fluorene	ND	
Hexachlorobenzene	ND	
Hexachlorobutadiene	ND	
Hexachlorocyclopentadiene	ND	

NOTE: ND (None Detected, lower detectable limit = 1,300 ug/kg) as rec'd
ND* (None Detected, lower detectable limit = 6,000 ug/kg) as rec'd
J (Detected, but below quantitation limit; estimated value)
B (Compound detected in method blank associated with this sample)
-- (Not Analyzed)

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57493 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3933 I-4 9.5-11 7-9-91 14:35

BASE/NEUTRAL EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS (2 of 2)

Hexachloroethane	ND
Indeno(1,2,3-cd)pyrene	ND
Isophorone	ND
2-Methylnaphthalene	ND
Naphthalene	530 J
Nitrobenzene	ND
2-Nitronaniline	ND*
3-Nitronaniline	ND*
4-Nitronaniline	ND*
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

NOTE:	ND	(None Detected, lower detectable limit = 1,300	ug/kg) as rec'd
	ND*	(None Detected, lower detectable limit = 6,000	ug/kg) as rec'd
	J	(Detected, but below quantitation limit; estimated	value)

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SUBROGATE RECOVERY:	X	ACCEPTABLE LIMITS
		WATER SOLID
Nitrobenzene-d5	92	(35-114) (23-120)
Fluorobiphenyl	100	(43-116) $(30-115)$
Terphenyl-d14	76	(33-141) $(18-137)$



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57493 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3933 I-4 9.5-11 7-9-91 14:35

ACID EXTRACTABLE ORGANICS USEPA METHOD 8270 - GC/MS

Benzoic Acid 4-Chloro-3-methylphenol 2-Chlorophenol	23,000 ND ND
2,4-Dichlorophenol	ND
2,4-Dimethylphenol	ND
2,4-Dinitrophenol	ND*
2-Methyl-4,6-dinitrophenol	ND*
2-Methylphenol	ND
4-Methylphenol	ND
2-Nitrophenol	ND
4-Nitrophenol	ND*
Pentachlorophenol	ND*
Phenol	4,000
2.4.5-Trichlorophenol	ND
2.4.6-Trichlorophenol	NTD
mi vi o vi i contor obnemor	

NOTE:	ND	(None Detected, lower detectable limit = 1,300 ug/kg) as :	rec'd
	ND*	(None Detected, lower detectable limit = 6,000 ug/kg) as 1	rec'd
	J	(Detected, but below quantitation limit; estimated value)	

B (Compound detected in method blank associated with this sample)

-- (Not Analyzed)

SURROGATE RECOVERY:	*	ACCEPTABL	E LIMITS
		WATER	SOLID
2-Fluorophenol	86	(21-100)	(25-121)
Phenol-d5	104	(10 - 94)	(24 - 113)
2,4,6-Tribromophenol	120	(10 - 123)	(19-122)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57493 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/12/91

SAMPLE ID: 3933 I-4 9.5-11 7-9-91 14:35

EXTRACTABLE ORGANICS OTHER COMPOUNDS

None

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS with their estimated concentrations

Unknown	30,000	ug/kg
Unknown	20,000	ug/kg
Unknown aromatic hydrocarbon	10,000	ug/kg
Unknown aliphatic hydrocarbon	10,000	ug/kg
Ethanol, 2,2'-oxybis-	10,000	ug/kg
Unknown	20,000	ug/kg
Unknown	10,000	ug/kg
Unknown	10,000	ug/kg
Unknown	40,000	ug/kg
Unknown	2,000	ug/kg
Unknown	2,000	ug/kg
Unknown	2,000	ug/kg
Unknown	1,000	ug/kg
Unknown aromatic hydrocarbon	3,000	ug/kg
Unknown aromatic hydrocarbon	6,000	ug/kg
Unknown aromatic hydrocarbon	5,000	ug/kg
Unknown aliphatic hydrocarbon	2,000	ug/kg



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WADSWORTH/ALERT LABORATORIES, INC.

COMPANY: HATCHER-SAYRE INC. **LAB #:** 7034-57494 MATRIX: SOLID

7/11/91 DATE RECEIVED: DATE EXTRACTED: 7/18/91 DATE ANALYZED: 7/19/91

SAMPLE ID: 3934 I-5 1.5-3 7-9-91 15:00

VOLATILE ORGANICS METHOD 8020 - GC

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	50,000
Toluene	ND
Xylenes	260,000

NOTE:	ND ND≭	(None Detected, (None Detected,	lower detectable lower detectable	<pre>> limit = 10,000 > limit =</pre>	ug/kg) as rec'd ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE	RECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	DIL	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57495 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3935 I-5 4.5-6 7-9-91 15:05

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	50,000
Toluene	ND
Xylenes	890,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 20,000 limit =	ug/kg) as rec'd ug/kg) as rec'd
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SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	DIL	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57496 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3936 I-5 4.5-6 7-9-91 15:05

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	22,000

NOTE:	ND ND*	(None (None (Not	Detected, Detected, Analyzed)	lower lower	detectable detectable	limit = limit =	3,000	ug/kg) ug/kg)	as as	rec'd rec'd
SURROGA	ATE RI	ECOVER	Y:	x	A	CEPTABL	E LIMITS			

				WATER	SOLID
Fluoroben	zene(PI	D)	DIL	(75-125)	(75 - 125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57497 MATRIX: WATER

DATE RECEIVED: 7/11/91 DATE EXTRACTED: NA DATE ANALYZED: 7/23/91

SAMPLE ID: 3937 FB-5 7-9-91 15:05

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	4

NOTE:	ND ND*	(None (None (Not	Detected, Detected, Analyzed)	lower lower	detectable detectable	limit = limit =	1	ug/1) ug/1)	as as	rec'd rec'd	
SURROG	ATE R	ECOVER	Y:	*	A	CCEPTABLE	LIMITS				

oon our b	1000000	~	moon mobb	DINIXO
			WATER	SOLID
Fluorobenz	zene(PID)	92	(75-125)	(75 - 125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57498 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3938 I-5 7.5-9 7-9-91 15:10

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	7,900
Toluene	1,700
Xylenes	61,000

NOTE:	ND ND*	(None (None (Not)	Detected, Detected, Analyzed)	lower lower	detectable detectable	limit limit	=	1,500	ug/kg) ug/kg)	as as	rec'd rec'd

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	DIL	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57499 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3939 I-5 9.5-11 7-9-91 15:15

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	8,000
Toluene	ND
Xylenes	43,000

SURROG		(NOT ANALYZED)	r	ACCEPTABLE	LIMITS		
NOTE:	ND ND≭	(None Detected, (None Detected,	lower lower	<pre>detectable limit = 2 detectable limit =</pre>	2,400	ug/kg) as ug/kg) as	rec'd rec'd

		WATER	SOLID
Fluorobenzene(PID)	DIL	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57500 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3940 I-6 1.5-3 7-9-91 15:45

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	6

NOTE:	ND ND*	<pre>(None Detected, (None Detected, (Not Analyzed)</pre>	lower detectable lower detectable	limit = 2 limit =	ug/kg) as rec'd ug/kg) as rec'd

SURROGATE RECOVERY:	2	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	66	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57501 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3941 I-6 4.5-6 7-9-91 15:50

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	4

NOTE:	ND	(None Detected,	lower detectable	limit = 2	ug/kg) as rec'd
	ND*	(None Detected,	lower detectable	limit =	ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE RECOVERY:	2	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	74	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57502 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3942 I-6 7.5-9 7-9-91 15:55

Benzene	ND.
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	3
Toluene	3
Xylenes	14

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 2 limit =	ug/kg) as rec'd ug/kg) as rec'd

SURROGATE RECOV	/ERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzene(P	PID)	90	(75-125) ((75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57503 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: 3943 I-6 9.5-11 7-9-91 16:00

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	6
Toluene	9
Xylenes	29

NOTE:	ND	(None Detected,	lower detectable	e limit = 2	ug/kg) as rec'd
	ND*	(None Detected,	lower detectable	e limit =	ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE R	ECOVERY:	z	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenzer	ne(PID)	69	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57504 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3944 I-7 1.5-3 7-9-91 16:10

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	26
Toluene	ND
Xylenes	620

NOTE :	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	e limit = 18 e limit =	ug/kg) as rec'd ug/kg) as rec'd
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SURROGATE R	ECOVERY:	%	ł	ACCEPTAE	BLE	LIMITS
				WATER		SOLID
Fluorobenze	ne(PID)	88	((75-125)) (75-125)



635

WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57505 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3945 I-7 4.5-6 7-9-91 16:15

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	930,000
Toluene	ND
Xylenes	6,400,000

NOTE:	ND ND*	(None Detected,	lower detectable	limit = 180,000	ug/kg) as	rec'd
		(Not Analyzed)		11010	ug,, u.	100 -

SURROGATE RECOVER	RY: %	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PII)) DIL	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57506 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3946 I-7 7.5-9 7-9-91 16:20

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	14,000
Toluene	ND
Xylenes	96,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower detectable lower detectable	limit = 2,000 limit =	ug/kg) as rec'd ug/kg) as rec'd
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SURROGATE I	RECOVERY:	z	ACCEPTABLE	LIMITS		
			WATER	SOLID		
Fluorobenze	ene(PID)	DIL	(75 - 125)	(75 - 125)		



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57507 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3947 I-7 9.5-11 7-9-91 16:25

VOLATILE ORGANICS METHOD 8020 - GC

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	54,000
Toluene	ND
Xylenes	360,000

NOTE:	ND ND≭ ──	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	=	11,000	ug/kg) ug/kg)	as as	rec'd rec'd

SURROGATE RECOVERY:	z	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	DIL	(75 - 125)	(75-125)


WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57508 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3948 I-7 9.5-11 7-9-91 16:25

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	92,000
Toluene	ND
Xylenes	670,000

NOTE:	ND ND*	(None Detected, (None Detected, (Not Analyzed)	lower lower	detectable detectable	limit limit	= =	13,000	ug/kg) ug/kg)	as as	rec'd rec'd
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SURROGATE I	RECOVERY:	2	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ene(PID)	DIL	(75-125)	(75-125)



WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57509 MATRIX: WATER

DATE RECEIVED: 7/11/91 DATE EXTRACTED: NA DATE ANALYZED: 7/19/91

SAMPLE ID: 3949 FB-6 7-9-91 16:25

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	6
Toluene	ND
Xylenes	42

NOTE:	ND ND*	(None Detected (None Detected (Not Analyzed)	, lower , lower	detectable detectable	limit limit	= 1 =	ug/l) as rec'd ug/l) as rec'd

SURROGATE RECOVERY:	x	ACCEPTABLE	LIMITS
		WATER	SOLID
Fluorobenzene(PID)	96	(75-125) ((75 - 125)



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WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57510 MATRIX: SOLID

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: 3950 I-8 7-9-91 16:35

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	16

NOTE:	ND	(None Detected,	lower detectable	limit = 4	ug/kg) as rec'd
	ND*	(None Detected,	lower detectable	limit =	ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE	RECOVERY:	x	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenz	ene(PID)	86	(75-125) (75-125)



WADSWORTH/ALERT LABORATORIES, INC.

> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57511 MATRIX: SOLID

SAMPLE ID: 3951 I-8 7-9-91 16:40

 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	ND
Toluene	ND
Xylenes	ND

NOTE:	ND	(None Detected,	lower detectable	= limit = 4	ug/kg) as rec'd
	ND*	(None Detected,	lower detectable	limit =	ug/kg) as rec'd
		(Not Analyzed)			

SURROGATE R	ECOVERY:	%	ACCEPTABLE	LIMITS
			WATER	SOLID
Fluorobenze	ene(PID)	81	(75-125) ((75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57512 MATRIX: SOLID

SAMPLE ID: 3952 I-8 7-9-91 16:45

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/20/91 DATE ANALYZED: 7/20/91

VOLATILE ORGANICS METHOD 8020 - GC

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	1,500
Toluene	200
Xylenes	5,000

SURROGATE RECOVERY:

NOTE:	ND ND*	(None (None (Not A	Detected, Detected, Analyzed)	lower lower	detectable detectable	limit limit	= :	200	ug/kg) ug/kg)	as as	rec'd rec'd	•
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ACCEPTABLE LIMITS

		WATER	SOLID
Fluorobenzene(PID)	80	(75-125)	(75 - 125)

X



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57513 MATRIX: SOLID

SAMPLE ID: 3953 I-8 7-9-91 16:50

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/20/91 DATE ANALYZED: 7/20/91

Benzene	ND
Chlorobenzene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Ethylbenzene	1,600
Toluene	ND
Xylenes	5,100

NOTE:	ND	(None Detected	lower	detectable	limit	=	200	ug/kg)	as	rec'd
	ND*	(None Detected	lower	detectable	limit	=		ug/kg)	as	rec'd
		(Not Analyzed)								

SURROGATE RECOVERY	: X	ACCEPTABLE	LIMITS
		WATER	SOLID
<pre>Fluorobenzene(PID)</pre>	81	(75-125)	(75-125)



> COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57514 MATRIX: WATER

DATE RECEIVED:7/11/91DATE EXTRACTED:NADATE ANALYZED:7/18/91

SAMPLE ID: 3954 TRIP BLANK 7-9-91

VOLATILE ORGANICS USEPA METHOD 8240 - GC/MS

Acetone	ND**	cis-1,3-Dichloropropene	ND
Benzene	ND	trans-1,3-Dichloropropene	ND
Bromodichloromethane	ND	Ethylbenzene	ND
Bromoform	ND	2-Hexanone	ND**
Bromomethane	ND*	Methylene chloride	ND
2-Butanone	ND**	4-Methyl-2-pentanone	ND**
Carbon disulfide	ND	Styrene	ND
Carbon tetrachloride	ND	1,1,2,2-Tetrachloroethane	ND
Chlorobenzene	ND	Tetrachloroethene	ND
Chloroethane	ND*	Toluene	ND
Chloroform	ND	1,1,1-Trichloroethane	ND
Chloromethane	ND*	1,1,2-Trichloroethane	ND
Dibromochloromethane	ND	Trichloroethene	ND
1.1-Dichloroethane	ND	Vinyl acetate	ND**
1,2-Dichloroethane	ND	Vinyl chloride	ND*
1,1-Dichloroethene	ND	Total Xylenes	ND
1,2-Dichloroethene (Total)	ND	·	
1,2-Dichloropropane	ND		

NOTE:	ND	(None Detected, lower detectable limit = 5	ug/1)	as rec'd
	ND*	(None Detected, lower detectable limit = 10	ug/1)	as rec'd
	ND**	(None Detected, lower detectable limit = 50	ug/l)	as rec'd
	J	(Detected, but below quantitation limit; estimated	value)	
	В	(Compound detected in method blank associated with	this samp	le)
		(Not Analyzed)		

SURROGATE RECOVERY:	*	ACCEPTABLE	LIMITS
		WATER	SOLID
1,2-Dichloroethane	96	(76-114)	(70-121)
Toluene-d8	98	(88-110)	(81-117)
Bromofluorobenzene	94	(86-115)	(74-121)



COMPANY: HATCHER-SAYRE INC. LAB #: 7034-57515 MATRIX: WATER DATE RECEIVED: 7/11/91 DATE EXTRACTED: NA DATE ANALYZED: 7/18/91

ND

ND

SAMPLE ID: 3955 TRIP BLANK 7-9-91

VOLATILE ORGANICS USEPA METHOD 8240 - GC/MS

Acetone	ND**
Benzene	ND
Bromodichloromethane	ND
Bromoform	ND
Bromomethane	ND*
2-Butanone	ND**
Carbon disulfide	ND
Carbon tetrachloride	ND
Chlorobenzene	ND
Chloroethane	ND*
Chloroform	ND
Chloromethane	ND*
Dibromochloromethane	ND
1,1-Dichloroethane	ND
1,2-Dichloroethane	ND
1,1-Dichloroethene	ND
1,2-Dichloroethene (Total)	ND
1,2-Dichloropropane	ND

Ethylbenzene	ND
2-Hexanone	ND**
Methylene chloride	ND
4-Methyl-2-pentanone	ND**
Styrene	ND
1,1,2,2-Tetrachloroethane	ND
Tetrachloroethene	ND
Toluene	ND
1,1,1-Trichloroethane	ND
1,1,2-Trichloroethane	ND
Trichloroethene	ND
Vinyl acetate	ND**
Vinyl chloride	ND*
Total Xylenes	ND

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

NOTE: ND (None Detected, lower detectable limit = 5 ug/l) as rec'd
ND* (None Detected, lower detectable limit = 10 ug/l) as rec'd
ND** (None Detected, lower detectable limit = 50 ug/l) as rec'd
J (Detected, but below quantitation limit; estimated value)
B (Compound detected in method blank associated with this sample)
-- (Not Analyzed)

SURROGATE RECOVERY:	X	ACCEPTABLE	LIMITS
		WATER	SOLID
1,2-Dichloroethane	94	(76-114)	(70-121)
Toluene-d8	97	(88-110) (81-117)
Bromofluorobenzene	94	(86-115)	74-121)



WADSWORTH/ALERT LABORATORIES, INC.

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QUALITY CONTROL SECTION

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August 16, 1991

QUALITY CONTROL NARRATIVE

WADSWORTH/ALERT LABORATORIES, INC.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to be compliant with the exception of those items noted.

The Volatile Organic Compound (VOC) analysis of samples 57482 and 57483 show surrogate recoveries of fluorobenzene to be outside laboratory established limits. Since these samples were analyzed using the criteria established for benzene, toluene, ethylbenzene, and xylenes (BTEXs), which specifies control limits for fluorobenzene as 51% to 116%, the method was considered to be in control. Due to insufficient holding time, the samples could not be reanalyzed using method 8020 criteria.

The VOC matrix spike (MS) and matrix spike duplicate (MSD) of sample 910715 and the MSD of sample 57466 show one spiking compound to be outside laboratory established limits. Since the check samples associated with the MS and MSDs are within laboratory established limits, the method is considered in control and no corrective action is required.

"DIL" in the analytical report means that due to high concentration in the sample, the surrogates added to that sample are diluted out and cannot be quantitated.

LAB ID	ANALYSIS DATE	PARAMETER	PERCENT RECOVERY	MATRIX	QC CONTROL LIMITS
		GC/MS VOLATILE COMPOUNDS			
90718	7/18/91	1,1-Dichloroethene Trichloroethene Chlorobenzene Toluene Benzene	87 100 106 105 104	WATER	(67-126) (79-130) (86-116) (82-119) (79-122)
		GC/MS VOLATILE COMPOUNDS			
92719	7/19/91	1,1-Dichloroethene Trichloroethene Chlorobenzene Toluene Benzene BASE/NEUTRAL ACLD COMPOUNDS	89 84 80 78	SOLID	(56-139) (79-128) (79-118) (78-122) (77-122)
92711	7/11/91	1,2,4-Trichlorobenzene Acenaphthene 2,4-Dinitrotoluene Pyrene N-Nitroso-Di-n-Propylamine 1,4-Dichlorobenzene Pentachlorophenol Phenol 2-Chlorophenol 4-Chloro-3-methylphenol 4-Nitrophenol	80 92 84 68 83 73 106 70 74 85 80	SOLID	(40-102) (46-123) (36-122) (14-145) (41-123) (41-90) (31-138) (36-90) (42-91) (44-132) (16-154)

WADSWORTH/ALERT LABORATORIES, INC.

WADSWORTH/ALERT LABORATORIES, INC.

LAB ID	ANALYSIS DATE	PARAMETER	PERCENT RECOVERY	MATRIX	QC CONTROL LIMITS
		GC VOLATILE COMPOUNDS			
92716	7/16/91	Benzene Chlorobenzene 1,2-Dichloroethene Toluene Trichloroethene GC VOLATILE COMPOUNDS	88 102 104 100 114	SOLID	(86-128) (80-130) (78-134) (85-120) (83-137)
92717	7/17/91	Benzene Chlorobenzene 1,2-Dichloroethene Toluene Trichloroethene GC VOLATILE COMPOUNDS	86 108 96 90 110	SOLID	(86-128) (80-130) (78-134) (85-120) (83-137)
92718	7/18/91	Benzene Chlorobenzene 1,2-Dichloroethene Toluene Trichloroethene	106 96 98 106 110	SOLID	(86-128) (80-130) (78-134) (85-120) (83-137)

WADSWORTH/ALERT LABORATORIES, INC.

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LAB ID	ANALYSIS DATE	PARAMETER	PERCENT RECOVERY	MATRIX	QC CONTROL LIMITS
		GC VOLATILE COMPOUNDS			
90719	7/19/91	Benzene Chlorobenzene 1,2-Dichloroethene Toluene Trichloroethene GC VOLATILE COMPOUNDS	98 110 102 100 124	WATER	(86-128) (80-130) (78-134) (85-120) (83-137)
92719	7/19/91	Benzene Chlorobenzene 1,2-Dichloroethene Toluene Trichloroethene GC VOLATILE COMPOUNDS	98 110 102 100 124	SOLID	(86-128) (80-130) (78-134) (85-120) (83-137)
92720	7/20/91	Benzene Chlorobenzene 1,2-Dichloroethene Toluene Trichloroethene	108 100 94 110 114	SOLID	(86-128) (80-130) (78-134) (85-120) (83-137)

LAB ID	ANALYSIS DATE	PARAMETER	PERCENT RECOVERY	MATRIX	QC CONTROL LIMITS
		GC VOLATILE COMPOUNDS			
92722	7/22/91	Benzene Chlorobenzene 1,2-Dichloroethene Toluene Trichloroethene GC VOLATILE COMPOUNDS	94 98 82 98 110	SOLID	(86-128) (80-130) (78-134) (85-120) (83-137)
90723	7/23/91	Benzene Chlorobenzene 1,2-Dichloroethene Toluene Trichloroethene GC VOLATILE COMPOUNDS	90 94 80 98 106	WATER	(86-128) (80-130) (78-134) (85-120) (83-137)
92723	7/23/91	Benzene Chlorobenzene 1,2-Dichloroethene Toluene Trichloroethene	90 94 80 98 106	SOLID	(86-128) (80-130) (78-134) (85-120) (83-137)

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WADSWORTH/ALERT LABORATORIES, INC.

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WADSWORTH/ALERT LABORATORIES, INC.

Toluene-d8

Bromofluorobenzene

COMPANY: Wadsworth/Alert Laboratories LAB #: 9091-90718 MATRIX: WATER DATE RECEIVED: 7/18/91 DATE EXTRACTED: NA DATE ANALYZED: 7/18/91

SAMPLE ID: INTRA-LAB BLANK , 7 /18/91

VOLATILE ORGANICS BLANK COMPOUND LIST - GC/MS

Aceton Acrole Acrylo:	e in nitri:	le	ND** ND** ND**		1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethene		ND ND ND		
2-Buta Benzen Bromod	none e ichlo:	romethane	ND** ND ND		1,2-Dichloroethene (to 1,2-Dichloropropane cis-1,3-Dichloroproper	otal) ne	ND ND ND		
Bromof Bromom Carbon	orm ethane disu	e lfide	ND ND* ND		trans-1,3-Dichloroprop Ethylbenzene 2-Hexanone	ene	ND ND ND≯	**	
Carbon Chloro Chloro	tetra benzen ethane	achloride ne e	ND ND ND*		4-Methyl-2-pentanone Methylene chloride Styrene		ND≭ ND ND	:*	
Chloro 2-Chlo: Chloro	form roethy methan	vl vinyl ether ne	ND ND* ND*		1,1,2,2-Tetrachloroeth Tetrachloroethene Toluene	nane	ND ND ND		
Chloromethyl methyl ether Dibromochloromethane 1,2-Dichlorobenzene		ND ND ND	ND 1,1,1-Trichloroethane ND 1,1,2-Trichloroethane ND Trichloroethene			ND ND ND			
1,3-Di 1,4-Di Dichlo	chlord chlord rodif	bbenzene bbenzene luoromethane	ND ND ND*		Trichlorofluoromethane Vinyl acetate Vinyl chloride Total xylenes	2	ND ND* ND* ND	< *	
NOTE:	ND ND* ND** J	(None Detected, (None Detected, (None Detected, (Detected, but (Not Analyzed)	lower lower lower below	detecta detecta detecta quanti	able limit = 5 able limit = 10 able limit = 50 tation limit; estimated	ug, ug, ug, l val:	/1) /1) /1) ue)	as as as	rec'd rec'd rec'd
SURROG	ATE RI	ECOVERY:	z		ACCEPTABLE LIMITS				
1,2-Dichloroethane		100		(76-114) (70-121)					

98

97

(88-110) (81-117)

(86-115) (74-121)



Toluene-d8

Bromofluorobenzene

COMPANY: Wadsworth/Alert Laboratories LAB #: 9291-92719 MATRIX: SOLID
 DATE RECEIVED:
 7/19/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/21/91

SAMPLE ID: INTRA-LAB BLANK , 7 /19/91

VOLATILE ORGANICS BLANK COMPOUND LIST - GC/MS

Aceton	e		ND**	1	,1-Dichloro	bethane		ND		
Acrole	croiein complenitaile			ND** 1,2-Dichloroethane			ND CIN			
ACTYLO	MICLI.	Te	ND++	T	,1-Dieniore	bethene		ND		
2-Buta	none		ND**	1	,2-Dichloro	oethene (tot	al)	ND		
Benzen	e		ND	1	,2-Dichlord	propane		ND		
Bromod	ichlo	romethane	ND	с	is-1,3-Dich	loropropene	•	ND		
Bromof	orm		ND	t	rans-1,3-Di	chloroprope	ene	ND		
Bromom	ethan	9	ND*	E	thylbenzene	2		ND		
Carbon	disu	lfide	ND	2	-Hexanone			ND≯	**	
Carbon	tetra	achloride	ND	4	-Methyl-2-p	entanone		ND۶	**	
Chloro	benzei	ne	ND	М	lethylene ch	nloride		ND		
Chloro	ethan	9	ND*	S	tyrene			ND		
Chloro	form		ND	1	,1,2,2-Tetr	achloroetha	ne	ND		
2-Chlo	roeth	yl vinyl ether	ND*	Т	etrachloroe	thene		ND		
Chloro	metha	ne	ND*	Т	oluene			ND		
Chloro	methy]	l methyl ether	ND	1	,1,1-Trichl	oroethane		ND		
Dibrom	ochlo	romethane	ND	1	,1,2-Trichl	oroethane		ND		
1,2-Di	chlore	obenzene	ND	Т	richloroeth	iene		ND		
1,3-Di	chlor	obenzene	ND	Т	richloroflu	oromethane		ND		
1,4-Di	chlore	obenzene	ND	V	inyl acetat	e		ND*	**	
Dichlo	rodif	luoromethane	ND*	V	inyl chlori	.de		ND*	k	
				Т	otal xylene	s		ND		
NOTE			,			<u></u>				
NOTE:	ND ND*	(None Detected,	lower	detectab	le limit =	1200	ug/K	g) av	as	rec'a
	ND**	(None Detected,	lower	detectab	le limit =	1300	ug/k	5) a)	as	rec'd
	J	(Detected , but	below	quantita	tion limit:	estimated	valu	5/ e)	as	rec u
		(Not Analyzed)	00100	quantita	Joron Timit,	coormadea	, ai a	C)		
SURROG	ATE RI	ECOVERY:	x		ACCEPTABLE	LIMITS				
					WATER	SOLID				
1,2-Di	chlor	pethane	82		(76-114)	(70-121)				

(88-110) (81-117)

(86-115) (74-121)

89

115



COMPANY: Wadsworth/ALERT Laboratories LAB #: 9291-92716 MATRIX: SOLID
 DATE RECEIVED:
 7/16/91

 DATE EXTRACTED:
 7/16/91

 DATE ANALYZED:
 7/16/91

SAMPLE ID: INTRA-LAB BLANK , 7 /16/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Benzene		4
1,2-Dichlorobenzene	ND	4
1,3-Dichlorobenzene	ND	4
1,4-Dichlorobenzene	ND	4
Ethylbenzene	ND	4
Toluene	ND	4
Xylenes	ND	4

SURROGATES:	ACCEPTABLE	LIMITS	
	WATER	SOLID	%
Fluorobenzene (PID)	(75-125)	(65-103)	97



COMPANY: Wadsworth/ALERT Laboratories LAB #: 9291-92717 MATRIX: SOLID DATE RECEIVED: 7/17/91 DATE EXTRACTED: 7/17/91 DATE ANALYZED: 7/17/91

SAMPLE ID: INTRA-LAB BLANK , 7 /17/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

Benzene ND	2
Chlorobenzene ND	2
1,2-Dichlorobenzene ND	2
1,3-Dichlorobenzene ND	2
1,4-Dichlorobenzene ND	2
Ethylbenzene ND	2
Toluene ND	2
Xylenes ND	2

SURROGATES:	ACCEPTABLE WATER	LIMITS SOLID	%
Fluorobenzene (PID)	(75-125)	(65-103)	99



-575

WADSWORTH/ALERT LABORATORIES, INC.

COMPANY: Wadsworth/ALERT Laboratories LAB #: 9291-92717 MATRIX: SOLID
 DATE RECEIVED:
 7/17/91

 DATE EXTRACTED:
 7/17/91

 DATE ANALYZED:
 7/17/91

SAMPLE ID: INTRA-LAB BLANK , 7 /17/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/kg)	DETECTION · LIMIT
Benzene	ND	4
Chlorobenzene	ND	4
1,2-Dichlorobenzene	ND	4
1,3-Dichlorobenzene	ND	4
1,4-Dichlorobenzene	ND	4
Ethylbenzene	ND	4
Toluene	ND	4
Xylenes	ND	4

SURROGATES:	ACCEPTABLE LIMITS	
	WATER SOLID	%
Fluorobenzene (PID)	(75-125) (65-103)	106



COMPANY: Wadsworth/ALERT Laboratories LAB #: 9291-92718 MATRIX: SOLID
 DATE RECEIVED:
 7/18/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: INTRA-LAB BLANK, 7 /18/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Benzene	ND	2
Chlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,4-Dichlorobenzene	ND	2
Ethylbenzene	ND	2
Toluene	ND	2
Xylenes	ND	2

SURROGATES:	ACCEPTABLE WATER	LIMITS SOLID	%
Fluorobenzene (PID)	(75-125)	(65-103)	103



COMPANY: Wadsworth/ALERT Laboratories LAB #: 9291-92718 MATRIX: SOLID
 DATE RECEIVED:
 7/18/91

 DATE EXTRACTED:
 7/18/91

 DATE ANALYZED:
 7/18/91

SAMPLE ID: INTRA-LAB BLANK , 7 /18/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Benzene	ND	4
Chlorobenzene	ND	4
1,2-Dichlorobenzene	ND	4
1,3-Dichlorobenzene	ND	4
1,4-Dichlorobenzene	ND	4
Ethylbenzene	ND	4
Toluene	ND	4
Xylenes	ND	4

SURROGATES:	ACCEPTABLE LIMITS	
	WATER SOLID	%
Fluorobenzene (PID)	(75-125) (65-103)	97



COMPANY: Wadsworth/ALERT Laboratories LAB #: 9091-90719 MATRIX: WATER DATE RECEIVED: 7/19/91 DATE EXTRACTED: NA DATE ANALYZED: 7/19/91

SAMPLE ID: INTRA-LAB BLANK , 7 /19/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/l)	DETECTION LIMIT
Benzene	ND	1
Chlorobenzene	ND	1
1,2-Dichlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
Ethylbenzene	ND	1
Toluene	ND	1
Xylenes	ND	1

SURROGATES:	ACCEPTABLE WATER	LIMITS SOLID	%
Fluorobenzene (PID)	(75-125)	(65-103)	104



WADSWORTH/ALERT LABORATORIES, INC.

COMPANY: Wadsworth/ALERT Laboratories LAB #: 9291-92719 MATRIX: SOLID
 DATE RECEIVED:
 7/19/91

 DATE EXTRACTED:
 7/19/91

 DATE ANALYZED:
 7/19/91

SAMPLE ID: INTRA-LAB BLANK , 7 /19/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Benzene	ND	4
Chlorobenzene	ND	4
1,2-Dichlorobenzene	ND	4
1,3-Dichlorobenzene	ND	4
1,4-Dichlorobenzene	ND	4
Ethylbenzene	ND	4
Toluene	ND	4
Xylenes	ND	4

SURROGATES:	ACCEPTABLE WATER	LIMITS SOLID	%
Fluorobenzene (PID)	(75-125)	(65-103)	103



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WADSWORTH/ALERT LABORATORIES, INC.

COMPANY: Wadsworth/ALERT Laboratories LAB #: 9291-92720 MATRIX: SOLID
 DATE RECEIVED:
 7/20/91

 DATE EXTRACTED:
 7/20/91

 DATE ANALYZED:
 7/20/91

SAMPLE ID: INTRA-LAB BLANK , 07/20/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

RESULT (ug/kg)	DETECTION LIMIT
ND	4
ND	4
ND	4
ND	4
ND	4
ND	4
ND	4
ND	4
	RESULT (ug/kg) ND ND ND ND ND ND ND ND ND

NOTE:	ND	(None	Detected)			
SURROG	GATES:			ACCEPTABLE WATER	LIMITS SOLID	%
Fluoro	benze	ne (PI	D)	(75–125)	(65–103)	97



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WADSWORTH/ALERT LABORATORIES, INC.

COMPANY: Wadsworth/ALERT Laboratories LAB #: 9291-92722 MATRIX: SOLID

 DATE RECEIVED:
 7/22/91

 DATE EXTRACTED:
 7/22/91

 DATE ANALYZED:
 7/22/91

SAMPLE ID: INTRA-LAB BLANK , 7 /22/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Benzene	ND	4
Chlorobenzene	ND	4
1,2-Dichlorobenzene	ND	4
1,3-Dichlorobenzene	ND	4
1,4-Dichlorobenzene	ND	4
Ethylbenzene	ND	4
Toluene	ND	4
Xylenes	ND	4

SURROGATES:	ACCEPTABLE LIMITS WATER SOLID	%
Fluorobenzene (PID)	(75-125) (65-103)	97



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WADSWORTH/ALERT LABORATORIES, INC.

COMPANY: Wadsworth/ALERT Laboratories LAB #: 9091-90723 MATRIX: WATER DATE RECEIVED: 7/23/91 DATE EXTRACTED: NA DATE ANALYZED: 7/23/91

SAMPLE ID: INTRA-LAB BLANK , 7 /23/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/l)	DETECTION LIMIT
Benzene Chlorobenzene	ND	1 1
1,2-Dichlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
Ethylbenzene	ND	1
Toluene	ND	1
Xylenes	ND	1

SURROGATES:	ACCEPTABLE LIMITS	
	WATER SOLID	%
Fluorobenzene (PID)	(75-125) (65-103)	94



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WADSWORTH/ALERT LABORATORIES, INC.

COMPANY: Wadsworth/ALERT Laboratories LAB #: 9291-92723 MATRIX: SOLID **DATE RECEIVED:** 7/23/91 **DATE EXTRACTED:** 7/23/91 **DATE ANALYZED:** 7/23/91

SAMPLE ID: INTRA-LAB BLANK , 7 /23/91

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Benzene	ND	4
Chlorobenzene	ND	4
1,2-Dichlorobenzene	ND	4
1,3-Dichlorobenzene	ND	4
1,4-Dichlorobenzene	ND	4
Ethylbenzene	ND	4
Toluene	ND	4
Xylenes	ND	4

SURROGATES:	ACCEPTABLE LIMITS WATER SOLID	%
Fluorobenzene (PID)	(75-125) (65-103)	94



COMPANY: Wadsworth/Alert Laboratories LAB #: 9291-92711 MATRIX: SOLID

DATE RECEIVED: 7/11/91 7/11/91 DATE EXTRACTED: DATE ANALYZED: 7/11/91

ND*

410 ND

SAMPLE ID: INTRA-LAB BLANK , 7 /11/91

BASE/NEUTRAL EXTRACTABLE ORGANICS ANALYTICAL BLANK REPORT (1 of 2)

Acenaphthene	ND	4-Chlorophenyl phenyl ether	ND
Acenaphthylene	ND	Chrysene	ND
Anthracene	ND	Dibenzo(a,h)anthracene	ND
Benzidine	ND*	Dibenzofuran	ND
Benzo(a)anthracene	ND	Di-n-butyl phthalate	41
Benzo(b)fluoranthene	ND	1,2-Dichlorobenzene	ND
Benzo(k)fluoranthene	ND	1,3-Dichlorobenzene	ND
Benzo(ghi)perylene	ND	1,4-Dichlorobenzene	ND
Benzo(a)pyrene	ND	3,3'-Dichlorobenzidine	ND
Benzyl alcohol	ND	Diethyl phthalate	ND
Bis(2-chloroethoxy)methane	ND	Dimethyl phthalate	ND
Bis(2-chloroethyl)ether	ND	2,4-Dinitrotoluene	ND
Bis(2-chloroisopropyl)ether	ND	2,6-Dinitrotoluene	ND
Bis(2-ethvlhexvl)phthalate	40 J	Di-n-octvl phthalate	ND
4-Bromophenyl phenyl ether	ND	1,2-Diphenylhydrazine	ND
Butyl benzyl phthalate	ND	Fluoranthene	ND
4-Chloroaniline	ND	Fluorene	ND
2-Chloronaphthalene	ND	Hexachlorobenzene	ND
2-Chloronaphthalene	ND	Hexachlorobenzene	

NOTE: ND (None Detected, lower detectable limit = 330 ug/kg) as rec'd ND* (None Detected, lower detectable limit = 1600 ug/kg) as rec'd (Detected, but below quantitation limit; estimated value) J ---(Not Analyzed)



COMPANY: Wadsworth/Alert Laboratories LAB #: 9291-92711 MATRIX: SOLID
 DATE RECEIVED:
 7/11/91

 DATE EXTRACTED:
 7/11/91

 DATE ANALYZED:
 7/11/91

SAMPLE ID: INTRA-LAB BLANK , 7 /11/91

BASE/NEUTRAL EXTRACTABLE ORGANICS ANALYTICAL BLANK REPORT (2 of 2)

Hexachlorobutadiene	ND
Hexachlorocyclopentadiene	ND
Hexachloroethane	ND
Indeno(1,2,3-cd)pyrene	ND
Isophorone	ND
2-Methylnaphthalene	ND
Naphthalene	ND
Nitrobenzene	ND
2-Nitroaniline	ND*
3-Nitroaniline	ND*
4-Nitroaniline	ND*
N-Nitrosodimethylamine	ND
N-Nitrosodiphenylamine	ND
N-Nitrosodi-n-propylamine	ND
Phenanthrene	ND
Pyrene	ND
1,2,4-Trichlorobenzene	ND

NOTE: ND (None Detected, lower detectable limit = 330 ug/kg) as rec'd ND* (None Detected, lower detectable limit = 1600 ug/kg) as rec'd J (Detected, but below quantitation limit; estimated value) ______ (Not Analyzed)

X	ACCEPTABL	E LIMITS
	WATER	SOLID
83	(35-114)	(23 - 120)
90	(43-116)	(30-115)
82	(33-141)	(18-137)
	% 83 90 82	X ACCEPTABL WATER 83 (35-114) 90 (43-116) 82 (33-141)



CLIENT : Wadsworth/Alert Laboratories LAB #: 9291-92711 MATRIX: SOLID

DATE RECEIVED: 7/11/91 DATE EXTRACTED: 7/11/91 DATE ANALYZED: 7/11/91

SAMPLE ID: INTRA-LAB BLANK , 7 /11/91

ACID EXTRACTABLE ORGANICS ANALYTICAL BLANK REPORT

Benzoic acid	ND*
4-Chloro-3-methylphenol	ND
2-Chlorophenol	ND
2,4-Dichlorophenol	ND
2,4-Dimethylphenol	ND
2,4-Dinitrophenol	ND*
2-Methyl-4,6-dinitrophenol	ND*
2-Methylphenol	ND
4-Methylphenol	ND
2-Nitrophenol	ND
4-Nitrophenol	ND*
Pentachlorophenol	ND*
Phenol	ND
2,4,5-Trichlorophenol	ND
2,4,6-Trichlorophenol	ND

NOTE: ND (None Detected, lower detectable limit = 330 ug/kg) as rec'd
ND* (None Detected, lower detectable limit = 1600 ug/kg) as rec'd
ND** (None Detected, lower detectable limit = ug/kg) as rec'd
J (Detected, but below quantitation limit; estimated value)
-- (Not Analyzed)

2	ACCEPTABL	E LIMITS
	WATER	SOLID
70	(21-100)	(25-121)
92	(10-94)	(24-113)
110	(10-123)	(19-122)
	% 70 92 110	X ACCEPTABL WATER 70 (21-100) 92 (10-94) 110 (10-123)

Second Second

MATRIX SPIKE DATA

LAB ID	ANALYSIS DATE	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
		VOLATILE ORGANIC COMPOUNDS				
57451	7/17/91	Benzene Toluene Ethylbenzene Xylene Chlorobenzene	74 88 84 92 106	100 110 92 101 122	SOLID	(38-142) (43-131) (70-130) (37-133) (70-130)
		VOLATILE ORGANIC COMPOUNDS				
57466	7/22/91	Benzene Toluene Ethylbenzene Xylene Chlorobenzene VOLATILE ORGANIC COMPOUNDS	96 102 87 99 90	98 119 79 0* 98	SOLID	(38-142) (43-131) (70-130) (37-133) (70-130)
57511	7/20/91	Benzene Toluene Ethylbenzene Xylene Chlorobenzene	107 110 102 116 87	109 113 101 111 88	SOLID	(38-142) (43-131) (70-130) (37-133) (70-130)

MATRIX SPIKE DATA

	LAB ID	ANALYSIS DATE	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
•			GC VOLATILE COMPO	UNDS			
	910715	7/15/91	1,1-Dichloroethene	88	94	WATER	(55-120)
			Trichloroethene	132	132		(72-124)
			Chlorobenzene	116	118		(80-125)
			Toluene	110	112		(77-126)
		۰.	Benzene	94	96		(79-123)

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WADSWORTH/ALERT LABORATORIES, INC.



antike enderstaatigetijkelike enderstaatie

PROJECT	I	1011	1. CLO	SURE		ERS	SAM TYI	PLE PE	ANA REC		5/	/	7		/	7	7	/		7		PRE	SERV	/ATION
PROJECT NO. OCDI-DOI SAMPLER'S SIGNATURE Keith Stagen HATCHER-SAYRE, INC. SAMPLE NO.	J) ert	D.N ATE	loney TIME	MATRI	IX	NUMBER OF CONTAIN	CRAB BC		/ .	0950									OR	REMARKS SAMPLE LOCAT	10N	ICED		SPECIFY CHEMICALS
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3879			7:45			١	×		¥										BI-1	4.5-6				
3880			7:50			١	×		X										BI-1	7,5-9				
3881			7:55			١	x		X										BI-1	9.5-11				
3882			8:15			1	X		7										BI-2	1.5-3				
3883			8:20			1	x		X										BI-2	4.5-6				
3884			8:25			١	¥		×		1								BI-Z	7,5-9				
3885			8:30			1	x		×										BI-Z	9.5-11			•	
3886			8:45			1	×		×										B1-3	1,5-3				
3887			8:50			۱	x		x										BI-3	4.5-6				
3888			8:50		e	1	X		x										BI-3	4,5-6				
3889		1	8:50	WATE	R	2	X		×										FB-1	· · · · · · · · · · · · · · · · · · ·	-	4	HC	<u>ال</u>
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PROJECT	ERS	SAM TY	PLE PE	ANA REC	LYSES	5/	7	7	7	/		/		//./	/	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	PRESER		TION					
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3891			8: 59			1	¥		×										BI-3	9,5 - 11				
3892			9:40			I	×		X										BI - 4	1.5-3				
3893			9:45		1		>		¥										BI-4	4.5-6				
3894			9:50				×		×										BI-4	7,5-9				
3895			10:25		1		¥		×										BI-5	1,5-3				
3896			10:30		1		x		×										BI-5	4.5-6				
3897			10:35		1		×		¥										BL-S	7,5-9				
389 8			10:40			١	x		×										BI-5	9.5-11				
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3900			10:40	war	er	Z	¥		X,										FB-2	•			HCI	-
3901		\downarrow	10:50	Soi	L	١	×		۶										BI-6	1.5-3			NP	•
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PROJECT	ERS	SAN TY	IPLE PE	ANA REC	ALYSES QUIRED	/	/	/	/	/	/		7		/	PR	ESEF	RVATION								
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Robert D. Norey							_ _ _	STTE		1 a	/	/.	/	/	/			/			CED		Б			
PRINTED NAME Kuith Stisan / Bberth Mowy							GRA	MPC	/			· /	' /	' /	' /	' /	/ /	/		REMARKS			CIFY			
HATCHER-SAYRE, INC. SAMPLE NO.	HATCHER-SAYRE, INC. DATE TIME MATRIX							ŭ	\bigvee	7 /	/									MPLE LOCATION			SPE			
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3904			11:05		_	١	×		۲										BI-6	9,5-11						
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3906			11:30			١	×		x										BI-7	4.5-6						
3907			11:35		1		X		¥										BI-7	7.5-9						
3908			11:40		1		¥		×										BI-7	9.5-11						
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PROJECT	KNILLE INCIN CLOSURE							ANA REC		7			7		7	/			/				ATION	
PROJECT NO.							ECK OX		. /	/							/						CALS	
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3924			13:45	WATE	2 2	. x		×										FB-4				H	2	
3925		•	13:48	unte	2 2	- x		>										FIELD T	3LANK			u	CL	
Rhat D. Honon 7/10 13:50 Refunduished BY (SIGNATURE): 7/10 IS:50						F	ELINQUI	shied th	o (signat	IURE):					SHIP	PING C	OMPA	٩	Shipping Ticket n			0.		
														REMARKS:										
RELINQUISHED BY (SIGNATUR		DATE	TIME		F	ELINQUI	shed to	o (signat	TURE):															
RELINQUISHED BY (SIGNATURE): DATE TIME					<u> </u>	،	ELINQUI	SHED TO	o (signat	IURE):	<u>la : : :</u>	/												
Am					J.(/ja	cki	$\sqrt{2}$	7-11-	91	10:10 C	tin	JKN/ RFO	111B1	UND TD	L T		24 NUUKS 18 HALIPS						
CONTRACT LAB		RECE	MED FOR	LÃB BÌ	(SIGN	TURE)	\sim	DATE		TIME			Sav		L	<u> </u>	CNUUL OF	L			· · ·			


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CHAIN OF CUSTODY RECORD

PROJECT	Luc	_1~	. cros	URE		ERS	SAM TY	PLE PE	ANA REC	LYSE	s/	/	7	7	7	7	/			/	PRE	SERV	ATION
PROJECT NO.	\					ITAIN		ECK)			/	/	/		/	/	/	/					۲LS
SAMPLER'S SIGNATURE	Ũ	P				CON						· /	· /	' /	· /	/	· /	/					EMIC
Rhart D. Money	1					οF	ß	SITE		/ «		/	/	/	/	/		/			CED	ō	5
PRINTED NAME	n +	N	Noneh			BER	GRA	MPC		\vec{y}	<u>`</u> 7	!~!	' /	' /	' /	' /	/ /	/	/ / F	REMARKS	-		CF1
HATCHER-SAYRE, INC. SAMPLE NO.	D/	ATE	TIME	MATR	ıx	NUM		ပိ		/ 0	/ v	~							OR SAN	MPLE LOCATION			Srt
3926	7	/9	13:55	501	L	١	>		×										I-3	1.5-3	4°C	Z	9
3927			14:00			١	×		x										I-3	4,5 - 6			
3928			14:05			1	×		x										I-3	7.5 -9			
3929			14:10			1	×		×										I-3 0	7.5-11			
3930			14:20			Ζ	*			x	۶								I-4	1.5 - 3			
3931			14:25			2	x			×	×								I-4 "	4.5-6			
3932			14:30			٢	7			x	x								I-4 -	7.5-9			
3933			14:35			Ζ	×			x	<u>×</u>								I-4 4	7,5-11			
3934			15:00			1	x		¥										I-5	1.5-3			
3935			15:05			١	¥		X									_	I-5	4.5-6			
3936			15:05			١	×		<u>></u>										L-5 4	4.5-6			1
3937		,	15:05	wber	er	٢	×		×			l				l			FB-5	an an an an an an an an an an an an an a		HC	<u>-L</u>
Rhout D. Nonn RELINQUISHED BY (SIGNATUR	E):			13:3 Time	U		RE	Linguis	HED TO	(SIGN/	TURE):					SHIPI	PING C	OMPAN	ſſ	SHIPPING TICKET NO)_		
										•			RE	MARK	S:								
RELINQUISHED BY (SIGNATUR	RE):		DATE	TIME		<u>.</u>	RE	LINQUIS	HED TO	(SIGN/	TURE):												
RELINQUISHED BY (SIGNATUR	Æ):		DATE	TIME	<u> </u>	$\overline{}$	RE		ihed to	(SIGN/	TURE):	,	_										
			Am	nac	4	.Ľ	ac	ku	(c^{\dagger})	-11-9	1) 10	:14	4n	JRN/ REO			L	 ~	24 HOURS				
CONTRACT LAB			RECE	NED FOR	RV 2	BY (SIGNAT	URE):	J	DATE		TIME				0	L						



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CHAIN OF CUSTODY RECORD PROJECT SAMPLE CONTAINERS ANALYSES PRESERVATION UCP SAUKVILLE INCIN. LLOSURE TYPE REQUIRED PROJECT NO. (CHECK) CHEMICALS BOX SAMPLER'S SIGNATURE G Kith Street COMPOSITE 600 Р Rhat D. Mone GRAB 2024 SPECIFY NUMBER HATCHER-SAYRE, INC. REMARKS Robertz None OR SAMPLE LOCATION DATE TIME MATRIX a bul 40 1-15 7.5-9 3938 7/9 NP 15:10 SOIL L X X I TOM 5 39 39 9.5-11 1 X X 15:15 ۱ λ I-6 3940 X 1.5-3 15:45 1-6 3941 X 4.5-6 15:50 L X 3942 × I-6 7.5-9 Y 15:55 1 X 3943 ۱ 1-6 9-5-11 16:00 3944 ١ X 1-7 1.5-3 1:10 3945 λ 1-7 1 4.5-6 16:15 ۲ 7.5-9 3946 I-7 16:20 x x I-7 9.5-11 3947 16:25 X ١ Ŷ 1-7 9.5-11 3948 11.25 1 ¥ x 2 3949 16:25 WATER HCL FB-6 JIO Kbut D. Monon RELINQUISHED BY (SIGNATURE): 13:30 DATE TIME RELINQUISHED TO (SIGNATURE): SHIPPING COMPANY SHIPPING TICKET NO. **REMARKS:** RELINQUISHED BY (SIGNATURE): DATE TIME RELINQUISHED TO (SIGNATURE): RELINQUISHED BY (SIGNATURE): DATE TIME RELINQUISHED TO (SIGNATURE): □ 24 HOURS NORMAL. TURNAROUND OTHER REQUIRED □ 48 HOURS DATE TIME CONTRACT LAB RECEIVED FOR LAB BY (SIGNATURE):



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CHAIN OF CUSTODY RECORD

PROJECT	DJECT LP SANICNICLE INCIN CLOSOPE JJECT NO. DOCO 1 - DO1				ERS	SAM TY	IPLE PE	ANA REC	LYSE	s D	/	/	7	/	7	/	/			PRE	SERVATION
PROJECT NO.					TAIN		ECK)			/	/	/		/	/	/					ALS
SAMPLER'S SIGNATURE	"]	<u></u>			OF CON		SITE		/			/			/	/				CED	CHEMIC
PRINTED NAME KejH SI,gall / R HATCHER-SAYRE, INC. SAMPLE NO.	ert DA	D, TE	Morey TIME	MATRIX	NUMBER	GRA	COMPC	0	N	u V								OR SAME	MARKS PLE LOCATION		SPECIFY
39.50	7]	9	16:35	SOIL	1	×		¥										I-8		4°2	NP
39,51			16:40		١	x		X										I-9			
3952			16:45		١	×		χ										I-8	-		
39 53			16:50	+	1	×		×							_			1-9			
39 54		,		wher	z	1			>									TRIP BLAN	NC		Her
3955				WATER	2				X									TRIPBU	それ	ł	HCL
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Robert D. Monor Relinquished by (SKONGTURI	E):			13:30 TIME		RE		HED TO) (SIGN	ATURE):	<u></u>		<u></u>	L	SHIP	PING C	OMPANY	(shipping ticket n	<u> </u>	
												RE	MARK	S:							
RELINQUISHED BY (SIGNATUR	E):		DATE	TIME		RE	LINQUIS	HED TO) (Sign	ATURE):		4									
RELINQUISHED BY (SIGNATUR	E):		DATE	TIME		RE	LINQUIS	ihed to) (SIGN	ATURE):									<u> </u>		
CONTRACT LAB			An	MED FOR W	Ţ		KI	S	-//-7 Dati	9/1	0:19 TIME	(hTI	JRN/ REQ	AROI UIRE	UND ED	[[] 2] 4	A HOURS	NORMAL		

APPENDIX C

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Physical Testing of Soil Samples

SUMMARY OF LABORATORY TEST RESULTS

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		r			UN WEI	IT GHT		ERBERG MITS		TRIA) SHEA TEST	CIAL. R	OTHER TESTS **	PROJECT Cook Composites & Polymers Incinerator Closure
HOLE NO.	SAMPLE NO.	SAMPLE TYPE	DEPTH	NATURAL MOISTURE (%)	<u>(PC</u> Wet	F) DRY	LIQUID LIMIT (%)	PLASTICITY INDEX (%)	USC	Ò	C (KSF)	UNCONFINED COMPRESSION TEST (KSF)	PROJECT NO. 0001-001 DATE SOIL DESCRIPTION
BI-3	3	SS	7.5- 9.0'	15.9			15	2	ML			S	SILT
BI-3	4	SS	9.5- 11.0'	13.5			18	4	CL- ML			S	SILTY CLAY
BI-4	2	SS	4.5- 6.0'	10.6			16	2	GM			S	Silty GRAVEL with sand
BI-5	2	SS	4.5- 6.0'	16.0			40	29	_GC			S	<u>Clayey</u> GRAVEL with SAND
BI-6	1	SS	1.5- 3.0'	2.5			16	2	GM			S	Silty GRAVEL with SAND
BI-6	2	SS	4.5- 6.0	' 8.6			18	3	GW			S	Well graded Gravel with sand
				· ·									· ·
					۰.								

* ST-SHELBY TUBE SAMPLE, SS-SPLIT SPOON SAMPLE, B-BAG SAMPLE ** TEST RESULTS REPORTED ON OTHER SHEET:

C-CONSOLIDATION

S-SIEVE OR GRAIN SIZE ANALYSIS U-UNCONFINED COMPRESSION TEST D-DIRECT SHEAR TEST T-TRIAXIAL TEST

CHECKED BY: SGW















APPENDIX D

Statistical Analyses

WILCOXON RANK SUM TEST CCP - INCINERATOR CLOSURE SAUKVILLE, WISCONSIN

TEST PARAMETER = BENZENE CONCENTRATIONS IN MG/KG

SAMPLE DEPT	H = 1.5'	- 3.0"		SAMPLE DEPTH = 4.5' - 6.0'							
BACKGROUND		INCINERATOR		BACKGROU	4D]	NCINERA	IO R			
AREA	R(x)	AREA	R(y)	AREA		R(x)	AREA		R(y)		
0.002 *	5.5	0.2 *	12	0.002	¥	5	37	¥	14		
0.012 *	11	0.45 ×	13	0.002	×	5	0.15	¥	10		
0.002 *	5.5	11 *	16	0.002	¥	5	215	×	16		
0.002 *	5.5	3.15 ×	14	0.002	¥	5	31.5	×	13		
0.002 *	5.5	5 ×	15	0.002	¥	5	10	¥	12		
0.002 *	5.5	0.001 *	1	0.002	¥	5	0.001	¥	1		
0.002 *	5.5	0.009 *	10	0.0065	¥	9	90	¥	15		
0.002 *	5.5	0.002 *	5.5	0.6	¥	11	0.002	¥	5		
ω		=	86.5	-	W		=		 86		
w	(0.052,8	,8)=	84		W	(0.052,8,	8)=		84		
	·	$\omega > \omega$				h	V > w				
(T E THOTH	FRATOR S	OTLS > BACK	GROUNDS	CT E TNO	ты	RATOR SC		יאש	SROUND)		

SAMPLE DEPTH = 7.5' - 9.0' SAMPLE DEPTH = 9.5' - 11.0' INCINERATOR BACKGROUND BACKGROUND INCINERATOR AREA R(y) AREA R(x) AREA R(y) AREA R(x)0.5 * 11 __ __ __ __ __ __ __ __ _____ 0.002 * 4 0.25 * 0.002 * 4.5 9.5 0.1 × 0.002 * 4.5 0.0125 * 7.5 0.001 * 1.5 16 0.002 * 14 0.002 * 13 0.005 4 0.002 * 4.5 4.5 × 4.5 × 14 4.5 4 0.002 * 0.8 × 0.65 × 12 4.5 0.75 × 0.002 * 6 1.2 × 13 1 0.002 4.5 0.001 * 0.5 × 11 0.001 * 1.5 1 × 0.25 * 0.5 * 11 15 9.5 0.1 * 7.5 0.5 * 9 11 0.1 * -----..... 87 W 59 ω == 66 w(0.052,8,8)= 84 w(0.049,7,7)= W > W $W \leq W$ (I.E. INCINERATOR SOILS > BACKGROUND) (I.E. NO DIFFERENCE)

NOTE:

WILCOXON RANK SUM TEST CCP - INCINERATOR CLOSURE SAUKVILLE, WISCOŃSIN

TEST PARAMETER = TOLUENE CONCENTRATIONS IN MG/KG

SAMPLE DE	EP TI IN	H = 1.5	7 - 3.07 INCINERA	TNR		SAMPLE D BACKGROU	ЕРТ Nn	H = 4.5'	- 6.0" INCINERAL	rne	
AREA	1	R(x)	AREA	1.211	R(y)	AREA	1.	R(x)	AREA		R(y)
0.002	- *	5.5	0.2	 *	12	0.002	 *	5	1200	-	15
0.012	¥	11	0.45	¥	13	0.002	¥	5	0.15	×	10
0.002	¥	5.5	74		16	0.002	¥	5	1300		16
0.002	¥	5.5	25		15	0.002	¥	5	60		13
0.002	¥	5.5	5	¥	14	0.002	¥	5	10	¥	12
0.002	¥	5.5	0.001	×	1	0.002	¥	5	0.001	¥	1
0.002	¥	5.5	0.009	×	10	0.0065	¥	Э	90	¥	14
0.002	¥	5.5	0.002	¥	5.5	5.2	¥	11	0.002	¥	5
	ω				86.5	-	W		=	-	86
	W	(0.052,	8,8)=		84		ω	(0.052,8,	(8)=		84
		•	W > w					 L	u > w		
(I.E. INC	:INI	ERATOR	SOILS > Br	ACK	GROUND)	(I.E. IN	CIN	ERATOR SO	DILS > BA	АСК	GROUND)

SAMPLE DE	PTH	= 7.5'	- 9.0'			SAMPLE DEPTH = 9.5' - 11.0'							
BACKGROUN	<u>I</u> I		INCINERA	ror		BACKGROUN	٩D		INCINERAT	ſOR			
AREA		R(x)	AREA		R(y)	AREA		R(x)	AREA		R(y)		
0.002	×	2.5	2.6	-	14	0.002	- *	2.5	3.6	-	12		
0.006		7	0.0125	¥	8	0.3		8	0.007		5		
0.002	¥	2.5	23		16	0.002	¥	2.5	30		14		
0.002	¥	2.5	1.8		13	0,002	¥	2.5	2.5		11		
0.004		6	1.7		12	0.002	¥	2.5	1.2	¥	10		
0.002	¥	2.5	0.003		5	0.5	¥	Э	0.009	¥	6		
0.5	¥	10	1	¥	11	19		13	0.1	×	7		
4.6		15	0.2		9								
						•							
	W				88		և	I	22		65		
	ω(0.052,8	,8)=		84		4	(0.049,7	,7)=		66		
•			W > W						$W \le W$				
(I.E. INC	INE	RATOR S	OILS > BA	ACK (GROUND)		Ç	I.E. NO	DIFFERENC)E)			

NOTE:

WILCOXON RANK SUM TEST CCP - INCINERATOR CLOSURE SAUKVILLE, WISCONSIN

TEST PARAMETER = ETHYLBENZENE CONCENTRATIONS IN MG/KG

SAMPLE DE	EPTI	H = 1.57	- 3.0'		SAMPLE DE	ΞΡT	H = 4.5'	- 6.0*		
BACKGROUN	ł D		INCINERATOR	Ϋ́	BACKGROUM	٩D		INCINERAT	'OR	
AREA		R(x)	AREA	R(y)	AREA		R(x)	AREA		R(y)
**** **** **** **** **** **** **** ****	-					-			•	
0.002	¥	3.5	2.1	13	0.002	¥	4.5	1400		15
0.04		11	2	12	0.02		9	0.15	¥	10
0.019		7	160	16	0.002	¥	4.5	3000		16
0.009		6	74	15	0.002	¥	4.5	460		13
0.033		10	50	14	0.002	¥	4.5	50		12
0.002	¥	3.5	0.001 *	1	0.002	¥	4.5	0.001	¥	1
0.002	¥	3.5	0.026	8	0.013		8	930		14
0.031		Э	0.002 *	3.5	16		11	0.002	¥	4.5
			-		-					
	W			82.5		W		=		85.5
	W	(0.052,8	,8)=	84		W	(0.052,8	,8)=		84
			W < w					W > W		
	$\langle \cdot \rangle$	I.E. NO	DIFFERENCE)	(I.E. ING	CIN	ERATOR S	OILS > BA	СК	GROUND>

SAMPLE DEPTH	= 7.5'	- 9.0'		SAMPLE DE	PTH = 9.	.5' - 11.0'	
BACKGROUND		INCINERATO	र	BACKGROUN	ID	INCINERAT	OR
AREA	R(x)	AREA	R(y)	AREA	R(x)	AREA	R(y)
0.002 *	3	3.5	10	0.002	*	3 6.8	10
0.12	8	0.0125 *	7	4.8		8 0.002	3
0.002 *	3	76	16	0.002	¥	3 76	14
0.002 *	З	11	14	0.002	¥	3 11	13
0.002 ×	3	7.9	13	0.002	¥	3 8.2	11
0.002 *	3	0.003	6	9.8	:	12 0.006	6
4.7	12	14	15	6.3		9 1.6	7
4.1	11	1.5	Э				
				-			
ω		=	90		μ	==	64
ωC	0.052,8,	,8)=	84		w(0.049	3,7,7)=	66
	l	$w \leq b$				W < w	
(I.E. INCINE	RATOR SO	DILS > BACH	(GROUND)		(I.E. H	NO DIFFERENC	E)

NOTE:

WILCOXON RANK SUM TEST CCP - INCINERATOR CLOSURE SAUKVILLE, WISCONSIN

TEST PARAMETER = XYLENES(TOTAL) CONCENTRATIONS IN MG/KG

SAMPLE DEPT	H = 1.5'	- 3.0"		SAMPLE DE	PTH = 4.5	" - 6.0"	
BACKGROUND		INCINERATOR		BACKGROUN	D	INCINERATO	R
AREA	R(x)	AREA	R(y)	AREA	R(x)	AREA	R(y)
0.002 *	2	11	13	0.002	ж З	7000	15
0.79	12	0.45 *	10	0.26	8	2.6	10
0.19	8	740	16	0.002	* 3	12000	16
0.17	7	360	15	0.002	* З	2400	13
0.31	Э	260	14	0.002	* З	890	12
0.002 *	2	0.006	4	0.008	7	0.004	6
0.002 *	2	0.62	11	0.32	9	6400	14
0.15	6	0.016	5	83	11	0.002 *	3
L	ļ	=	88	•	ω		 89
h	(0.052,8	,8)=	84		w(0.052,8	3,8)=	84
	·	ώ > ω				Ŵ > w	
(I.E. INCIN	IERATOR A	REA > BACKG	ROUND)	(I.E. INC	INERATOR (AREA > BACK	GROUND)

SAMPLE DEPTI	H = 7.5'	' - 9.0'		SAMPLE DE	PTH = 9.5	7 - 11.07	
BACKGROUND		INCINERATOR	2	BACKGROUN	D	INCINERAT	JR
AREA	R(x)	AREA	R(y)	AREA	R(x)	AREA	R(y)
0.002 *	2	20	11	0.002	* 2.5	40	10.5
0.14	14	0.093	7	7.7	8	0.01	5
0.002 *	2	300	16	0.002	* 2.5	290	14
0.002 *	2	93	14	0.002	* 2.5	82	13
0.011	5	61	13	0.002	* 2.5	43	12
0.004	4	0.014	6	40	10.5	0.029	6
22	12	96	15	24	Э	5.1	7
19	10	5	9				
		-		-			
ω		=	91		ω	=	67.5
W	(0.052,8	3,8)=	84		w(0.049,	7,7)=	66
		$\omega < \omega$	a			W > W	
(I.E. INCIN	ERATOR A	AREA > BACKE	ROUNDO	(I.E. INC	INERATOR (AREA > BACH	(GROUND)

NOTE:



ISOCONCENTRATION MAP TOTAL BTEX (mg/kg) 9.5'-11.0' INTERVAL



ISOCONCENTRATION MAP TOTAL BTEX (mg/kg) 7.5'-9.0' INTERVAL

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