APPENDIX H

Treatability Study from Kemron

KEMRON
ENVIRONMENTAL SERVICES

1359-A Ellsworth Industrial Boulevard ■ Atlanta, Georgia 30318 ■ Telephone (404) 636-0928 ■ FAX (404) 636-7162 ■ http://www.kemron.com

5 November 2003

Mr. Chris McGhee
Remedial Construction Services, Inc.
9720 Derrington
Houston, TX 77064
(281) 664-1114

Subject: Outer Harbor Treatability Study
Final Letter Report

Dear Mr. McGhee:

KEMRON Environmental Services, Inc. (KEMRON) is pleased to present the results of the bench-scale treatability study conducted for Remedial Construction Services, Inc. (RECON). The study was conducted on one material sampled from the Outer Harbor site, located in Buffalo, New York. KEMRON performed the treatability study in an effort to improve physical properties while reducing the leachability of nitrobenzene as measured by the TCLP to below regulatory levels of 2 milligrams per liter (mg/L). The possibility of reducing the leachability of RCRA metals to below regulatory levels was also evaluated. The results of the treatability study are summarized in the following sections of this letter report.

SAMPLE RECEIPT AND UNTREATED SOIL CHARACTERIZATION

In September 2003 KEMRON received one 5-gallon sample of sludge from the site shipped by Roux Associates via FedEx. The sample was received at ambient temperatures and was immediately transferred to refrigerated storage at a temperature of 4 degrees Celsius (°C). A copy of the chain of custody created upon receipt of the sample, is presented as Attachment A. Once authorization to proceed was received from RECON, KEMRON initiated the treatability study.

Prior to initiating the treatability study, KEMRON performed homogenization of the as-received soil. Homogenization was performed by placing the contents of the bucket into a mixing basin. The untreated sludge was then mixed, by hand, using stainless steel utensils until homogenous. For treatability testing, KEMRON typically removes oversized particles and debris larger than 0.5 inches in diameter in order to simulate potential full-scale particle reduction and to ensure that the material is practical for laboratory analyses. During homogenization, KEMRON removed approximately 5% of oversized material from the untreated sludge. During the homogenization

process KEMRON observed a very strong and very distinct "almond" odor which indicated the possible presence of cyanide. Since no analytical background information was available, out of concern for health and safety issues, KEMRON requested authorization to analyze the untreated sludge for cyanide prior to proceeding with the treatability study.

Once visually homogenous, KEMRON collected representative aliquots of the untreated material for characterization testing. The establishment of the baseline characteristics of the untreated sludge is important for ensuring that the material are similar to those expected at the site and for evaluating the effectiveness of stabilization / solidification treatment. The following chemical characterization analyses were conducted on aliquots of the untreated sludge, after homogenization, in accordance with the referenced test methods:

Parameter	**Method**
Material pH	EPA Method 9045C
Total Cyanide	EPA Method 335
TCLP RCRA Metals	EPA Methods 1311/6010B/7470
Total Semivoalatiles	EPA Method 8270C
TCLP Semivolatiles	EPA Methods 1311/8270C

Geotechnical characterization analyses were also performed by KEMRON on the untreated sludge sample. This data is used to prepare cost estimates and design specifications with regard to full-scale treatment. The information generated is critical to making sound engineering decisions. The following geotechnical characterization tests were conducted on the untreated material in accordance with the referenced test method:

Parameter	**Method**
Moisture Content	ASTM D 2216
Bulk Density	ASTM D 5057
Grain Size Distribution	ASTM D 422

The results of untreated characterization testing are presented in **Table 1**. Complete data reports for all untreated analyses are included as Attachment B. A review of the results of total analyses presented in **Table 1** reveals that the screened, but otherwise untreated sludge, had a high total nitrobenzene concentrations of 815,000 ug/kg and a total cyanide concentration of 1,290 ug/kg.

Table 1 also presents results for TCLP metals and nitrobenzene analyses performed on the untreated material. This data reveals that TCLP nitrobenzene was detected at a concentration of 24,300 ug/L. Note that this data is changed from the originally reported 15,000 ug/L. Since the initial data was reported as semi-quantitative due to concentration being out of calibration range, the sample was reanalyzed at a higher dilution. The sludge exhibited leachable metals

concentrations below detection limits for all metals except for barium, detected at a concentration of 0.321 mg/L.

The results of the remaining untreated analyses are presented on **Table 1**. This data reveals that the pH of the material was 8.61 s.u., the moisture content determined on dry weight basis was 32.8 % and the bulk density was 114.9 lb/ft^3. The grain size distribution results reveal that the soil was a Dark Gray Clayey Silty Gravelly Sand.

PRELIMINARY STABILIZATION TREATMENT

KEMRON performed preliminary stabilization treatment in an effort to evaluate mixture designs that may be capable of reducing TCLP nitrobenzene concentrations to below the LDR requirements while improving the physical parameters of the treated samples.
For preliminary stabilization treatment RECON requested that KEMRON develop a total of 2 mixtures. Specific mixture designs were developed based on the contaminant concentrations and KEMRON's experience treating similar materials. Reagents evaluated by KEMRON included Type I Portland cement, and fly ash. Mixture 3254-001 was developed with 30% Type I Portland cement addition, while mixture 3254-001 was developed with 15% Portland cement addition and 15% fly ash addition. Note that relatively high reagent addition rates were used due to the low number of mixtures evaluated.

Mixtures were developed using a bench-scale Hobart-type mixer. The mixer has a 4½ quart stainless steel mixing bowl and "flat beater" type paddles. Treatment utilizing this mixer is intended to simulate, to the extent possible on the bench-scale, potential full-scale remediation options. This approach is routinely utilized to simulate a wide range of potential full-scale remediation approaches, including both in situ and ex situ applications. Note that KEMRON's approach to performing bench-scale testing has been reviewed and is routinely accepted by EPA and full-scale solidification / stabilization contractors.

Once an aliquot of the untreated material was placed in the blending chamber, the appropriate quantity of reagent was blended with water at a reagent–to-water ratio of 1to 0.8 and was then added to the untreated material and blended at approximately 40 to 60 rotations per minute (rpm), for approximately 60 to 90 seconds, or until homogenous. For clarity, note that the percent reagent addition is based on the total weight of reagent relative to the total weight of the untreated aliquot. For example, in a mixture with 3 percent addition of Portland cement, 6 grams of cement was added to 200 grams of untreated material. Table 2 summarizes the preliminary mixtures developed by KEMRON.

After treatment, the treated materials were packed in molds for curing. During the 7 day cure

time penetrometer evaluations were performed on the samples to estimate the curing and setting characteristics of the treated materials. The results are summarized in **Table 2.**

After 7 days of curing, UCS testing was performed on both mixtures. The results of the UCS testing are presented in **Table 3**. A review of the UCS data reveals strength values of 250.8 pounds per square inch (lb/in^2) for the treatment with cement alone and a strength of 51.2 lb/in^2 for treatment with cement and fly ash.

Following 7 days of curing the samples were sent to KEMRONs in-house laboratory in Marietta, Ohio, for analytical testing. The results of analytical testing performed on the two treated materials are presented in **Tables 4 and 5**. Complete analytical data reports are included in Attachment C. Review of the leachable nitrobenzene results in **Table 4** reveals that mixtures performed with 30 % Portland Cement addition were capable of achieving a concentration of 10,600 ug/L while the mixture performed with 15 % Portland cement and 15 % fly ash achieved a concentration of 12,700 ug/L. None of the mixtures met the regulatory limits of 2000 ug/L. Table 5 reveals that the mixtures exhibited leachable metals concentrations below detection limits for all metals except for barium, detected at a concentration of 0.340mg/L and 0.400mg/L.

ADDITIONAL STABILIZATION TREATMENT EVALUATION

Based on the results of TCLP nitrobenzene analyses performed during initial stabilization treatment, KEMRON developed an additional 6 mixture designs. The reagent addition rates were identified by RECON and KEMRON and were as follows: all mixtures were performed with 10% addition of Type I Portland cement. Three of the mixtures were developed in combination with organophillic clay at addition rates of 2%, 4%, and 6%, and three of the mixtures were developed in combination with powdered activated carbon at rates of 2%, 4 % and 6 %.

The reagent to water ratio was 1:0.8 for all mixtures except mixture performed with 6 % addition of activated carbon. The water ratio for this mixture was increase to a 1:1 ratio in order to obtain a pumpable reagent. **Table 2** presents the mixtures developed by KEMRON and includes mixture numbers, the types of reagent used and the reagent addition rates for each mixture,

Mixtures were developed in accordance with previously discussed protocols. After mixture development each of the six mixtures were packed in molds and allowed to cure for 6 days. During the 6 days curing process, treated mixtures were evaluated for setting and strength properties through penetrometer strength testing. A review of data in presented in **Table 2** reveals that all mixtures achieved penetrometer strength values in excess of 4.0 $tons/ft^2$ after 6 days of curing.

Upon Completion of the 6 days cure time mixtures developed with cement and powdered activated carbon were submitted for TCLP as well SPLP nitrobenzene analyses in accordance with methods EPA 1311/8270C and EPA methods1312-8270C, respectively. The results of TCLP and SPLP nitrobenzene analyses are presented in **Table 5.** A review of the data presented in **Table 5** reveals that all reagent mixtures resulted in reductions of TCLP leachable nitrobenzene concentrations to below regulatory levels of 2000 ug/L for all three mixture designs. Similarly the SPLP leachable concentrations are below regulatory limits. Note that a strong correlation between addition rates and leachable nitrobenzene concentrations were observed for both TCLP and SPLP. All data report pertaining to this testing are included as Attachment C. Note that the powdered activated carbon used for treatment of those mixtures is 60% - 80% finer then the # 325 sieve.

CLOSURE

KEMRON Environmental Services, Inc. appreciates the opportunity to provide RECON with treatability testing services. If you have any questions, or require additional information, please contact either of the undersigned at (404) 636-0928.

Sincerely,
KEMRON ENVIRONMENTAL SERVICES, INC.

Chana Gilzenrat
Project Manager
cgilzenrat@kemron.com

Robert K. Semenak
Department Manager
rsemenak@kemron.com

attachments

TABLES

KEMRON ENVIRONMENTAL SERVICES, INC.
REMEDIAL CONSTRUCTION SERVICES, INC.
OUTER HARBOR TREATABILITY STUDY

TABLE 1
Summary of Untreated Material Characterization

ANALYTICAL PARAMETER	UNIT	UNTREATED
I. PHYSICAL PROPERTIES		
Moisture Content	%	**32.8**
Percent Solids	%	**72.4**
Bulk Density (1)	lb/ft³	**114.9**
Particle Size Analyses		
- Gravel	%	**19.4**
- Sand	%	**31.6**
- Silt	%	**35.8**
- Clay	%	**13.2**
II. CHEMICAL PROPERTIES		
Material pH (1)	s.u.	**8.61**
Total Cyanide	ug/kg	**1,290**
Total Nitrobenzene	ug/kg	**815,000**
TCLP Nitrobenzene	ug/L	**24,300**
TCLP RCRA Metals		
- Mercury	mg/L	< 0.001
- Silver	mg/L	<0.05
- Arsenic	mg/L	<0.1
- Barium	mg/L	**0.321**
-Cadmium	mg/L	<0.025
-Chromium	mg/L	<0.025
- Lead	mg/L	<0.025
- Selenium	mg/L	<0.5

(1) Results are an average of three determinations.

KEMRON ENVIRONMENTAL SERVICES, INC.
REMEDIAL CONSTRUCTION SERVICES, INC.
OUTER HARBOR TREATABILITY STUDY

TABLE 2
Mixture Development and Penetrometer Testing

KEMRON SAMPLE No.	REAGENT TYPE (1)	REAGENT ADDITION (%) (2)	WATER ADDITION (%) (2)	PENETROMETER TESTING (tons/ft^2)				
				Day 1	Day 2	Day 3	Day 6	Day 7
3254-001	Type I Portland Cement	30	24	4.0	4.5	>4.5	-	>4.5
3254-002	Type I Portland Cement / Fly Ash	15 / 15	24	3.5	4.0	4.5	-	>4.5
3254-003	Type I PC / Organophillic Clay	10 / 2	9.6	3.75	4.0	4.5	>4.5	-
3254-004	Type I PC / Organophillic Clay	10 / 4	12.2	3.5	4.0	4.5	>4.5	-
3254-005	Type I PC / Organophillic Clay	10 / 6	12.8	2.75	3.0	3.25	4.0	-
3254-006	Type I PC / Powdered Activated Carbon	10 / 2	9.6	3.75	4.0	4.25	4.5	-
3254-007	Type I PC / Powdered Activated Carbon	10 / 4	12.2	4.0	4.25	4.5	>4.5	-
3254-008	Type I PC / Powdered Activated Carbon	10 / 6	16	4.0	4.25	4.5	>4.5	-

* Testing not performed
(1) Reagents were blended together dry, slurried with water and added to the untreated material and blended.
(2) For a 25% reagent addition and a 20% water addition, 250 grams of reagent was slurried with 200 grams of water and added to 1000 grams of untreated material and blended.

KEMRON ENVIRONMENTAL SERVICES, INC.
REMEDIAL CONSTRUCTION SERVICES, INC.
OUTER HARBOR TREATABILITY STUDY

TABLE 3
Mixture Development and Unconfined Compressive Strength Testing

KEMRON SAMPLE No.	REAGENT TYPE (1)	REAGENT ADDITION (%) (2)	WATER ADDITION (%) (2)	CURE TIME (Days)	UNCONFINED COMPRESSIVE STRENGTH			
					Moisture Content (%)	Bulk Density (lbs/ft^3)	Dry Density (lbs/ft^3)	UCS (lbs/in^2)
3254-001	Type I Portland Cement	30	24	7	32.2	110.5	79.4	**250.8**
3254-002	Type I Portland Cement / Fly Ash	15/15	24	7	38.9	104.5	75.2	**51.2**

(1) Reagents were blended together dry, slurried with water and added to the untreated material and blended.
(2) For a 25% reagent addition and a 20% water addition, 250 grams of reagent was slurried with 200 grams of water and added to 1000 grams of untreated material and blended.

KEMRON ENVIRONMENTAL SERVICES, INC.
REMEDIAL CONSTRUCTION SERVICES, INC.
OUTER HARBOR TREATABILITY STUDY

TABLE 4

Mixture Development and TCLP Nitrobenzene (7 days)

SAMPLE ID	REAGENT TYPE	REAGENT ADDITION (%)	WATER ADDITION (%)	TCLP Nitrobenzene (ug/L)
3252-001	Type I Portland Cement	30	24	**10,600**
3254-002	Type I Portland Cement/fly ash	15 / 15	24	**12,700**

KEMRON ENVIRONMENTAL SERVICES, INC.
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OUTER HARBOR TREATABILITY STUDY

TABLE 5
TCLP Metals Characterization Testing

PARAMETER	SPLP METALS (mg/L)	
	3254-001	3254-002
Arsenic	<0.1	<0.1
Barium	**0.340**	**0.400**
Cadmium	<0.025	<0.025
Chromium	<0.025	<0.025
Lead	<0.1	<0.1
Mercury	<.001	<.001
Selenium	<.5	<.5
Silver	<.05	<.05

KEMRON ENVIRONMENTAL SERVICES, INC.
REMEDIAL CONSTRUCTION SERVICES, INC.
OUTER HARBOR TREATABILITY STUDY

TABLE 6
Mixture Development and Analytical Testing Evaluations

KEMRON SAMPLE No.	REAGENT TYPE (1)	REAGENT ADDITION (%) (2)	WATER ADDITION (%) (2)	Nitrobenzene	
				TCLP ug/L	SPLP ug/L
3254-003	Type I PC / Organophillic Clay	10 / 2	9.6	-	-
3254-004	Type I PC / Organophillic Clay	10 / 4	12.2	-	-
3254-005	Type I PC / Organophillic Clay	10 / 6	12.8	-	-
3254-006	Type I PC / Powdered Activated Carbon	10 / 2	9.6	999.0	1020.0
3254-007	Type I PC / Powdered Activated Carbon	10 / 4	12.2	50.7	74.4
3254-008	Type I PC / Powdered Activated Carbon	10 / 6	16	17.3	16.9

- Testing not performed
(1) Reagents were blended together dry, slurried with water and added to the untreated material and blended.
(2) For a 25% reagent addition and a 20% water addition, 250 grams of reagent was slurried with 200 grams of water and added to 1000 grams of untreated material and blended.

ATTACHMENT A

CHAIN OF CUSTODY

KEMRON ENVIRONMENTAL SERVICES

SAMPLE CHAIN-O 'STODY RECORD

KEMRON ENVIRONMENTAL SERVICES, INC.
APPLIED TECHNOLOGIES GROUP
3145 MEDLOCK BRIDGE ROAD
NORCROSS, GEORGIA 30071
(770) 242-4090 FAX (770) 242-9198
WWW.KEMRON.COM

PROJECT NAME: Outer Harbor
ATG PROJECT #: 3254
TAT or DUE DATE:
CONTACT: Chris McGhee
ATG PROJECT MANAGER: Chen Chen [signature]
PHONE#: 281-664-1114 EXT.
RECEIVING LAB:
PO#:
SAMPLED BY:
PRINTED NAME
SIGNATURE

SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE DATE/TIME	Sample Matrix	Preserva-tive	# / Size of Cont.	ANALYSES (indicate target list)									
Untreated	Soil - Sludge	9/6/03			1 - 5-gallon										

SAMPLES RELINQUISHED BY:	DATE/ TIME	SAMPLES ACCEPTED BY:	DATE/ TIME	COMMENTS:
		[signature]	9/6/03	

Dry Weight Results is Default for Soils/Applicable Wastes

ATTACHMENT B

UNTREATED MATERIAL CHARACTERIZATION

UNIT WEIGHT DETERMINATION

DATA SHEET

PROJECT:	Outer Harbor
PROJECT No.:	3254
SAMPLE No.:	Untreated
TESTING DATE:	10/6/2003
TESTED BY:	clg
TRACKING CODE:	2681_uw

UNIT WEIGHT (DENSITY)			
1. SAMPLE NO.	A	B	C
2. WT OF MOLD (tare weight)	0.00 g	0.00 g	0.00 g
3. WT OF MOLD + SOIL	377.68 g	380.00 g	379.26 g
4. WT OF WET SOIL, W	377.68 g	380.00 g	379.26 g
5. DIAMETER OF SPECIMEN, D	2.00 in	2.00 in	2.00 in
6. HEIGHT OF SPECIMEN, H	4.00 in	4.00 in	4.00 in
7. VOLUME OF SPECIMEN	12.57 in^3	12.57 in^3	12.57 in^3
8. BULK UNIT WEIGHT	114.5 pcf	115.2 pcf	115.0 pcf

MOISTURE CONTENT DETERMINATION

REPORT FORM

PROJECT:	Outer Harbor
PROJECT No.:	3254
SAMPLE No.:	Untreated
TESTING DATE:	10/6/2003
TESTED BY:	clg
TRACKING CODE:	2681_mc

MOISTURE CONTENT (Dry & Wet Basis)		
1. MOISTURE TIN NO.	A	
2. WT MOISTURE TIN (tare weight)	181.25	g
3. WT WET SOIL + TARE	414.14	g
4. WT DRY SOIL + TARE	349.83	g
5. WT WATER, Ww	64.31	g
6. WT DRY SOIL, Ws	168.58	g
7. ASTM MOISTURE CONTENT, W	**38.15**	**%**
8. PERCENT SOLIDS	**72.39**	**%**

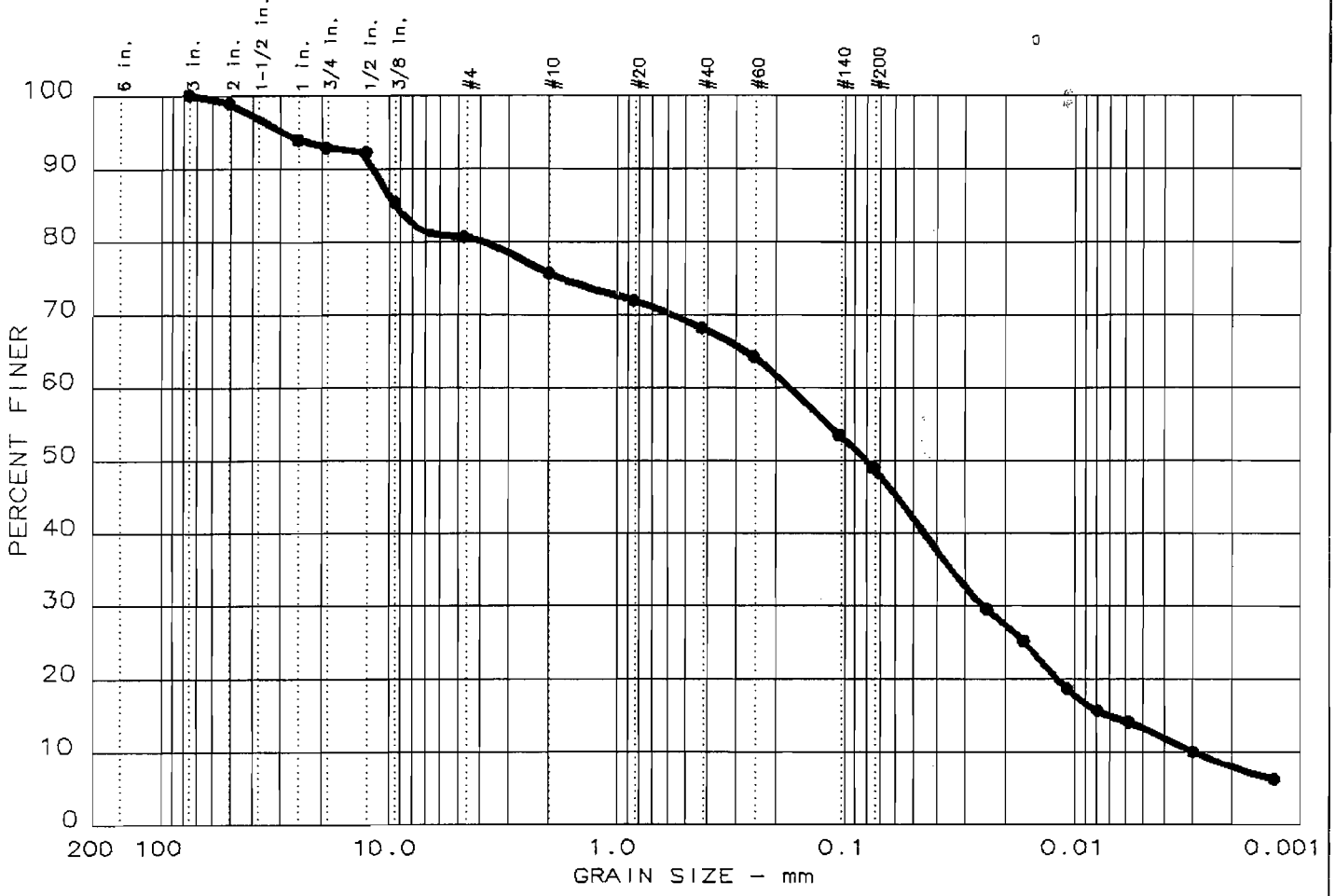
MATERIAL pH

EPA METHOD 9045
DATA SHEET

PROJECT:	Outer Harbor
PROJECT No.:	3254
TESTING DATE:	100/6/2003
TESTED BY:	clg
TRACKING CODE:	2681_pH

KEMRON SAMPLE No.			MATERIAL pH
1.	Untreated	A	8.58
2.	Untreated	B	8.59
3.	Untreated	C	8.65
4.			
5.			
6.			
7.			
8.			
9.			
10.			
		AVERAGE:	8.61

PARTICLE SIZE DISTRIBUTION TEST REPORT



	Test	% +3"	% GRAVEL	% SAND	% SILT	% CLAY
●	9	0.0	19.4	31.6	35.8	13.2

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			9.33	0.174	0.0804	0.0251	0.0071	0.0030	1.22	58.2

MATERIAL DESCRIPTION	USCS	AASHTO
● Dark Gray Clayey Sandy Gravelly Sand		

Project No.: 3254
Project: Outer Harbor
● Location: Untreated

Date: 10/6/2003

KEMRON
ENVIRONMENTAL SERVICES

Remarks:

Figure No. _____

KEMRON
ENVIRONMENTAL SERVICES

109 Starlite Park ■ Marietta, OH 45750 ■ Telephone (740) 373-4071 ■ FAX (740) 373-4835

Laboratory Report Number: L0310143

Please find enclosed the analytical results for the samples you submitted to KEMRON Environmental Services.

Review and compilation of your report was completed by KEMRON's Sales and Service Team 3. If you have questions, comments or require further assistance please contact one of our team members at 800-373-4071. We can also be reached at the e-mail addresses listed below.

Leslie Bucina-Team Leader
lbucina@kemron-lab.com

Tim Hoeflich-Team Chemist/Data Specialist
thoeflich@kemron-lab.com

Vicky Lauer-Customer Service/Invoicing Specialist
vlauer@kemron-lab.com

Rhonda Jo Wittekind- EDD/Data Entry Specialist
rwittekind@kemron-lab.com

Annie Bock-Team Assistant/Report Coordinator
abock@kemron-lab.com

This report was reviewed by: Timothy Hoeflich Date: 10/23/03

I certify that all test results meet all of the requirements of the NELAP standards and other applicable contract terms and conditions. All results for soil samples are reported on a "dry-weight" basis unless specified otherwise. Analytical results for water and wastes are reported on an "as received" basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of KEMRON Environmental Services.

Certified by: David E. Vandenberg
David E. Vandenberg
Laboratory Director

NYDOH NELAP Id: 10861 April 1, 2003 thru April 1, 2004
Non-Potable Water and Solid/Hazardous Waste

This report contains a total of 16 pages.

LABORATORY REPORT

L0310143

10/13/03 15:05

Submitted By

Kemron Environmental Services
109 Starlite Park
Marietta, Ohio 45750
(740)373-4071

For

Account Name: KEMRON Environmental Services, Inc

3145 Medlock Bridge Road
Norcross, GA 30071
Attention: Chana Gilzenrat

Account Number: 460-NORCROSS
Work ID: OUTER HARBOR/3254-000

P.O. Number: IDC

Sample Summary

Client ID	Lab ID	Date Collected	Date Recieved
UNTREATED	L0310143-01	22-SEP-03	23-SEP-03

2

KEMRON ENVIRONMENTAL SERVICES
REPORT NARRATIVE

L0310056

CHAIN OF CUSTODY:

The chain of custody number was NA

SHIPMENT CONDITIONS:

The cooler temperature was NA

SAMPLE MANAGEMENT:

All samples received were intact.

Chana Gilzenrat requested that an 8270 total analysis be performed on the sample "Untreated". AN 8270 TCLP analysis had been previously run on the sample as L0309480. The number assigned to this new analysis is L0310143-01.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

REVIEWED: Timothy Hatfield DATE: 10/09/03

REPORT NARRATIVE
GC/MS SEMIVOLATILE ORGANICS

KEMRON Report No.: L030910143

METHOD

Preparation: SW- 846 3550B(Soils) 3510C(Waters)
Analysis: SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.
Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally .

CALIBRATION

Initial calibrations: For all compounds which yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.
Laboratory Control Samples: All other acceptance criteria were met.
Matrix Spikes: The MS/MSD were not associated with these samples.

SAMPLES

Internal Standards: All acceptance criteria were met.
Surrogates: All surrogates were diluted out of sample 01 due to 500x dilution.
Samples: Sample 01 was initially analyzed at a 500x in order to obtain results for the target compound within the linear range of the instrument calibration. All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Analyst: ALT REVIEWED: _____ DATE: 10/14/03

Report Number: L0310143
Report Date : October 13, 2003

Sample Number: L0310143-01
Client ID: UNTREATED
Work ID: OUTER HARBOR/3254-000
Matrix: Soil
Date Collected: 09/22/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Percent Solids	D2216-90	weight %	72.4		1.00	1.00	1

Sample Number: L0310143-01
Client ID: UNTREATED
Work ID: OUTER HARBOR/3254-000
Matrix: Soil
Date Collected: 09/22/2003 23:59
Percent Solid: 72.4

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Phenol	8270C	ug/kg		ND	102000	51100	500
Bis(2-Chloroethyl)ether	8270C	ug/kg		ND	102000	51100	500
2-Chlorophenol	8270C	ug/kg		ND	102000	51100	500
1,3-Dichlorobenzene	8270C	ug/kg		ND	102000	51100	500
1,4-Dichlorobenzene	8270C	ug/kg		ND	102000	51100	500
Benzyl alcohol	8270C	ug/kg		ND	102000	51100	500
1,2-Dichlorobenzene	8270C	ug/kg		ND	102000	51100	500
2-Methylphenol	8270C	ug/kg		ND	102000	51100	500
3-,4-Methylphenol	8270C	ug/kg		ND	102000	51100	500
bis(2-Chloroisopropyl)ether	8270C	ug/kg		ND	102000	51100	500
N-Nitrosodipropylamine	8270C	ug/kg		ND	102000	51100	500
Hexachloroethane	8270C	ug/kg		ND	102000	51100	500
Nitrobenzene	8270C	ug/kg	815000		102000	51100	500
Isophorone	8270C	ug/kg		ND	102000	51100	500
2-Nitrophenol	8270C	ug/kg		ND	102000	51100	500
2,4-Dimethylphenol	8270C	ug/kg		ND	102000	51100	500
Benzoic acid	8270C	ug/kg		ND	511000	204000	500
Bis(2-Chloroethoxy)Methane	8270C	ug/kg		ND	102000	51100	500
2,4-Dichlorophenol	8270C	ug/kg		ND	102000	51100	500
1,2,4-Trichlorobenzene	8270C	ug/kg		ND	102000	51100	500
Naphthalene	8270C	ug/kg	714000		102000	51100	500
4-Chloroaniline	8270C	ug/kg		ND	102000	51100	500
Hexachlorobutadiene	8270C	ug/kg		ND	102000	51100	500
4-Chloro-3-methylphenol	8270C	ug/kg		ND	102000	51100	500
2-Methylnaphthalene	8270C	ug/kg		ND	102000	51100	500
Hexachlorocyclopentadiene	8270C	ug/kg		ND	102000	51100	500
2,4,6-Trichlorophenol	8270C	ug/kg		ND	102000	51100	500
2,4,5-Trichlorophenol	8270C	ug/kg		ND	102000	51100	500
2-Chloronaphthalene	8270C	ug/kg		ND	102000	51100	500
2-Nitroaniline	8270C	ug/kg		ND	511000	204000	500
Dimethylphthalate	8270C	ug/kg		ND	102000	51100	500
Acenaphthylene	8270C	ug/kg		ND	102000	51100	500
2,6-Dinitrotoluene	8270C	ug/kg		ND	102000	51100	500
3-Nitroaniline	8270C	ug/kg		ND	511000	204000	500
Acenaphthene	8270C	ug/kg		ND	102000	51100	500
2,4-Dinitrophenol	8270C	ug/kg		ND	511000	204000	500
4-Nitrophenol	8270C	ug/kg		ND	511000	204000	500
Dibenzofuran	8270C	ug/kg		ND	102000	51100	500
2,4-Dinitrotoluene	8270C	ug/kg		ND	102000	51100	500

Report Number: L0310143
Report Date : October 13, 2003

Sample Number: L0310143-01
Client ID: UNTREATED
Work ID: OUTER HARBOR/3254-000
Matrix: Soil
Date Collected: 09/22/2003 23:59
Percent Solid: 72.4

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
4-Chlorophenyl-phenyl ether	8270C	ug/kg		ND	102000	51100	500
Fluorene	8270C	ug/kg		ND	102000	51100	500
4-Nitroaniline	8270C	ug/kg		ND	511000	204000	500
4,6-Dinitro-2-methylphenol	8270C	ug/kg		ND	511000	204000	500
N-Nitrosodiphenylamine	8270C	ug/kg		ND	102000	51100	500
4-Bromophenyl-phenylether	8270C	ug/kg		ND	102000	51100	500
Hexachlorobenzene	8270C	ug/kg		ND	102000	51100	500
Pentachlorophenol	8270C	ug/kg		ND	511000	204000	500
Phenanthrene	8270C	ug/kg		ND	102000	51100	500
Anthracene	8270C	ug/kg		ND	102000	51100	500
Di-N-Butylphthalate	8270C	ug/kg		ND	102000	51100	500
Fluoranthene	8270C	ug/kg		ND	102000	51100	500
Pyrene	8270C	ug/kg		ND	102000	51100	500
Butylbenzylphthalate	8270C	ug/kg		ND	102000	51100	500
3,3'-Dichlorobenzidine	8270C	ug/kg		ND	204000	102000	500
Benzo(a)anthracene	8270C	ug/kg		ND	102000	51100	500
Chrysene	8270C	ug/kg		ND	102000	51100	500
bis(2-Ethylhexyl)phthalate	8270C	ug/kg		ND	102000	51100	500
Di-n-octylphthalate	8270C	ug/kg		ND	102000	51100	500
Benzo(b)fluoranthene	8270C	ug/kg		ND	102000	51100	500
Benzo(k)fluoranthene	8270C	ug/kg		ND	102000	51100	500
Benzo(a)pyrene	8270C	ug/kg		ND	102000	51100	500
Indeno(1,2,3-cd)pyrene	8270C	ug/kg		ND	102000	51100	500
Dibenzo(a,h)Anthracene	8270C	ug/kg		ND	102000	51100	500
Benzo(g,h,i)Perylene	8270C	ug/kg		ND	102000	51100	500

Surrogate	% Recovery	Lower	Upper	Qual
2-Fluorophenol		25	121	DL
Phenol-d5		24	113	DL
Nitrobenzene-d5		23	120	DL
2-Fluorobiphenyl		30	115	DL
2,4,6-Tribromophenol		19	122	DL
p-Terphenyl-d14		18	137	DL

DL Surrogate or spike compound was diluted out
ND Not detected at or above the reporting limit

WORKGROUP SUMMARY BY SAMPLE

WORKGROUP SUMMARY BY SAMPLE

Client ID: UNTREATED
Collect Date/Time: 09/22/2003 11:59 PM
Sample Matrix: Soil
Lab ID: L0310143-01
Received Date/Time: 09/23/2003 10:01 AM

Department Name	Method	Workgroup	Analyst	Analysis Date	Inst Id	Tag
Semivolatile - GC/MS	8270C	WG151609	CLK	10/09/2003 09:16 PM	HPMS4	01
Extraction	8270C	WG151609	CLK	10/09/2003 09:16 PM	HPMS4	01
Semivolatile - GC/MS	8270C	WG151327	DP	10/07/2003 05:20 PM	SONICATION	
Extraction	8270C	WG151327	DP	10/07/2003 05:20 PM	SONICATION	
Conventionals	D2216-90	WG151473	TMM	10/09/2003 11:10 AM	OVEN	

Kemron Environmental Services
Analyst Listing
Tuesday, October 14 2003

AA - ADRIAN ACHTERMANN
AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BOCK
ALT - ANN L. THAYER
AMT - ANDREA M. TUCKER
ARB - AMANDA R. BLAIR
ARS - ANGELINA R. SCOTT
BRF - BRENT F. FOOS
BRG - BRENDA R. GREGORY
CAB - CASSIE A. BAKER
CAF - CHERYL A. FLOWERS
CAK - CHERYL A. KOELSCH
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLK - CARL L. KING
CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS
CM - CHARLIE MARTIN
CMS - CRYSTAL M. STEVENS
CPD - CHAD P. DAVIS
CRC - CARLA R. COCHRAN
CSH - CHRIS S. HILL
DAS - DALLAS A. SULLIVAN
DDE - DEBRA D. ELLIOTT
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLA - DENISE L. ADAMS
DLB - DAVID L. BUMGARNER
DLN - DEANNA L. NORTON
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DMV - DAVID M. VANDEVELDE
DOV - DENISE O. VANDENBERG
DP - DEANNA L. PIERSON
DRB - DOUG R. BARNETT
DSM - DAVID S. MOSSOR
DST - DENNIS S. TEPE
ECL - ERIC C. LAWSON
EED - EMILY E. DECKER
ELW - ERICA L. WEBB
GSG - GALEN S. GEORGE
HV - HEMA VILASAGAR
JAL - JOHN A. LENT
JJG - JAKE J. GREUEY
JKW - JANE K. THOMPSON
JLC - JEANIE L. CRESS
JLS - JANICE L. SCHIMMEL
JMM - JARROD M. MARTIN
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF
LLL - LONNIE L. LEWIS
LSA - LUCINDA S. ARNOLD
LSB - LESLIE S. BUCINA
MAH - MICALYN A. HARRIS
MDA - MICHAEL D. ALBERTSON
MDC - MICHAEL D. COCHRAN
MEF - MIKE E. FLANAGAN
MES - MARY E. SCHILLING
MKZ - MARILYN K. ZUMBRO
MLR - MARY L. ROCHOTTE
MLS - MICHAEL L. SCHIMMEL
MMB - MAREN M. BEERY
MSW - MATT S. WILSON
NJB - NATALIE J. BOOTH
NNM - NINA N. MONWAY
OGT - OKEY G. TUCKER
PAS - PATRICK A. STREET
RDC - REBECCA D. CUTLIP
REK - ROBERT E. KYER
RJW - RHONDA J. WITTEKIND
RWC - ROD W. CAMPBELL
SCM - SUSAN C. MOELLENDICK
SH - SHAUNA M. HYDE
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
SPL - STEVE P. LEARN
TDB - TAMARA D. BISSELL
TJH - TIM J. HOEFLICH
TLT - TIFFINI L. TINGLER
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
VKL - VICKY K. LAUER
WSM - WALTER F. MARTIN

KEMRON FORMS: JUL-25-02
Printed: OCT-14-03 09:27:14

KEMRON Environmental Services, Inc
List of Valid Qualifiers
August 5, 2002

Standard Qualifiers

These are KEMRON's Standard Report Qualifiers

B	Present in the method blank	NS	Not spiked
C	Confirmed by GC/MS	P	Concentration >40% difference between The two GC columns
CG	Confluent growth		
D	The analyte was quantified at a secondary dilution factor	QNS	Quantity not sufficient to perform analysis
		RA	Re analysis confirms reported results
DL	Surrogate or spike was diluted out	RE	Re analysis confirms sample matrix interference
E	Estimated concentration due to sample matrix interference	S	Analyzed by method of standard addition
		SMI	Sample matrix interference on surrogate
FL	Free liquid	SP	Reported results are for spike compounds only
I	Semi-quantitative result, out of instrument calibration range		
		TNTC	Too numerous to count
J	Present below nominal reporting limit	U	Analyzed for but not detected
L	Sample reporting limits elevated due to matrix interference	W	Post-digestion spike for furnace AA out o f control limits
N	Tentatively Identified Compound (TIC)	X	Exceeds regulatory limit
NA	Not applicable	Z	Can not be resolved from isomer.***
ND	Not detected at or above the reporting limit (RL)	+	Correlation coefficient for the MSA is less than 0.995
NF	Not found		
NFL	No free liquid	<	Less than
NI	Non-ignitable	>	Greater than
		*	Surrogate or spike compound out of range

***** Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene
3. N-nitrosodiphenylamine cannot be separated from diphenylamine
4. 3-Methyphenol and 4-Methyphenol are unresolvable compounds
5. m-Xylene and p-Xylene are unresolvable compounds
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent

AFCEE Qualifiers

These are KEMRON's AFCEE Report Qualifiers

J	The analyte was positively identified, the quantitation is an estimation
U	The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL
F	The analyte was positively identified but the associated numerical value is below the RL
R	The data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
B	The analyte was found in an associated blank, as well as in the sample
M	The matrix effect was present
S	To be applied to all field screening data
T	Tentatively identified compound (using GC/MS)

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK SUMMARY

Login Number: L0310143
Blank File ID: 4M21641
Date Analyzed: 10/09/03
Time Analyzed: 19:33
Analyst: CLK

Work Group: WG151609
Blank Sample ID: WG151327-01
Instrument ID: HPMS4
Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG151327-02	4M21642	10/09/03 20:07	01
LCS2	WG151327-03	4M21643	10/09/03 20:41	01
UNTREATED	L0310143-01	4M21644	10/09/03 21:16	01

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0310143 Run Date: 10/09/2003 Sample ID: WG151327-01
Instrument ID: HPMS4 Run Time: 19:33 Prep Method: 3550B
File ID: 4M21641 Analyst: CLK Method: 8270C
Workgroup (AAB#): WG151609 Matrix: Soil Units: ug/kg
Contract #: Cal ID: HPMS4-08-OCT-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Phenol	94.5	189	94.5	1	ND
Bis(2-Chloroethyl)ether	94.5	189	94.5	1	ND
2-Chlorophenol	94.5	189	94.5	1	ND
1,3-Dichlorobenzene	94.5	189	94.5	1	ND
1,4-Dichlorobenzene	94.5	189	94.5	1	ND
Benzyl alcohol	94.5	189	94.5	1	ND
1,2-Dichlorobenzene	94.5	189	94.5	1	ND
2-Methylphenol	94.5	189	94.5	1	ND
3-,4-Methylphenol	94.5	189	94.5	1	ND
bis(2-Chloroisopropyl)ether	94.5	189	94.5	1	ND
N-Nitrosodipropylamine	94.5	189	94.5	1	ND
Hexachloroethane	94.5	189	94.5	1	ND
Nitrobenzene	94.5	189	94.5	1	ND
Isophorone	94.5	189	94.5	1	ND
2-Nitrophenol	94.5	189	94.5	1	ND
2,4-Dimethylphenol	94.5	189	94.5	1	ND
Benzoic acid	378	945	378	1	ND
Bis(2-Chloroethoxy)Methane	94.5	189	94.5	1	ND
2,4-Dichlorophenol	94.5	189	94.5	1	ND
1,2,4-Trichlorobenzene	94.5	189	94.5	1	ND
Naphthalene	94.5	189	94.5	1	ND
4-Chloroaniline	94.5	189	94.5	1	ND
Hexachlorobutadiene	94.5	189	94.5	1	ND
4-Chloro-3-methylphenol	94.5	189	94.5	1	ND
2-Methylnaphthalene	94.5	189	94.5	1	ND
Hexachlorocyclopentadiene	94.5	189	94.5	1	ND
2,4,6-Trichlorophenol	94.5	189	94.5	1	ND
2,4,5-Trichlorophenol	94.5	189	94.5	1	ND
2-Chloronaphthalene	94.5	189	94.5	1	ND
2-Nitroaniline	378	945	378	1	ND
Dimethylphthalate	94.5	189	94.5	1	ND
Acenaphthylene	94.5	189	94.5	1	ND
2,6-Dinitrotoluene	94.5	189	94.5	1	ND
3-Nitroaniline	378	945	378	1	ND
Acenaphthene	94.5	189	94.5	1	ND
2,4-Dinitrophenol	378	945	378	1	ND
4-Nitrophenol	378	945	378	1	ND
Dibenzofuran	94.5	189	94.5	1	ND
2,4-Dinitrotoluene	94.5	189	94.5	1	ND
4-Chlorophenyl-phenyl ether	94.5	189	94.5	1	ND
Fluorene	94.5	189	94.5	1	ND
4-Nitroaniline	378	945	378	1	ND

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0310143 Run Date: 10/09/2003 Sample ID: WG151327-01
Instrument ID: HPMS4 Run Time: 19:33 Prep Method: 3550B
File ID: 4M21641 Analyst: CLK Method: 8270C
Workgroup (AAB#): WG151609 Matrix: Soil Units: ug/kg
Contract #: Cal ID: HPMS4-08-OCT-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
4,6-Dinitro-2-methylphenol	378	945	378	1	ND
N-Nitrosodiphenylamine	94.5	189	94.5	1	ND
4-Bromophenyl-phenylether	94.5	189	94.5	1	ND
Hexachlorobenzene	94.5	189	94.5	1	ND
Pentachlorophenol	378	945	378	1	ND
Phenanthrene	94.5	189	94.5	1	ND
Anthracene	94.5	189	94.5	1	ND
Di-N-Butylphthalate	94.5	189	94.5	1	ND
Fluoranthene	94.5	189	94.5	1	ND
Pyrene	94.5	189	94.5	1	ND
Butylbenzylphthalate	94.5	189	94.5	1	ND
3,3'-Dichlorobenzidine	189	378	189	1	ND
Benzo(a)anthracene	94.5	189	94.5	1	ND
Chrysene	94.5	189	94.5	1	ND
bis(2-Ethylhexyl)phthalate	94.5	189	94.5	1	ND
Di-n-octylphthalate	94.5	189	94.5	1	ND
Benzo(b)fluoranthene	94.5	189	94.5	1	ND
Benzo(k)fluoranthene	94.5	189	94.5	1	ND
Benzo(a)pyrene	94.5	189	94.5	1	ND
Indeno(1,2,3-cd)pyrene	94.5	189	94.5	1	ND
Dibenzo(a,h)Anthracene	94.5	189	94.5	1	ND
Benzo(g,h,i)Perylene	94.5	189	94.5	1	ND

Surrogates	% Recovery	Surrogate Limits	Qualifier
2-Fluorophenol	56.1	25 - 121	PASS
Phenol-d5	63.2	24 - 113	PASS
Nitrobenzene-d5	67.6	23 - 120	PASS
2-Fluorobiphenyl	73.2	30 - 115	PASS
2,4,6-Tribromophenol	67.0	19 - 122	PASS
p-Terphenyl-d14	102	18 - 137	PASS

* Analyte detected above RDL
ND Analyte Not detected at or above reporting limit

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLES

Login Number: L0310143 Analyst: CLK Prep Method: 3550B
Instrument ID: HPMS4 Matrix: Soil Method: 8270C
Workgroup (AAB#): WG151609 Units: ug/kg
Sample ID: WG151327-02 LCS File ID: 4M21642 Run Date: 10/09/2003 20:07
Sample ID: WG151327-03 LCS2 File ID: 4M21643 Run Date: 10/09/2003 20:41

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Limit	Q
	Known	Found	% REC	Known	Found	% REC				
Phenol	1850	988	53.5	1670	943	56.4	4.73	13 - 95	51	
Bis(2-Chloroethyl)ether	1850	972	52.6	1670	906	54.2	7	10 - 93	52	
2-Chlorophenol	1850	1000	54.2	1670	946	56.6	5.71	13 - 90	47	
1,3-Dichlorobenzene	1850	1030	55.5	1670	988	59.1	3.73	16 - 84	42	
1,4-Dichlorobenzene	1850	981	53.0	1670	942	56.3	3.99	13 - 84	43	
Benzyl alcohol	1850	1010	54.8	1670	916	54.8	10	13 - 96	51	
1,2-Dichlorobenzene	1850	1040	56.5	1670	1000	59.8	4.3	16 - 85	42	
2-Methylphenol	1850	1040	56.3	1670	976	58.4	6.43	13 - 99	52	
3-,4-Methylphenol	1850	1150	62.3	1670	1070	64.2	7.02	25 - 135	52	
bis(2-Chloroisopropyl)ether	1850	1050	56.6	1670	980	58.6	6.55	10 - 84	49	
N-Nitrosodipropylamine	1850	1230	66.7	1670	1110	66.3	10.6	10 - 103	59	
Hexachloroethane	1850	995	53.8	1670	943	56.4	5.32	10 - 87	47	
Nitrobenzene	1850	1060	57.5	1670	1020	61.1	3.96	12 - 93	50	
Isophorone	1850	1360	73.5	1670	1230	73.3	10.2	13 - 114	62	
2-Nitrophenol	1850	1080	58.3	1670	1020	60.8	5.78	10 - 102	60	
Dimethylphenol	1850	1260	68.2	1670	1190	70.9	6.21	14 - 107	57	
Benzoic acid	1850	971	52.5	1670	1050	62.8	7.85	10 - 95	61	
Bis(2-Chloroethoxy)Methane	1850	1120	60.4	1670	1030	61.6	8.06	12 - 99	53	
2,4-Dichlorophenol	1850	1130	61.0	1670	1070	64.0	5.13	14 - 100	53	
1,2,4-Trichlorobenzene	1850	1050	56.6	1670	995	59.5	5.01	13 - 88	46	
Naphthalene	1850	1100	59.6	1670	1050	62.7	5.07	10 - 95	45	
4-Chloroaniline	1850	1200	65.0	1670	895	53.5	29.2	10 - 110	73	
Hexachlorobutadiene	1850	1140	61.7	1670	1090	65.2	4.54	15 - 100	52	
4-Chloro-3-methylphenol	1850	1240	67.1	1670	1170	69.9	5.92	14 - 116	62	
2-Methylnaphthalene	1850	1180	63.7	1670	1100	65.6	7.07	10 - 103	49	
Hexachlorocyclopentadiene	1850	1130	61.3	1670	1040	62.3	8.4	10 - 92	60	
2,4,6-Trichlorophenol	1850	1270	69.0	1670	1190	71.2	6.75	12 - 114	63	
2,4,5-Trichlorophenol	1850	1310	71.0	1670	1250	74.5	5.21	13 - 116	63	
2-Chloronaphthalene	1850	1210	65.6	1670	1120	67.1	7.77	15 - 96	50	
2-Nitroaniline	1850	1420	76.6	1670	1300	77.9	8.38	15 - 123	67	
Dimethylphthalate	1850	1570	84.9	1670	1450	86.8	7.81	20 - 122	63	
Acenaphthylene	1850	1410	76.1	1670	1290	76.9	8.98	10 - 109	53	
2,6-Dinitrotoluene	1850	1470	79.6	1670	1360	81.2	7.99	14 - 126	69	
3-Nitroaniline	1850	1640	88.8	1670	1540	91.8	6.72	13 - 153	86	
Acenaphthene	1850	1350	73.3	1670	1240	73.9	9.17	10 - 123	70	
2,4-Dinitrophenol	1850	1560	84.3	1670	1390	83.2	11.3	11 - 127	72	
4-Nitrophenol	1850	1640	88.8	1670	1680	100	2.24	10 - 165	99	
Dibenzofuran	1850	1390	75.0	1670	1260	75.3	9.62	18 - 108	55	
Dinitrotoluene	1850	1750	94.7	1670	1670	99.7	4.89	24 - 146	75	
4-Chlorophenyl-phenyl ether	1850	1370	74.0	1670	1260	75.4	8.2	14 - 119	64	

KEMRON FORMS - Modified 10/09/2003
Version 1.2
Report generated 10/14/2003 10:15

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLES

Prep Method:
Matrix: Method:

Sample ID: WG151327-02 LCS File ID: 4M21642 Run Date: 10/09/2003 20:07
Sample ID: WG151327-03 LCS2 File ID: 4M21643 Run Date: 10/09/2003 20:41

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Limit	Q
	Known	Found	% REC	Known	Found	% REC				
Fluorene	1850	1500	81.0	1670	1370	81.9	8.85	10 - 122	55	
4-Nitroaniline	1850	1920	104	1670	1800	107	6.67	14 - 169	95	
4,6-Dinitro-2-methylphenol	1850	1570	85.2	1670	1400	83.6	11.9	11 - 152	86	
N-Nitrosodiphenylamine	1850	1780	96.3	1670	1660	99.2	7.06	21 - 127	65	
4-Bromophenyl-phenylether	1850	1340	72.3	1670	1250	74.8	6.5	17 - 112	58	
Hexachlorobenzene	1850	1660	89.7	1670	1580	94.3	4.96	25 - 136	68	
Pentachlorophenol	1850	1530	82.9	1670	1620	96.6	5.33	21 - 146	77	
Phenanthrene	1850	1760	95.1	1670	1680	101	4.52	10 - 144	70	
Anthracene	1850	1800	97.4	1670	1700	101	5.86	10 - 149	72	
Di-N-Butylphthalate	1850	1980	107	1670	1930	115	2.55	22 - 156	82	
Fluoranthene	1850	1870	101	1670	1820	109	2.66	10 - 158	80	
Pyrene	1850	1860	100	1670	1800	108	3.14	10 - 161	89	
Butylbenzylphthalate	1850	2000	108	1670	1970	118	1.4	22 - 162	86	
3,3'-Dichlorobenzidine	1850	1810	98.0	1670	1400	83.7	25.7	10 - 209	135	
Benzo(a)anthracene	1850	1850	100	1670	1790	107	3.28	10 - 159	83	
sene	1850	1810	97.9	1670	1770	106	2.34	10 - 153	72	
bis(2-Ethylhexyl)phthalate	1850	1960	106	1670	1940	116	.955	22 - 157	83	
Di-n-octylphthalate	1850	2110	114	1670	2070	124	1.95	17 - 173	96	
Benzo(b)fluoranthene	1850	1860	101	1670	1770	106	5.05	10 - 161	76	
Benzo(k)fluoranthene	1850	1970	107	1670	1970	118	.296	10 - 165	79	
Benzo(a)pyrene	1850	1920	104	1670	1810	108	5.88	10 - 152	72	
Indeno(1,2,3-cd)pyrene	1850	1870	101	1670	1800	108	3.69	10 - 162	84	
Dibenzo(a,h)Anthracene	1850	1790	96.8	1670	1730	103	3.57	10 - 169	88	
Benzo(g,h,i)Perylene	1850	1860	100	1670	1780	107	4.04	10 - 160	85	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
2-Fluorophenol	50.5	52.8	25 - 121	PASS
Phenol-d5	58.7	60.1	24 - 113	PASS
Nitrobenzene-d5	63.3	65.2	23 - 120	PASS
2-Fluorobiphenyl	71.6	71.4	30 - 115	PASS
2,4,6-Tribromophenol	83.6	88.0	19 - 122	PASS
p-Terphenyl-d14	97.5	103	18 - 137	PASS

* FAILS %REC LIMIT

FAILS RPD LIMIT

SAMPLE CHAIN-OF-CUSTODY RECORD

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
APPLIED TECHNOLOGIES GROUP
3145 MEDLOCK BRIDGE ROAD
NORCROSS, GEORGIA 30071
(770) 242-4090 FAX (770) 242-9198
WWW.KEMRON.COM

PROJECT NAME: Outer Harbor				ATG PROJECT #: 3254-000	
TAT or DUE DATE: ~~standard~~ 7 day + Expedite	CONTACT: Chana Gilzenrat		ATG PROJECT MANAGER: Chana Gilzenrat		
	PHONE#: 770-242-4090	EXT. 236	RECEIVING LAB: KEMRON	PO#: 3729	
SAMPLED BY: PRINTED NAME			SIGNATURE		

ANALYSES (indicate target list)

SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE DATE/TIME	Sample Matrix	Preserva-tive	# / Size of Cont.	Total Cyanide EPA 335.4 (Expedite TAT)	TCLP Semivolatiles 1311/8270 (7 day TAT)	TCL RCRA metals 1311-6010 7470 (7 day TAT)						
Untreaded	Soil	9/22/2003	S	Ice	2 x 4oz	X	X	X						

SAMPLES RELINQUISHED BY:	DATE/ TIME	SAMPLES ACCEPTED BY:	DATE/ TIME
[signature]	9/22/03	Brenda Gregory	9/23/03 @1001

COMMENTS:
7 day TAT for TCLP Metals and SVOC
Expedite TAT for Total Cyanide
C/C sealed
S/O intact
Cooler temp 6 [illegible]

Dry Weight Results is Default for Soils/Applicable Wastes

Ohana

KEMRON
ENVIRONMENTAL SERVICES

109 Starlite Park ■ Marietta, OH 45750 ■ Telephone (740) 373-4071 ■ FAX (740) 373-4835

Laboratory Report Number: L0309479

Please find enclosed the analytical results for the samples you submitted to KEMRON Environmental Services.

Review and compilation of your report was completed by KEMRON's Sales and Service Team 3. If you have questions, comments or require further assistance please contact one of our team members at 800-373-4071. We can also be reached at the e-mail addresses listed below.

Leslie Bucina-Team Leader
lbucina@kemron-lab.com

Tim Hoeflich-Team Chemist/Data Specialist
thoeflich@kemron-lab.com

Vicky Lauer-Customer Service/Invoicing Specialist
vlauer@kemron-lab.com

Rhonda Jo Wittekind- EDD/Data Entry Specialist
rwittekind@kemron-lab.com

Annie Bock-Team Assistant/Report Coordinator
abock@kemron-lab.com

This report was reviewed by: Vicky Lauer Date: 9/24/03

I certify that all test results meet all of the requirements of the NELAP standards and other applicable contract terms and conditions. All results for soil samples are reported on a "dry-weight" basis unless specified otherwise. Analytical results for water and wastes are reported on an "as received" basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of KEMRON Environmental Services.

Certified by: David E. Vandenberg
David E. Vandenberg
Laboratory Director

NYDOH NELAP Id: 10861 April 1, 2003 thru April 1, 2004
Non-Potable Water and Solid/Hazardous Waste

This report contains a total of 13 pages.

LABORATORY REPORT

L0309479

09/24/03 16:16

Submitted By

Kemron Environmental Services
109 Starlite Park
Marietta, Ohio 45750
(740)373-4071

For

Account Name: KEMRON Environmental Services, Inc

3145 Medlock Bridge Road
Norcross, GA 30071
Attention: Chana Gilzenrat

Account Number: 460-NORCROSS
Work ID: OUTER HARBO

P.O. Number: IDC

Sample Summary

Client ID	Lab ID	Date Collected	Date Recieved
UNTREATED	L0309479-01	22-SEP-03	23-SEP-03

KEMRON ENVIRONMENTAL SERVICES
REPORT NARRATIVE

L0309479

SHIPMENT CONDITIONS:

The chain of custody was received sealed in the cooler. The cooler temperature was 6° C.

SAMPLE MANAGEMENT:

The samples were received intact.

TCLP 8270 and TCLP Metals were logged on L0309480 due to this sample needing an expedited TAT.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

REVIEWED: Vicky Lauer DATE: 9/23/03

Report Number: **L0309479**

Report Date : **September 24, 2003**

Sample Number: L0309479-01
Client ID: UNTREATED
Work ID: OUTER HARBO
Matrix: Soil
Date Collected: 09/22/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Percent Solids	D2216-90	weight %	72.9		1.00	1.00	1

Sample Number: L0309479-01
Client ID: UNTREATED
Work ID: OUTER HARBO
Matrix: Soil
Date Collected: 09/22/2003 23:59
Percent Solid: 72.8

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Cyanide	9010B	mg/kg	1.29		0.672	0.336	1

WORKGROUP SUMMARY BY SAMPLE

WORKGROUP SUMMARY BY SAMPLE

Client ID: UNTREATED
Collect Date/Time: 09/22/2003 11:59 PM
Sample Matrix: Soil
Lab ID: L0309479-01
Received Date/Time: 09/23/2003 10:01 AM

Department Name	Method	Workgroup	Analyst	Analysis Date	Inst Id	Tag
Conventionals	D2216-90	WG150290	TMM	09/23/2003 11:45 AM	OVEN	
Conventionals	9010B	WG150402	JWR	09/24/2003 11:30 AM	UV-120-02	
Extraction	9010B	WG150402	JWR	09/24/2003 11:30 AM	UV-120-02	
Conventionals	9010B	WG150402	JWR	09/24/2003 11:30 AM	UV-120-02	
Extraction	9010B	WG150402	JWR	09/24/2003 11:30 AM	UV-120-02	

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0309479 Run Date: 09/24/2003 Sample ID: WG150402-01
Instrument ID: UV-120-02 Run Time: 11:30 Prep Method: 9010B
File ID: 02.0309241130-03 Analyst: JWR Method: 9010B
Workgroup (AAB#): WG150402 Matrix: Soil Units: mg/kg
Contract #: Cal ID: UV-120-22-AUG-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Cyanide	0.250	0.500	0.250	1	ND

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLE

Login Number: L0309479 Run Date: 09/24/2003 Sample ID: WG150402-02
Instrument ID: UV-120-02 Run Time: 11:30 Prep Method: 9010B
File ID: 02.0309241130-04 Analyst: JWR Method: 9010B
Workgroup (AAB#): WG150402 Matrix: Soil Units: mg/kg
Contract #: Cal ID: UV-120-22-AUG-2003

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide	2.21	2.32	105	90 - 110	

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLE

Login Number: L0309479 Run Date: 09/24/2003 Sample ID: WG150402-06
Instrument ID: UV-120-02 Run Time: 11:30 Prep Method: 9010B
File ID: 02.0309241130-05 Analyst: JWR Method: 9010B
Workgroup (AAB#): WG150402 Matrix: Soil Units: mg/kg
Contract #: Cal ID: UV-120-22-AUG-2003

Analytes	Expected	Found	% Rec	LCS Limits	Q
Cyanide	22.1	23.5	106	90 - 110	

Kemron Environmental Services
Analyst Listing
Friday, September 19 2003

AA - ADRIAN ACHTERMANN
AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BOCK
ALT - ANN L. THAYER
AMT - ANDREA M. TUCKER
ARB - AMANDA R. BLAIR
ARS - ANGELINA R. SCOTT
BRF - BRENT F. FOOS
BRG - BRENDA R. GREGORY
CAB - CASSIE A. BAKER
CAF - CHERYL A. FLOWERS
CAK - CHERYL A. KOELSCH
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLK - CARL L. KING
CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS
CM - CHARLIE MARTIN
CMS - CRYSTAL M. STEVENS
CPD - CHAD P. DAVIS
CRC - CARLA R. COCHRAN
CSH - CHRIS S. HILL
DAS - DALLAS A. SULLIVAN
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLA - DENISE L. ADAMS
DLB - DAVID L. BUMGARNER
DLN - DEANNA L. NORTON
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DMV - DAVID M. VANDEVELDE
DOV - DENISE O. VANDENBERG
DP - DEANNA L. PIERSON
DRB - DOUG R. BARNETT
DSM - DAVID S. MOSSOR
DST - DENNIS S. TEPE
ECL - ERIC C. LAWSON
EED - EMILY E. DECKER
ELW - ERICA L. WEBB
GSG - GALEN S. GEORGE
HV - HEMA VILASAGAR
JAL - JOHN A. LENT
JJG - JAKE J. GREUEY
JKW - JANE K. THOMPSON
JLC - JEANIE L. CRESS
JLD - JENNIFER L. DULANEY
JLS - JANICE L. SCHIMMEL
JMM - JARROD M. MARTIN
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF
LLL - LONNIE L. LEWIS
LSA - LUCINDA S. ARNOLD
LSB - LESLIE S. BUCINA
MAH - MICALYN A. HARRIS
MDA - MICHAEL D. ALBERTSON
MDC - MICHAEL D. COCHRAN
MDP - MATTHEW D. POWELL
MEF - MIKE E. FLANAGAN
MES - MARY E. SCHILLING
MKZ - MARILYN K. ZUMBRO
MLR - MARY L. ROCHOTTE
MLS - MICHAEL L. SCHIMMEL
MMB - MAREN M. BEERY
MSW - MATT S. WILSON
NJB - NATALIE J. BOOTH
NNM - NINA N. MONWAY
OGT - OKEY G. TUCKER
PAS - PATRICK A. STREET
RDC - REBECCA D. CUTLIP
REK - ROBERT E. KYER
RJW - RHONDA J. WITTEKIND
RWC - ROD W. CAMPBELL
SCM - SUSAN C. MOELLENDICK
SCN - SHANNON C. NEWBANKS
SH - SHAUNA M. HYDE
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
SPL - STEVE P. LEARN
TDB - TAMARA D. BISSELL
TJH - TIM J. HOEFLICH
TLT - TIFFINI L. TINGLER
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
VKL - VICKY K. LAUER
WJL - WENDY J. LEWIS
WSM - WALTER F. MARTIN

KEMRON FORMS: JUL-25-02
Printed: SEP-19-03 14:52:14

KEMRON Environmental Services, Inc
List of Valid Qualifiers
August 5, 2002

Standard Qualifiers

These are KEMRON's Standard Report Qualifiers

B	Present in the method blank
C	Confirmed by GC/MS
CG	Confluent growth
D	The analyte was quantified at a secondary dilution factor
DL	Surrogate or spike was diluted out
E	Estimated concentration due to sample matrix interference
FL	Free liquid
I	Semi-quantitative result, out of instrument calibration range
J	Present below nominal reporting limit
L	Sample reporting limits elevated due to matrix interference
N	Tentatively Identified Compound (TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
NF	Not found
NFL	No free liquid
NI	Non-ignitable
NS	Not spiked
P	Concentration >40% difference between The two GC columns
QNS	Quantity not sufficient to perform analysis
RA	Re analysis confirms reported results
RE	Re analysis confirms sample matrix interference
S	Analyzed by method of standard addition
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TNTC	Too numerous to count
U	Analyzed for but not detected
W	Post-digestion spike for furnace AA out o f control limits
X	Exceeds regulatory limit
Z	Can not be resolved from isomer.***
+	Correlation coefficient for the MSA is less than 0.995
<	Less than
>	Greater than
*	Surrogate or spike compound out of range

***** Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene
3. N-nitrosodiphenylamine cannot be separated from diphenylamine
4. 3-Methyphenol and 4-Methyphenol are unresolvable compounds
5. m-Xylene and p-Xylene are unresolvable compounds
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent

AFCEE Qualifiers

These are KEMRON's AFCEE Report Qualifiers

J	The analyte was positively identified, the quantitation is an estimation
U	The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL
F	The analyte was positively identified but the associated numerical value is below the RL
R	The data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
B	The analyte was found in an associated blank, as well as in the sample
M	The matrix effect was present
S	To be applied to all field screening data
T	Tentatively identified compound (using GC/MS)

SAMPLE CHAIN-OF-CUSTODY RECORD

KEMRON ENVIRONMENTAL SERVICES

KEMRON ENVIRONMENTAL SERVICES, INC.
APPLIED TECHNOLOGIES GROUP
3145 MEDLOCK BRIDGE ROAD
NORCROSS, GEORGIA 30071
(770) 242-4090 FAX (770) 242-9198
WWW.KEMRON.COM

PROJECT NAME:			ATG PROJECT #:
Outer Harbor			3254-000
TAT or DUE DATE:	CONTACT:	ATG PROJECT MANAGER:	
~~standard~~ 7 day & Expedite	Chana Gilzenrat	Chana Gilzenrat	
	PHONE#: 770-242-4090 EXT. 236	RECEIVING LAB: KEMRON	PO#: 3729
SAMPLED BY: PRINTED NAME		SIGNATURE	

SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE DATE/TIME	Sample Matrix	Preserva-tive	# / Size of Cont.	ANALYSES (indicate target list): Total Cyanide EPA 335.4 (Expedite TAT)	TCLP Semivolatiles 1311/8270 (7 day TAT)	TCL RCRA metals 1311-6010. 7470 (7 day TAT)						
Untreaded	Soil	9/22/2003	S	Ice	2 x 4oz	X	X	X						

SAMPLES RELINQUISHED BY:	DATE/ TIME	SAMPLES ACCEPTED BY:	DATE/ TIME	COMMENTS:
	9/22/03	Brenda Gregory	9/23/03 @1001	7 day TAT for TCLP Metals and SVOC Expedite TAT for Total Cyanide COC dated Sb intact Cooler Temp 6 b/9

REV 5 11/26/01

Dry Weight Results is Default for Soils/Applicable Wastes

h:\treat\coc1.xls

SAMPLE RECEIPT FORM

10:01

KEMRON
ENVIRONMENTAL SERVICES
109 STARLITE PARK
MARIETTA, OH
45750
(740) 373-4071

Date: 9-23-03 Client: Kemron- Norcross

Shipped By: (✓) Fed-Ex ( ) UPS ( )Airborne ( ) KEMRON ( ) Client ( ) Other

Opened By: CLS

Logged By: KBG Login #: L03 09479

IR Temp Gun: (✓) D ( ) F

COOLER INFORMATION

Number	Cooler ID	Temp °C	Airbill#	COC#	Other
1	mid Coleman	6	791677719 0095		
2					
3					
4					
5					
6					

Were all coolers sealed?	(Y)	N	N/A
Were custody seals used on all coolers?	Y	(N)	N/A
Were custody seals intact?	Y	(N)	N/A
Was visible ice present?	(Y)	N	N/A
Were all coolers in the temperature range of 2-6C? (>6C*)	(Y)	N	N/A
Were the samples frozen?*	Y	(N)	N/A
Were COC papers provided?	(Y)	N	N/A
Were all sample containers intact?*	(Y)	N	N/A
Were all sample labels intact?	(Y)	N	N/A
Were all sample labels legible?*	(Y)	N	N/A
Did all sample labels match the COC?*	(Y)	N	N/A
Was the label information complete?*	(Y)	N	N/A
Were the correct containers used?*	(Y)	N	N/A
Were the correct preservatives added to water samples?*	Y	N	(N/A)
Was the pH tested on preserved water samples?	Y	N	(N/A)
Were pH ranges acceptable?*	Y	N	(N/A)
Was sufficient amount of sample provided?*	(Y)	N	N/A
Were bubbles present in VOA samples?*	Y	N	(N/A)
Were COC's signed and dated?	(Y)	N	N/A
Did samples arrive before hold time expired?*	(Y)	N	N/A
Are discrepancy forms attached?	Y	N	(N/A)

Requires a discrepancy form

Comments: _____

CRF #1
Revised 8/22/03

KEMRON
ENVIRONMENTAL SERVICES

109 Starlite Park ▪ Marietta, OH 45750 ▪ Telephone (740) 373-4071 ▪ FAX (740) 373-4835

Laboratory Report Number: L0309480

Please find enclosed the analytical results for the samples you submitted to KEMRON Environmental Services.

Review and compilation of your report was completed by KEMRON's Sales and Service Team 3. If you have questions, comments or require further assistance please contact one of our team members at 800-373-4071. We can also be reached at the e-mail addresses listed below.

Leslie Bucina-Team Leader
lbucina@kemron-lab.com

Tim Hoeflich-Team Chemist/Data Specialist
thoeflich@kemron-lab.com

Vicky Lauer-Customer Service/Invoicing Specialist
vlauer@kemron-lab.com

Rhonda Jo Wittekind- EDD/Data Entry Specialist
rwittekind@kemron-lab.com

Annie Bock-Team Assistant/Report Coordinator
abock@kemron-lab.com

This report was reviewed by: Vicky Lauer Date: 10/15/03

I certify that all test results meet all of the requirements of the NELAP standards and other applicable contract terms and conditions. All results for soil samples are reported on a "dry-weight" basis unless specified otherwise. Analytical results for water and wastes are reported on an "as received" basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of KEMRON Environmental Services.

Certified by: David E. Vandenberg
David E. Vandenberg
Laboratory Director

NYDOH NELAP Id: 10861 April 1, 2003 thru April 1, 2004
Non-Potable Water and Solid/Hazardous Waste

This report contains a total of 23 pages.

LABORATORY REPORT

L0309480

10/15/03 11:17

Submitted By

Kemron Environmental Services
109 Starlite Park
Marietta, Ohio 45750
(740)373-4071

For

Account Name: KEMRON Environmental Services, Inc

3145 Medlock Bridge Road
Norcross, GA 30071
Attention: Chana Gilzenrat

Account Number: 460-NORCROSS
Work ID: OUTER HARBOR

P.O. Number: IDC

Sample Summary

Client ID	Lab ID	Date Collected	Date Recieved
UNTREATED	L0309480-01	22-SEP-03	23-SEP-03

KEMRON ENVIRONMENTAL SERVICES
REPORT NARRATIVE

L0309480

SHIPMENT CONDITIONS:

The chain of custody was received sealed in the cooler. The cooler temperature was 6° C.

SAMPLE MANAGEMENT:

The samples were received intact.

CN was logged on a L0309479 due to expedited TAT.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

REVIEWED: Vicky Lauer DATE: 9/23/03

REPORT NARRATIVE
GC/MS SEMIVOLATILE ORGANICS

KEMRON Report No.: L0309480

METHOD

Preparation: SW- 846 3550B(Soils) 3510C(Waters)
Analysis: SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.
Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally .

CALIBRATION

Initial calibrations: For all compounds which yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.
Laboratory Control Samples: The LCS associated with the sample extraction yielded % recoveries for 2,4,5-trichlorophenol, hexachlorobenzene and pentachlorophenol that were below the lower advisory limit. All other acceptance criteria were met.
Matrix Spikes: The MS/MSD were not associated with these samples.

SAMPLES

Internal Standards: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Analyst: ALT

REVIEWED:  DATE: 10/20/09

KEMRON ENVIRONMENTAL SERVICES

Report Number: L0309480
Report Date : November 5, 2003

Sample Number: L0309480-01
Client ID: UNTREATED
Work ID: OUTER HARBOR
Matrix: Leachate
Date Collected: 09/22/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Mercury, TCLP	7470A	mg/L		ND	.005	.001	10
Silver, TCLP	6010B	mg/L		ND	.1	.05	1
Arsenic, TCLP	6010B	mg/L		ND	1	.1	1
Barium, TCLP	6010B	mg/L	0.321		.1	.025	1
Cadmium, TCLP	6010B	mg/L		ND	.1	.025	1
Chromium, TCLP	6010B	mg/L		ND	.2	.025	1
Lead, TCLP	6010B	mg/L		ND	1	.1	1
Selenium, TCLP	6010B	mg/L		ND	.8	.5	1

Regulatory Information			
Analyte	CAS. Number	EPA HW#	TCLP. Limit
Mercury, TCLP	7439-97-6	D009	0.2
Silver, TCLP	7440-22-4	D011	5
Arsenic, TCLP	7440-38-2	D004	5
Barium, TCLP	7440-39-3	D005	100
Cadmium, TCLP	7440-43-9	D006	1
Chromium, TCLP	7440-47-3	D007	5
Lead, TCLP	7439-92-1	D008	5
Selenium, TCLP	7782-49-2	D010	1

ND Not detected at or above the reporting limit

Sample Number: L0309480-01
Client ID: UNTREATED
Work ID: OUTER HARBOR
Matrix: Leachate
Date Collected: 09/22/2003 23:59

Report Number: L0309480
Report Date : November 5, 2003

Sample Number: L0309480-01
Client ID: UNTREATED
Work ID: OUTER HARBOR
Matrix: Leachate
Date Collected: 09/22/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Phenol	8270C	ug/L		ND	50	25	1
pyridine	8270C	ug/L		ND	50	25	1
Bis(2-Chloroethyl)ether	8270C	ug/L		ND	50	25	1
2-Chlorophenol	8270C	ug/L		ND	50	25	1
1,3-Dichlorobenzene	8270C	ug/L		ND	50	25	1
1,4-Dichlorobenzene	8270C	ug/L		ND	50	25	1
Benzyl alcohol	8270C	ug/L		ND	50	25	1
1,2-Dichlorobenzene	8270C	ug/L	342		50	25	1
2-Methylphenol	8270C	ug/L		ND	50	25	1
3-,4-Methylphenol	8270C	ug/L		ND	50	25	1
bis(2-Chloroisopropyl)ether	8270C	ug/L		ND	50	25	1
N-Nitroso-di-n-propylamine	8270C	ug/L		ND	50	25	1
Hexachloroethane	8270C	ug/L		ND	50	25	1
Nitrobenzene	8270C	ug/L	24300		2500	1250	50
Isophorone	8270C	ug/L		ND	50	25	1
2-Nitrophenol	8270C	ug/L		ND	50	25	1
2,4-Dimethylphenol	8270C	ug/L		ND	50	25	1
Benzoic acid	8270C	ug/L		ND	250	125	1
Bis(2-Chloroethoxy)Methane	8270C	ug/L		ND	50	25	1
2,4-Dichlorophenol	8270C	ug/L		ND	50	25	1
1,2,4-Trichlorobenzene	8270C	ug/L	51.0		50	25	1
Naphthalene	8270C	ug/L	6370		1000	500	20
4-Chloroaniline	8270C	ug/L		ND	50	25	1
Hexachlorobutadiene	8270C	ug/L		ND	50	25	1
4-Chloro-3-methylphenol	8270C	ug/L		ND	50	25	1
2-Methylnaphthalene	8270C	ug/L		ND	50	25	1
Hexachlorocyclopentadiene	8270C	ug/L		ND	50	25	1
2,4,6-Trichlorophenol	8270C	ug/L		ND	50	25	1
2,4,5-Trichlorophenol	8270C	ug/L		ND	50	25	1
2-Chloronaphthalene	8270C	ug/L		ND	50	25	1
2-Nitroaniline	8270C	ug/L		ND	250	125	1
Dimethylphthalate	8270C	ug/L		ND	50	25	1
Acenaphthylene	8270C	ug/L		ND	50	25	1
2,6-Dinitrotoluene	8270C	ug/L	113		50	25	1
3-Nitroaniline	8270C	ug/L	320		250	125	1
Acenaphthene	8270C	ug/L		ND	50	25	1
2,4-Dinitrophenol	8270C	ug/L		ND	250	125	1
4-Nitrophenol	8270C	ug/L		ND	250	125	1
Dibenzofuran	8270C	ug/L		ND	50	25	1
2,4-Dinitrotoluene	8270C	ug/L	166		50	25	1
Diethylphthalate	8270C	ug/L		ND	50	25	1
4-Chlorophenyl-phenyl ether	8270C	ug/L		ND	50	25	1
Fluorene	8270C	ug/L		ND	50	25	1
4-Nitroaniline	8270C	ug/L		ND	250	125	1
4,6-Dinitro-2-methylphenol	8270C	ug/L		ND	250	125	1
N-Nitrosodiphenylamine	8270C	ug/L		ND	50	25	1
4-Bromophenyl-phenylether	8270C	ug/L		ND	50	25	1
Hexachlorobenzene	8270C	ug/L		ND	50	25	1
Pentachlorophenol	8270C	ug/L		ND	250	125	1
Phenanthrene	8270C	ug/L		ND	50	25	1
Anthracene	8270C	ug/L		ND	50	25	1
Di-N-Butylphthalate	8270C	ug/L		ND	50	25	1
Fluoranthene	8270C	ug/L		ND	50	25	1
Pyrene	8270C	ug/L		ND	50	25	1
Butylbenzylphthalate	8270C	ug/L		ND	50	25	1
3,3'-Dichlorobenzidine	8270C	ug/L		ND	100	25	1
Benzo(a)anthracene	8270C	ug/L		ND	50	25	1
Chrysene	8270C	ug/L		ND	50	25	1
bis(2-Ethylhexyl)phthalate	8270C	ug/L		ND	50	25	1
Di-n-octylphthalate	8270C	ug/L		ND	50	25	1
Benzo(b)fluoranthene	8270C	ug/L		ND	50	25	1

Report Number: L0309480
Report Date : November 5, 2003

Sample Number: L0309480-01
Client ID: UNTREATED
Work ID: OUTER HARBOR
Matrix: Leachate
Date Collected: 09/22/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Benzo(k)fluoranthene	8270C	ug/L		ND	50	25	1
Benzo(a)pyrene	8270C	ug/L		ND	50	25	1
Indeno(1,2,3-cd)pyrene	8270C	ug/L		ND	50	25	1
Dibenzo(a,h)Anthracene	8270C	ug/L		ND	50	25	1
Benzo(g,h,i)Perylene	8270C	ug/L		ND	50	25	1

Surrogate	% Recovery	Lower	Upper	Qual
2-Fluorophenol	28.8	21	100	
Phenol-d5	24.3	10	94	
Nitrobenzene-d5	59.2	35	114	
2-Fluorobiphenyl	59.3	43	116	
2,4,6-Tribromophenol	54.6	10	123	
p-Terphenyl-d14	50.2	33	141	

Regulatory Information

Report Number: L0309480
Report Date : November 5, 2003

Sample Number: L0309480-01
Client ID: UNTREATED
Work ID: OUTER HARBOR
Matrix: Leachate
Date Collected: 09/22/2003 23:59

Analyte	CAS. Number	EPA HW#	TCLP. Limit
Phenol	108-95-2		
pyridine	110-86-1		
Bis(2-Chloroethyl)ether	111-44-4		
2-Chlorophenol	95-57-8		
1,3-Dichlorobenzene	541-73-1		
1,4-Dichlorobenzene	106-46-7	D027	7500
Benzyl alcohol	100-51-6		
1,2-Dichlorobenzene	95-50-1		
2-Methylphenol	95-48-7	D023	200000
3-,4-Methylphenol	106-44-5	D025	200000
bis(2-Chloroisopropyl)ether	39638-32-9		
N-Nitroso-di-n-propylamine	621-64-7		
Hexachloroethane	67-72-1	D034	3000
Nitrobenzene	98-95-3	D036	2000
Isophorone	78-59-1		
2-Nitrophenol	88-75-5		
2,4-Dimethylphenol	105-67-9		
Benzoic acid	65-85-0		
Bis(2-Chloroethoxy)Methane	111-91-1		
2,4-Dichlorophenol	120-83-2		
1,2,4-Trichlorobenzene	120-82-1		
Naphthalene	91-20-3		
4-Chloroaniline	106-47-8		
Hexachlorobutadiene	87-68-3	D033	500
4-Chloro-3-methylphenol	59-50-7		
2-Methylnaphthalene	91-57-6		
Hexachlorocyclopentadiene	77-47-4		
2,4,6-Trichlorophenol	88-06-2	D042	2000
2,4,5-Trichlorophenol	95-95-4	D041	400000
2-Chloronaphthalene	91-58-7		
2-Nitroaniline	88-74-4		
Dimethylphthalate	131-11-3		
Acenaphthylene	208-96-8		
2,6-Dinitrotoluene	606-20-2		
3-Nitroaniline	99-09-2		
Acenaphthene	83-32-9		
2,4-Dinitrophenol	51-28-5		
4-Nitrophenol	100-02-7		
Dibenzofuran	132-64-9		
2,4-Dinitrotoluene	121-14-2	D030	130
Diethylphthalate	84-66-2		
4-Chlorophenyl-phenyl ether	7005-72-3		
Fluorene	86-73-7		
4-Nitroaniline	100-01-6		
4,6-Dinitro-2-methylphenol	534-52-1		
N-Nitrosodiphenylamine	86-30-6		
4-Bromophenyl-phenylether	101-55-3		
Hexachlorobenzene	118-74-1	D032	130
Pentachlorophenol	87-86-5	D037	100000
Phenanthrene	85-01-8		
Anthracene	120-12-7		
Di-N-Butylphthalate	84-74-2		
Fluoranthene	206-44-0		
Pyrene	129-00-0		
Butylbenzylphthalate	85-68-7		
3,3'-Dichlorobenzidine	91-94-1		
Benzo(a)anthracene	56-55-3		
Chrysene	218-01-9		
bis(2-Ethylhexyl)phthalate	117-81-7		
Di-n-octylphthalate	117-84-0		
Benzo(b)fluoranthene	205-99-2		

Report Number: **L0309480**

Report Date : **November 5, 2003**

Sample Number: **L0309480-01**
Client ID: **UNTREATED**
Work ID: **OUTER HARBOR**
Matrix: **Leachate**
Date Collected: **09/22/2003 23:59**

Analyte	CAS. Number	EPA HW#	TCLP. Limit
Benzo(k)fluoranthene	207-08-9		
Benzo(a)pyrene	50-32-8		
Indeno(1,2,3-cd)pyrene	193-39-5		
Dibenzo(a,h)Anthracene	53-70-3		
Benzo(g,h,i)Perylene	191-24-2		

ND Not detected at or above the reporting limit

WORKGROUP SUMMARY BY SAMPLE

WORKGROUP SUMMARY BY SAMPLE

Client ID: UNTREATED
Collect Date/Time: 09/22/2003 11:59 PM
Sample Matrix: Leachate
Lab ID: L0309480-01
Received Date/Time: 09/23/2003 10:01 AM

Department Name	Method	Workgroup	Analyst	Analysis Date	Inst Id	Tag
Semivolatile - GC/MS	8270C	WG150843	MDC	10/10/2003 06:08 PM	HPMS12	01
Metals - AA	7470A	WG150497	KHR	09/25/2003 02:35 PM	HYDRA	
Extraction	8270C	WG150484	DP	09/25/2003 08:00 AM	SEP-FUNNEL	

Kemron Environmental Services
Analyst Listing
Tuesday, October 14 2003

AA - ADRIAN ACHTERMANN
AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BOCK
ALT - ANN L. THAYER
AMT - ANDREA M. TUCKER
ARB - AMANDA R. BLAIR
ARS - ANGELINA R. SCOTT
BRF - BRENT F. FOOS
BRG - BRENDA R. GREGORY
CAB - CASSIE A. BAKER
CAF - CHERYL A. FLOWERS
CAK - CHERYL A. KOELSCH
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLK - CARL L. KING
CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS
CM - CHARLIE MARTIN
CMS - CRYSTAL M. STEVENS
CPD - CHAD P. DAVIS
CRC - CARLA R. COCHRAN
CSH - CHRIS S. HILL
DAS - DALLAS A. SULLIVAN
DDE - DEBRA D. ELLIOTT
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLA - DENISE L. ADAMS
DLB - DAVID L. BUMGARNER
DLN - DEANNA L. NORTON
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DMV - DAVID M. VANDEVELDE
DOV - DENISE O. VANDENBERG
DP - DEANNA L. PIERSON
DRB - DOUG R. BARNETT
DSM - DAVID S. MOSSOR
DST - DENNIS S. TEPE
ECL - ERIC C. LAWSON
EED - EMILY E. DECKER
ELW - ERICA L. WEBB
GSG - GALEN S. GEORGE
HV - HEMA VILASAGAR
JAL - JOHN A. LENT
JJG - JAKE J. GREUEY
JKW - JANE K. THOMPSON
JLC - JEANIE L. CRESS
JLS - JANICE L. SCHIMMEL
JMM - JARROD M. MARTIN
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF
LLL - LONNIE L. LEWIS
LSA - LUCINDA S. ARNOLD
LSB - LESLIE S. BUCINA
MAH - MICALYN A. HARRIS
MDA - MICHAEL D. ALBERTSON
MDC - MICHAEL D. COCHRAN
MEF - MIKE E. FLANAGAN
MES - MARY E. SCHILLING
MKZ - MARILYN K. ZUMBRO
MLR - MARY L. ROCHOTTE
MLS - MICHAEL L. SCHIMMEL
MMB - MAREN M. BEERY
MSW - MATT S. WILSON
NJB - NATALIE J. BOOTH
NNM - NINA N. MONWAY
OGT - OKEY G. TUCKER
PAS - PATRICK A. STREET
RDC - REBECCA D. CUTLIP
REK - ROBERT E. KYER
RJW - RHONDA J. WITTEKIND
RWC - ROD W. CAMPBELL
SCM - SUSAN C. MOELLENDICK
SH - SHAUNA M. HYDE
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
SPL - STEVE P. LEARN
TDB - TAMARA D. BISSELL
TJH - TIM J. HOEFLICH
TLT - TIFFINI L. TINGLER
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
VKL - VICKY K. LAUER
WSM - WALTER F. MARTIN

KEMRON FORMS: JUL-25-02
Printed: OCT-14-03 09:27:14

KEMRON Environmental Services, Inc
List of Valid Qualifiers
August 5, 2002

Standard Qualifiers

These are KEMRON's Standard Report Qualifiers

B	Present in the method blank
C	Confirmed by GC/MS
CG	Confluent growth
D	The analyte was quantified at a secondary dilution factor
DL	Surrogate or spike was diluted out
E	Estimated concentration due to sample matrix interference
FL	Free liquid
I	Semi-quantitative result, out of instrument calibration range
J	Present below nominal reporting limit
L	Sample reporting limits elevated due to matrix interference
N	Tentatively Identified Compound (TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
NF	Not found
NFL	No free liquid
NI	Non-ignitable
NS	Not spiked
P	Concentration >40% difference between The two GC columns
QNS	Quantity not sufficient to perform analysis
RA	Re analysis confirms reported results
RE	Re analysis confirms sample matrix interference
S	Analyzed by method of standard addition
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TNTC	Too numerous to count
U	Analyzed for but not detected
W	Post-digestion spike for furnace AA out o f control limits
X	Exceeds regulatory limit
Z	Can not be resolved from isomer.***
+	Correlation coefficient for the MSA is less than 0.995
<	Less than
>	Greater than
*	Surrogate or spike compound out of range

***** Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene
3. N-nitrosodiphenylamine cannot be separated from diphenylamine
4. 3-Methyphenol and 4-Methyphenol are unresolvable compounds
5. m-Xylene and p-Xylene are unresolvable compounds
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent

AFCEE Qualifiers

These are KEMRON's AFCEE Report Qualifiers

J	The analyte was positively identified, the quantitation is an estimation
U	The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL
F	The analyte was positively identified but the associated numerical value is below the RL
R	The data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
B	The analyte was found in an associated blank, as well as in the sample
M	The matrix effect was present
S	To be applied to all field screening data
T	Tentatively identified compound (using GC/MS)

H:\DATA\COMMON\Qualifier List 08-05-02.doc

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK SUMMARY

Login Number: L0309480
Blank File ID: 12M2266
Date Analyzed: 10/09/03
Time Analyzed: 22:52
Analyst: SPL

Work Group: WG150843
Blank Sample ID: WG150484-01
Instrument ID: HPMS12
Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
LCS	WG150484-02	12M2267	10/09/03 23:27	01
LCS2	WG150484-03	12M2268	10/10/03 00:02	01
UNTREATED	L0309480-01	12M2287	10/10/03 18:08	01

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0309480 Run Date: 10/09/2003 Sample ID: WG150484-01
Instrument ID: HPMS12 Run Time: 22:52 Prep Method: 3510C
File ID: 12M2266 Analyst: SPL Method: 8270C
Workgroup (AAB#): WG150843 Matrix: Leachate Units: ug/L
Contract #: Cal ID: HPMS12-09-OCT-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Phenol	2.50	5.00	2.50	1	ND
pyridine	2.50	5.00	2.50	1	ND
Bis(2-Chloroethyl)ether	2.50	5.00	2.50	1	ND
2-Chlorophenol	2.50	5.00	2.50	1	ND
1,3-Dichlorobenzene	2.50	5.00	2.50	1	ND
1,4-Dichlorobenzene	2.50	5.00	2.50	1	ND
Benzyl alcohol	2.50	5.00	2.50	1	ND
1,2-Dichlorobenzene	2.50	5.00	2.50	1	ND
2-Methylphenol	2.50	5.00	2.50	1	ND
3-,4-Methylphenol	2.50	5.00	2.50	1	ND
bis(2-Chloroisopropyl)ether	2.50	5.00	2.50	1	ND
N-Nitroso-di-n-propylamine	2.50	5.00	2.50	1	ND
Hexachloroethane	2.50	5.00	2.50	1	ND
Nitrobenzene	2.50	5.00	2.50	1	ND
Isophorone	2.50	5.00	2.50	1	ND
2-Nitrophenol	2.50	5.00	2.50	1	ND
2,4-Dimethylphenol	2.50	5.00	2.50	1	ND
Benzoic acid	12.5	25.0	12.5	1	ND
Bis(2-Chloroethoxy)Methane	2.50	5.00	2.50	1	ND
2,4-Dichlorophenol	2.50	5.00	2.50	1	ND
1,2,4-Trichlorobenzene	2.50	5.00	2.50	1	ND
Naphthalene	2.50	5.00	2.50	1	ND
4-Chloroaniline	2.50	5.00	2.50	1	ND
Hexachlorobutadiene	2.50	5.00	2.50	1	ND
4-Chloro-3-methylphenol	2.50	5.00	2.50	1	ND
2-Methylnaphthalene	2.50	5.00	2.50	1	ND
Hexachlorocyclopentadiene	2.50	5.00	2.50	1	ND
2,4,6-Trichlorophenol	2.50	5.00	2.50	1	ND
2,4,5-Trichlorophenol	2.50	5.00	2.50	1	ND
2-Chloronaphthalene	2.50	5.00	2.50	1	ND
2-Nitroaniline	12.5	25.0	12.5	1	ND
Dimethylphthalate	2.50	5.00	2.50	1	ND
Acenaphthylene	2.50	5.00	2.50	1	ND
2,6-Dinitrotoluene	2.50	5.00	2.50	1	ND
3-Nitroaniline	12.5	25.0	12.5	1	ND
Acenaphthene	2.50	5.00	2.50	1	ND
2,4-Dinitrophenol	12.5	25.0	12.5	1	ND
4-Nitrophenol	12.5	25.0	12.5	1	ND
Dibenzofuran	2.50	5.00	2.50	1	ND
2,4-Dinitrotoluene	2.50	5.00	2.50	1	ND
Diethylphthalate	2.50	5.00	2.50	1	ND
4-Chlorophenyl-phenyl ether	2.50	5.00	2.50	1	ND

KEMRON FORMS - Modified 10/07/2003
Version 1.3
Report generated 10/16/2003 14:59

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0309480 | Run Date: 10/09/2003 | Sample ID: WG150484-01
Instrument ID: HPMS12 | Run Time: 22:52 | Prep Method: 3510C
File ID: 12M2266 | Analyst: SPL | Method: 8270C
Workgroup (AAB#): WG150843 | Matrix: Leachate | Units: ug/L
Contract #: | Cal ID: HPMS12-09-OCT-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Fluorene	2.50	5.00	2.50	1	ND
4-Nitroaniline	12.5	25.0	12.5	1	ND
4,6-Dinitro-2-methylphenol	12.5	25.0	12.5	1	ND
N-Nitrosodiphenylamine	2.50	5.00	2.50	1	ND
4-Bromophenyl-phenylether	2.50	5.00	2.50	1	ND
Hexachlorobenzene	2.50	5.00	2.50	1	ND
Pentachlorophenol	12.5	25.0	12.5	1	ND
Phenanthrene	2.50	5.00	2.50	1	ND
Anthracene	2.50	5.00	2.50	1	ND
Di-N-Butylphthalate	2.50	5.00	2.50	1	ND
Fluoranthene	2.50	5.00	2.50	1	ND
Pyrene	2.50	5.00	2.50	1	ND
Butylbenzylphthalate	2.50	5.00	2.50	1	ND
3,3'-Dichlorobenzidine	2.50	10.0	2.50	1	ND
Benzo(a)anthracene	2.50	5.00	2.50	1	ND
Chrysene	2.50	5.00	2.50	1	ND
bis(2-Ethylhexyl)phthalate	2.50	5.00	2.50	1	ND
Di-n-octylphthalate	2.50	5.00	2.50	1	ND
Benzo(b)fluoranthene	2.50	5.00	2.50	1	ND
Benzo(k)fluoranthene	2.50	5.00	2.50	1	ND
Benzo(a)pyrene	2.50	5.00	2.50	1	ND
Indeno(1,2,3-cd)pyrene	2.50	5.00	2.50	1	ND
Dibenzo(a,h)Anthracene	2.50	5.00	2.50	1	ND
Benzo(g,h,i)Perylene	2.50	5.00	2.50	1	ND

Surrogates	% Recovery	Surrogate Limits			Qualifier
2-Fluorophenol	31.4	21	-	100	PASS
Phenol-d5	23.6	10	-	94	PASS
Nitrobenzene-d5	67.6	35	-	114	PASS
2-Fluorobiphenyl	62.8	43	-	116	PASS
2,4,6-Tribromophenol	58.2	10	-	123	PASS
p-Terphenyl-d14	88.8	33	-	141	PASS

* Analyte detected above RDL
ND Analyte Not detected at or above reporting limit

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLES

Login Number: L0309480 Analyst: SPL Prep Method: 3510C
Instrument ID: HPMS12 Matrix: Leachate Method: 8270C
Workgroup (AAB#): WG150843 Units: ug/L
Sample ID: WG150484-02 LCS File ID: 12M2267 Run Date: 10/09/2003 23:27
Sample ID: WG150484-03 LCS2 File ID: 12M2268 Run Date: 10/10/2003 00:02

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Limit	Q
	Known	Found	% REC	Known	Found	% REC				
Phenol	50.0	9.60	19.2	50.0	11.0	21.9	13.3	10 - 84	21	
pyridine	50.0	11.3	22.6	50.0	9.66	19.3	15.7	2 - 155	49	
Bis(2-Chloroethyl)ether	50.0	23.4	46.8	50.0	27.4	54.7	15.7	30 - 77	45	
2-Chlorophenol	50.0	18.5	36.9	50.0	24.6	49.2	28.7	15 - 78	51	
1,3-Dichlorobenzene	50.0	19.5	38.9	50.0	22.3	44.6	13.6	24 - 62	40	
1,4-Dichlorobenzene	50.0	18.6	37.2	50.0	21.1	42.1	12.5	13 - 103	63	
Benzyl alcohol	50.0	21.3	42.6	50.0	25.1	50.2	16.3	23 - 84	49	
1,2-Dichlorobenzene	50.0	20.3	40.7	50.0	23.0	46.1	12.4	25 - 66	39	
2-Methylphenol	50.0	18.7	37.4	50.0	24.9	49.8	28.4	15 - 115	40	
3-,4-Methylphenol	50.0	18.1	36.1	50.0	23.4	46.7	25.6	18 - 99	35	
bis(2-Chloroisopropyl)ether	50.0	26.6	53.1	50.0	30.8	61.7	14.9	24 - 80	44	
N-Nitroso-di-n-propylamine	50.0	26.2	52.5	50.0	30.0	60.0	13.4	34 - 86	51	
Hexachloroethane	50.0	17.9	35.8	50.0	20.6	41.1	14	13 - 102	60	
Nitrobenzene	50.0	24.5	48.9	50.0	28.1	56.2	13.9	22 - 108	53	
Isophorone	50.0	28.7	57.4	50.0	32.3	64.5	11.7	20 - 99	71	
trophenol	50.0	22.0	43.9	50.0	26.4	52.7	18.2	19 - 86	55	
2,4-Dimethylphenol	50.0	23.5	46.9	50.0	30.7	61.5	26.8	20 - 93	58	
Benzoic acid	50.0	10.5	21.1	50.0	11.6	23.1	9.11	10 - 150	259	
Bis(2-Chloroethoxy)Methane	50.0	24.2	48.4	50.0	27.8	55.5	13.6	30 - 79	55	
2,4-Dichlorophenol	50.0	20.9	41.7	50.0	26.2	52.5	22.8	15 - 90	59	
1,2,4-Trichlorobenzene	50.0	19.6	39.2	50.0	21.7	43.3	9.97	26 - 72	42	
Naphthalene	50.0	23.8	47.5	50.0	26.7	53.4	11.6	25 - 76	45	
4-Chloroaniline	50.0	24.7	49.4	50.0	27.5	55.0	10.8	20 - 85	70	
Hexachlorobutadiene	50.0	18.5	37.0	50.0	21.6	43.2	15.5	10 - 109	63	
4-Chloro-3-methylphenol	50.0	24.6	49.2	50.0	30.5	61.0	21.4	20 - 113	66	
2-Methylnaphthalene	50.0	23.6	47.2	50.0	26.1	52.3	10.2	27 - 77	49	
Hexachlorocyclopentadiene	50.0	18.7	37.4	50.0	21.6	43.3	14.7	10 - 78	47	
2,4,6-Trichlorophenol	50.0	23.9	47.9	50.0	27.1	54.3	12.5	38 - 121	40	
2,4,5-Trichlorophenol	50.0	25.9	51.8	50.0	29.7	59.4	13.7	58 - 135	13	*
2-Chloronaphthalene	50.0	24.3	48.6	50.0	26.0	52.0	6.75	34 - 95	48	
2-Nitroaniline	50.0	31.8	63.6	50.0	34.0	68.0	6.64	21 - 101	52	
Dimethylphthalate	50.0	30.1	60.2	50.0	32.5	65.0	7.68	27 - 107	57	
Acenaphthylene	50.0	29.4	58.9	50.0	31.0	62.0	5.27	31 - 96	55	
2,6-Dinitrotoluene	50.0	31.4	62.8	50.0	33.2	66.3	5.43	28 - 112	56	
3-Nitroaniline	50.0	32.0	64.1	50.0	34.7	69.4	8.03	10 - 121	115	
Acenaphthene	50.0	28.2	56.4	50.0	29.7	59.4	5.11	30 - 92	51	
2,4-Dinitrophenol	50.0	39.5	79.0	50.0	45.9	91.7	14.9	20 - 118	67	
4-Nitrophenol	50.0	17.4	34.7	50.0	19.4	38.7	10.9	10 - 139	29	
nzofuran	50.0	28.5	56.9	50.0	29.7	59.4	4.32	33 - 94	54	
2,4-Dinitrotoluene	50.0	35.6	71.1	50.0	37.5	75.0	5.3	36 - 126	58	

KEMRON FORMS - Modified 10/09/2003
Version 1.2
Report generated 10/20/2003 13:08

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLES

Prep Method:

Matrix: Method:

Sample ID:WG150484-02 LCS File ID:12M2267 Run Date:10/09/2003 23:27
Sample ID:WG150484-03 LCS2 File ID:12M2268 Run Date:10/10/2003 00:02

Analytes	LCS			LCS2			%RPD	%Rec Limits	RPD Limit	Q
	Known	Found	% REC	Known	Found	% REC				
Diethylphthalate	50.0	34.4	68.9	50.0	36.1	72.2	4.79	35 - 125	59	
4-Chlorophenyl-phenyl ether	50.0	27.4	54.8	50.0	28.7	57.4	4.66	38 - 101	55	
Fluorene	50.0	31.3	62.5	50.0	32.6	65.3	4.29	40 - 104	59	
4-Nitroaniline	50.0	34.3	68.6	50.0	36.9	73.7	7.21	40 - 136	95	
4,6-Dinitro-2-methylphenol	50.0	38.3	76.6	50.0	43.7	87.4	13.2	30 - 125	70	
N-Nitrosodiphenylamine	50.0	35.5	70.9	50.0	37.7	75.3	5.96	43 - 122	57	
4-Bromophenyl-phenylether	50.0	26.3	52.6	50.0	27.9	55.9	6.02	42 - 101	48	
Hexachlorobenzene	50.0	32.8	65.5	50.0	34.2	68.5	4.36	68 - 131	15	*
Pentachlorophenol	50.0	29.0	57.9	50.0	33.0	66.0	13	59 - 140	22	*
Phenanthrene	50.0	35.4	70.9	50.0	37.1	74.3	4.66	58 - 120	59	
Anthracene	50.0	36.8	73.7	50.0	38.2	76.5	3.72	59 - 118	65	
Di-N-Butylphthalate	50.0	37.2	74.4	50.0	38.3	76.5	2.8	65 - 133	61	
Fluoranthene	50.0	36.1	72.1	50.0	37.4	74.7	3.53	63 - 128	68	
Pyrene	50.0	34.8	69.6	50.0	36.5	73.1	4.89	54 - 130	53	
Butylbenzylphthalate	50.0	36.5	73.0	50.0	39.6	79.1	8.1	51 - 147	62	
-Dichlorobenzidine	50.0	32.9	65.9	50.0	35.8	71.7	8.43	15 - 142	119	
Benzo(a)anthracene	50.0	33.7	67.4	50.0	36.3	72.5	7.37	54 - 124	55	
Chrysene	50.0	34.3	68.5	50.0	36.6	73.2	6.58	55 - 124	55	
bis(2-Ethylhexyl)phthalate	50.0	35.3	70.6	50.0	39.4	78.9	11.1	54 - 140	57	
Di-n-octylphthalate	50.0	36.6	73.2	50.0	40.5	81.1	10.3	66 - 138	64	
Benzo(b)fluoranthene	50.0	32.8	65.5	50.0	36.6	73.2	11.1	63 - 123	60	
Benzo(k)fluoranthene	50.0	37.2	74.4	50.0	38.0	76.0	2.11	62 - 124	60	
Benzo(a)pyrene	50.0	35.1	70.2	50.0	37.9	75.7	7.63	63 - 124	62	
Indeno(1,2,3-cd)pyrene	50.0	34.5	69.0	50.0	36.8	73.5	6.35	58 - 123	83	
Dibenzo(a,h)Anthracene	50.0	35.0	70.0	50.0	37.4	74.8	6.67	55 - 130	86	
Benzo(g,h,i)Perylene	50.0	35.3	70.6	50.0	37.9	75.8	7.12	59 - 124	88	

Surogates	LCS	LCS2	Surrogate Limits	Qualifier
	% Recovery	% Recovery		
2-Fluorophenol	25.2	30.7	21 - 100	PASS
Phenol-d5	20.0	22.2	10 - 94	PASS
Nitrobenzene-d5	55.1	61.9	35 - 114	PASS
2-Fluorobiphenyl	52.6	55.5	43 - 116	PASS
2,4,6-Tribromophenol	59.8	65.7	10 - 123	PASS
p-Terphenyl-d14	63.7	69.9	33 - 141	PASS

* FAILS %REC LIMIT

FAILS RPD LIMIT

KEMRON FORMS - Modified 10/09/2003
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Report generated 10/20/2003 13:08

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0309480 Run Date: 09/26/2003 Sample ID: WG150474-02
Instrument ID: PE-ICP Run Time: 13:20 Prep Method: 3015
File ID: PE.092603.132019 Analyst: SLP Method: 6010B
Workgroup (AAB#): WG150587 Matrix: Leachate Units: mg/L
Contract #: Cal ID: PE-ICP-26-SEP-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Silver, TCLP	0.00500	0.0100	0.00500	1	ND
Arsenic, TCLP	0.0100	0.100	0.0100	1	ND
Barium, TCLP	0.00250	0.0100	0.00250	1	ND
Cadmium, TCLP	0.00250	0.0100	0.00250	1	ND
Chromium, TCLP	0.00250	0.0200	0.00250	1	ND
Lead, TCLP	0.0100	0.100	0.0100	1	ND
Selenium, TCLP	0.0500	0.0800	0.0500	1	ND

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLE

Login Number: L0309480 Run Date: 09/26/2003 Sample ID: WG150474-03
Instrument ID: PE-ICP Run Time: 13:25 Prep Method: 3015
File ID: PE.092603.132553 Analyst: SLP Method: 6010B
Workgroup (AAB#): WG150587 Matrix: Leachate Units: mg/L
Contract #: Cal ID: PE-ICP-26-SEP-2003 09:16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Silver, TCLP	0.200	0.177	88.3	80 - 120	
Arsenic, TCLP	0.200	0.178	89.1	80 - 120	
Barium, TCLP	0.500	0.474	94.7	80 - 120	
Cadmium, TCLP	0.0250	0.0219	87.6	80 - 120	
Chromium, TCLP	0.250	0.233	93.3	80 - 120	
Lead, TCLP	0.250	0.232	92.9	80 - 120	
Selenium, TCLP	0.200	0.177	88.7	80 - 120	

KEMRON ENVIRONMENTAL SERVICES
OHIO VALLEY LABORATORY
QUALITY CONTROL SUMMARY

WORKGROUP:	WG150497	**RUN DATE:**	9/25/2003
METHOD:	7470	**PREP DATE:**	9/25/2003
MATRIX:	Water	**ANALYST:**	KHR
UNITS:	mg/L	**DUPLICATE**	NA
INSTRUMENT:	HYDRA	**MS/MSD**	L0309395-01

			CONCENTRATION PPB								PERCENT RECOVERY							PERCENT RPD		
ANALYTE	RDL	Blank	T-LCS	LCS	REP1	REP2	SAMPLE RESULT	T-MS	MS	MSD	LCS	LCS LCL	LCS UCL	MS	MSD	MS LCL	MS UCL	REP RPD	MS RPD	RPD UCL
Mercury	0.000200	ND	0.004000	0.004250	NA	NA	ND	0.004000	0.004200	0.005010	106.3	80.0	120.0	105.0	125.3	75.0	125.0	#######	17.6	20

NOTES & DEFINITIONS :
RDL = REPORTING DETECTION LIMIT
DL = DILUTED OUT
NA = NOT APPLICABLE

LCS = LABORATORY CONTROL SAMPLE
T- LCS = TRUE VALUE OF LCS
REP1 = UNSPIKED SAMPLE REPLICATE 1
REP2 = UNSPIKED SAMPLE REPLICATE 2
SAMPLE RESULT = CONCENTRATION OF UNSPIKED MATRIX
T-MS = TRUE VALUE OF MATRIX SPIKE
MS = MATRIX SPIKE
MSD = MATRIX SPIKE DUPLICATE
LCL = LOWER CONTROL LIMIT
UCL = UPPER CONTROL LIMIT

REP RPD = RELATIVE PERCENT DIFFERENCE OF SAMPLE REPLICATES
MS RPD = % RELATIVE PERCENT DIFFERENCE OF MATRIX SPIKES

KEMRON ENVIRONMENTAL SERVICES

SAMPLE CHAIN-OF-CUSTODY RECORD

KEMRON ENVIRONMENTAL SERVICES, INC.
APPLIED TECHNOLOGIES GROUP
3145 MEDLOCK BRIDGE ROAD
NORCROSS, GEORGIA 30071
(770) 242-4090 FAX (770) 242-9198
WWW.KEMRON.COM

PROJECT NAME:	Outer Harbor
ATG PROJECT #:	3254-000
TAT or DUE DATE:	~~standard~~ 7 day + Expedite
CONTACT:	Chana Gilzenrat
ATG PROJECT MANAGER:	Chana Gilzenrat
PHONE#:	770-242-4090
EXT.	236
RECEIVING LAB:	KEMRON
PO#:	3729
SAMPLED BY: PRINTED NAME	
SIGNATURE	

ANALYSES (indicate target list)

SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE DATE/TIME	Sample Matrix	Preservative	# / Size of Cont.	Total Cyanide EPA 335.4 (Expedite TAT)	TCLP Semivolatiles 1311/8270 (7 day TAT)	TCL RCRA metals 1311-6010 7470 (7 day TAT)						
Untreaded	Soil	9/22/2003	S	Ice	2 x 4oz	X	X	X						

SAMPLES RELINQUISHED BY:	DATE/TIME	SAMPLES ACCEPTED BY:	DATE/TIME
[signature]	9/23/03	Blench Gregory	9/23/03 @1001

COMMENTS:

7 day TAT for TCLP Metals and SVOC
Expedite TAT for Total Cyanide

C/S sealed
SD intact
Cooler temp 6 6/9

Dry Weight Results is Default for Soils/Applicable Wastes

10:01

SAMPLE RECEIPT FORM

KEMRON
ENVIRONMENTAL SERVICES
109 STARLITE PARK
MARIETTA, OH
45750
(740) 373-4071

Date: 9-23-03 Client: Kemron- Norcross

Shipped By: (✓) Fed-Ex ( ) UPS ( )Airborne ( ) KEMRON ( ) Client ( ) Other

Opened By: CLS

Logged By: BLG Login #: L03 09480

IR Temp Gun: (✓) D ( ) F

COOLER INFORMATION

Number	Cooler ID	Temp °C	Airbill#	COC#	Other
1	mid Coleman	6	791677719 0095		
2					
3					
4					
5					
6					

Were all coolers sealed?	(Y)	N	N/A
Were custody seals used on all coolers?	Y	(N)	N/A
Were custody seals intact?	Y	(N)	N/A
Was visible ice present?	(Y)	N	N/A
Were all coolers in the temperature range of 2-6C? (>6C*)	(Y)	N	N/A
Were the samples frozen?*	Y	(N)	N/A
Were COC papers provided?	(Y)	N	N/A
Were all sample containers intact?*	(Y)	N	N/A
Were all sample labels intact?	(Y)	N	N/A
Were all sample labels legible?*	(Y)	N	N/A
Did all sample labels match the COC?*	(Y)	N	N/A
Was the label information complete?*	(Y)	N	N/A
Were the correct containers used?*	(Y)	N	N/A
Were the correct preservatives added to water samples?*	Y	N	(N/A)
Was the pH tested on preserved water samples?	Y	N	(N/A)
Were pH ranges acceptable?*	Y	N	(N/A)
Was sufficient amount of sample provided?*	(Y)	N	N/A
Were bubbles present in VOA samples?*	Y	N	(N/A)
Were COC's signed and dated?	(Y)	N	N/A
Did samples arrive before hold time expired?*	(Y)	N	N/A
Are discrepancy forms attached?	Y	N	(N/A)

Requires a discrepancy form

Comments: _____

CRF #1
Revised 8/22/03

ATTACHMENT C

TREATEMENT EVALUATION

UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Outer Harbor	LOAD CELL:	2000 lb.
PROJECT No.:	3254	DATE CALIBRATED:	10 June 2002
SAMPLE No.:	3254-001 @ 7 day cure	DIAL GAGE:	LDT 2
TESTING DATE:	37893	LOADING RATE:	0.04 in./min.
TESTED BY:	clg	TRACKING CODE:	2638_us

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	39.2	%
BULK UNIT WEIGHT	110.5	lb/ft^3
DRY UNIT WEIGHT	79.4	lb/ft^3
UCS *	250.8	lb/in^2

* UCS - UNCONFINED COMPRESSIVE STRENGTH

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Outer Harbor	LOAD CELL:	2000 lb.
PROJECT No.:	3254	DATE CALIBRATED:	10 June 2002
SAMPLE No.:	3254-001 @ 7 day cure	DIAL GAGE:	LDT 2
TESTING DATE:	29-Sep-03	LOADING RATE:	0.04 in./min.
TESTED BY:	clg	TRACKING CODE:	2638_us

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.	3254-001	
2. WT MOISTURE TIN (tare weight)	51.58	g
3. WT WET SOIL + TARE	95.38	g
4. WT DRY SOIL + TARE	83.04	g
5. WT WATER, Ww	12.34	g
6. WT DRY SOIL, Ws	31.46	g
7. MOISTURE CONTENT, W	**39.22**	**%**

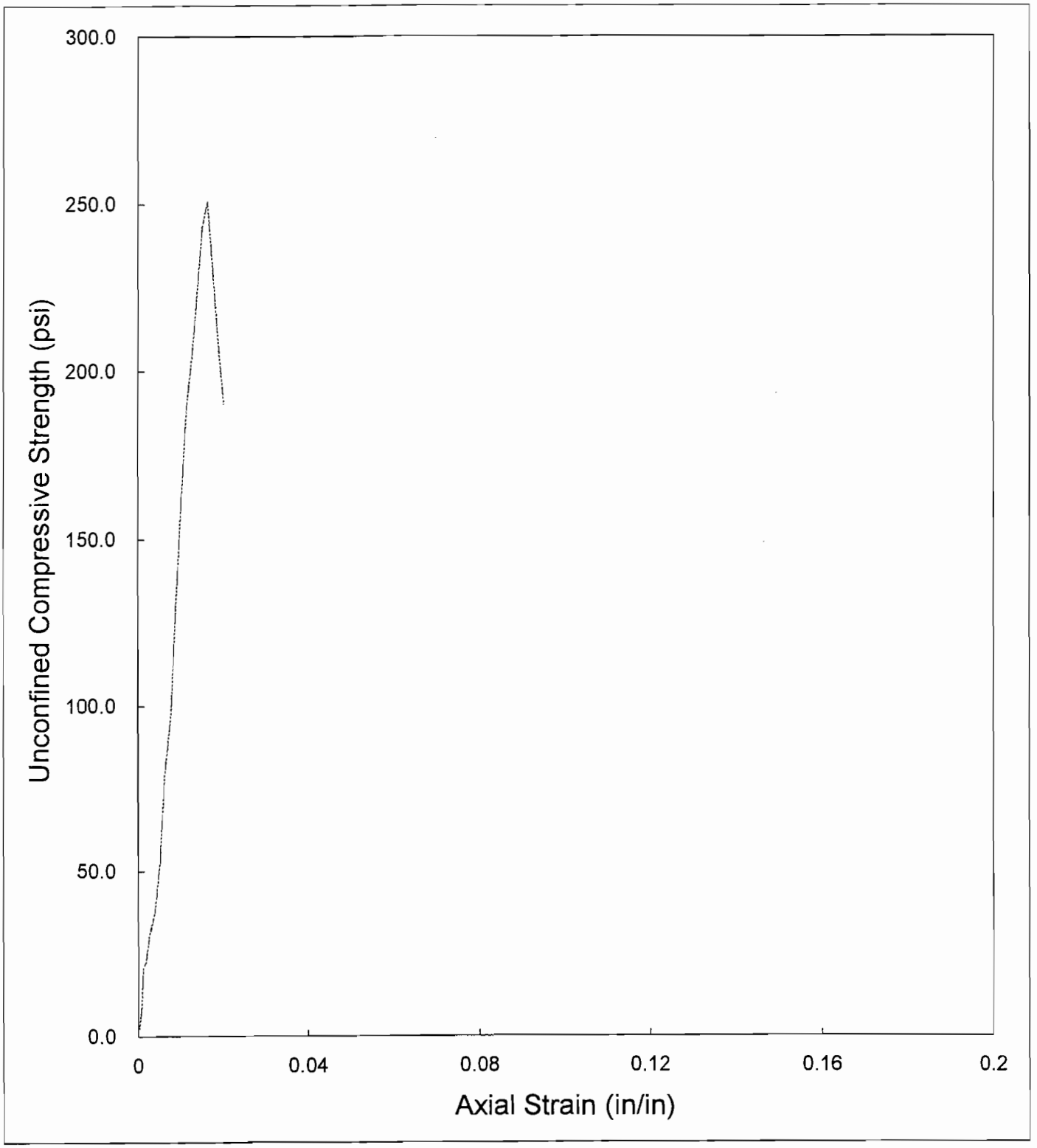
SOIL SPECIMEN DIMENSIONS				
	DIAMETER		***LENGTH***	
No. 1	2.00	in.	3.97	in.
No. 2	2.00	in.	3.97	in.
No. 3	2.00	in.	3.97	in.
Average	**2.00**	**in.**	**3.97**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***361.76***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	12.47	in^3
Initial Bulk Unit Weight,	110.5	lb/ft^3
Initial Dry Unit Weight	79.4	lb/ft^3
15 % Strain (0.15 Lo)	0.60	in.
UCS	250.8	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.142	0.0000	0.0
26	0.003	0.003	3.144	0.0008	8.3
65	0.005	0.005	3.146	0.0013	20.7
70	0.007	0.007	3.147	0.0018	22.2
95	0.010	0.010	3.150	0.0025	30.2
120	0.015	0.015	3.154	0.0038	38.1
168	0.020	0.020	3.157	0.0050	53.2
252	0.025	0.025	3.162	0.0063	79.7
308	0.030	0.030	3.166	0.0076	97.3
415	0.035	0.035	3.170	0.0088	130.9
512	0.040	0.040	3.174	0.0101	161.3
599	0.045	0.045	3.178	0.0113	188.5
652	0.050	0.050	3.182	0.0126	204.9
777	0.060	0.060	3.190	0.0151	243.6
801	0.065	0.065	3.194	0.0164	250.8
734	0.070	0.070	3.198	0.0176	229.5
665	0.075	0.075	3.202	0.0189	207.7
610	0.080	0.080	3.206	0.0202	190.3

UNCONFINED COMPRESSION TESTING

Sample No3254-001 @ 7 day cure



UNCONFINED COMPRESSION TEST

ASTM D 2166
SUMMARY OF RESULTS

PROJECT:	Outer Harbor	LOAD CELL:	2000 lb.
PROJECT No.:	3254	DATE CALIBRATED:	10 June 2002
SAMPLE No.:	3254-002 @ 7 day cure	DIAL GAGE:	LDT 2
TESTING DATE:	37893	LOADING RATE:	0.04 in./min.
TESTED BY:	clg	TRACKING CODE:	2639_us

TESTING PARAMETER AND RESULTS		
MOISTURE CONTENT	38.9	**%**
BULK UNIT WEIGHT	104.5	lb/ft³
DRY UNIT WEIGHT	75.2	lb/ft³
UCS *	51.2	lb/in²

* UCS - UNCONFINED COMPRESSIVE STRENGTH

UNCONFINED COMPRESSION TEST

ASTM D 2166

PROJECT:	Outer Harbor	LOAD CELL:	2000 lb.
PROJECT No.:	3254	DATE CALIBRATED:	10 June 2002
SAMPLE No.:	3254-002 @ 7 day cure	DIAL GAGE:	LDT 2
TESTING DATE:	29-Sep-03	LOADING RATE:	0.04 in./min.
TESTED BY:	clg	TRACKING CODE:	2639_us

MOISTURE CONTENT (Dry Basis)		
1. MOISTURE TIN NO.	3254-002	
2. WT MOISTURE TIN (tare weight)	57.06	g
3. WT WET SOIL + TARE	81.68	g
4. WT DRY SOIL + TARE	74.78	g
5. WT WATER, Ww	6.90	g
6. WT DRY SOIL, Ws	17.72	g
7. MOISTURE CONTENT, W	**38.94**	**%**

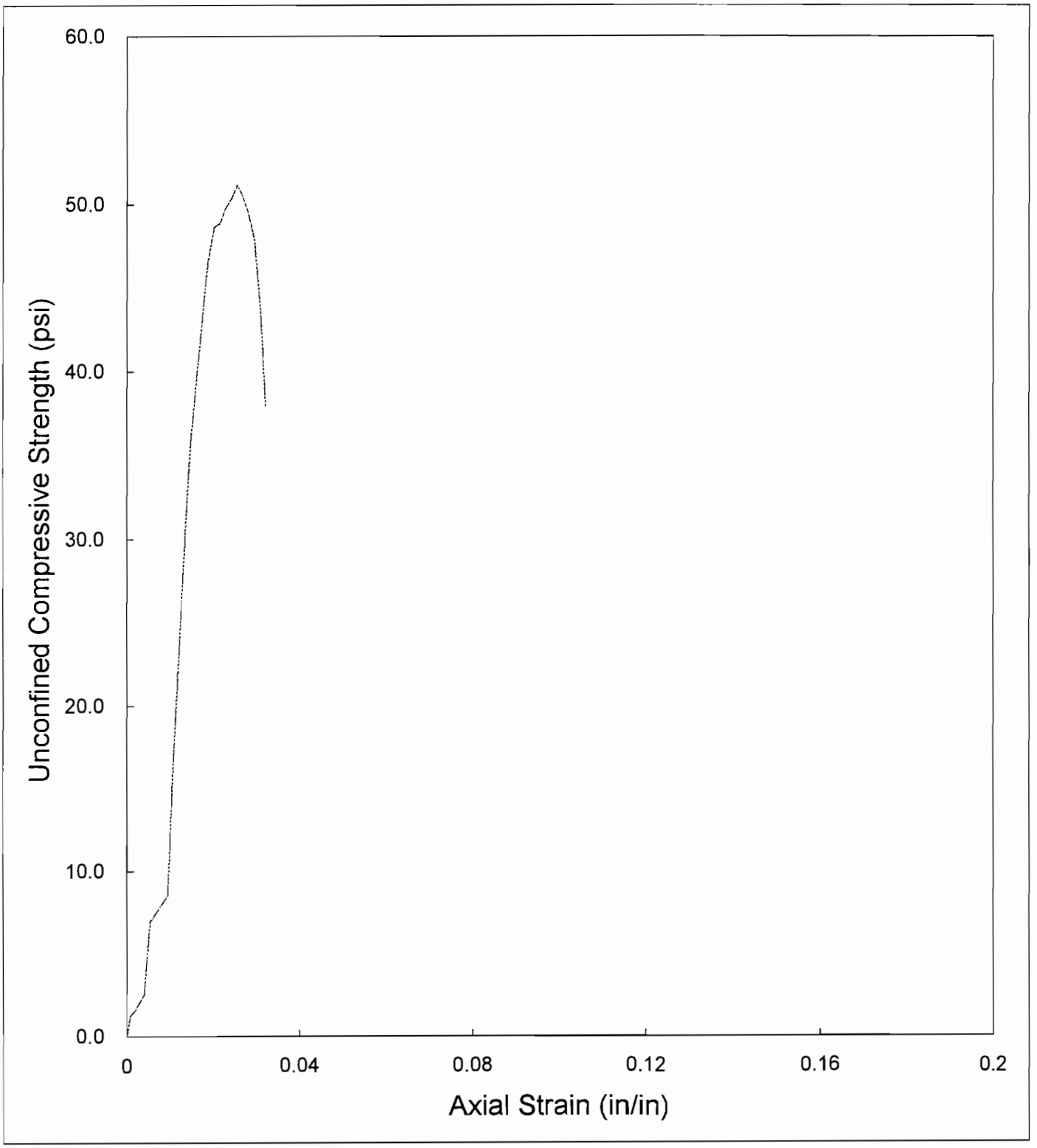
SOIL SPECIMEN DIMENSIONS				
	DIAMETER		*LENGTH*	
No. 1	2.00	in.	3.72	in.
No. 2	2.00	in.	3.73	in.
No. 3	2.00	in.	3.72	in.
Average	**2.00**	**in.**	**3.72**	**in.**

SPECIMEN CONDITIONS		
Initial Specimen WT, Wo	***320.82***	***g***
Initial Area, Ao	3.14	in^2
Initial Volume, Vo	11.70	in^3
Initial Bulk Unit Weight,	104.5	lb/ft^3
Initial Dry Unit Weight	75.2	lb/ft^3
15 % Strain (0.15 Lo)	0.56	in.
UCS	51.2	lb/in^2

COMPRESSIVE LOAD (lbs.)	DIAL GAGE READING (in.)	SPECIMEN DEFORMATION (in.)	CORRECTED AREA (in^2)	AXIAL STRAIN (in/in)	UNCONFINED COMPRESSIVE STRENGTH (lb/in^2)
0	0.000	0.000	3.142	0.0000	0.0
4	0.003	0.003	3.144	0.0008	1.3
5	0.007	0.007	3.148	0.0019	1.6
8	0.015	0.015	3.154	0.0040	2.5
22	0.020	0.020	3.159	0.0054	7.0
27	0.035	0.035	3.171	0.0094	8.5
53	0.040	0.040	3.176	0.0107	16.7
75	0.045	0.045	3.180	0.0121	23.6
96	0.050	0.050	3.184	0.0134	30.1
115	0.055	0.055	3.189	0.0148	36.1
127	0.060	0.060	3.193	0.0161	39.8
149	0.070	0.070	3.202	0.0188	46.5
156	0.075	0.075	3.206	0.0201	48.7
157	0.080	0.080	3.211	0.0215	48.9
160	0.085	0.085	3.215	0.0228	49.8
162	0.090	0.090	3.219	0.0242	50.3
165	0.095	0.095	3.224	0.0255	51.2
163	0.100	0.100	3.228	0.0269	50.5
160	0.105	0.105	3.233	0.0282	49.5
155	0.110	0.110	3.237	0.0295	47.9
142	0.115	0.115	3.242	0.0309	43.8
123	0.120	0.120	3.246	0.0322	37.9

UNCONFINED COMPRESSION TESTING

Sample No3254-002 @ 7 day cure



KEMRON
ENVIRONMENTAL SERVICES

109 Starlite Park ■ Marietta, OH 45750 ■ Telephone (740) 373-4071 ■ FAX (740) 373-4835

Laboratory Report Number: L0310055

Please find enclosed the analytical results for the samples you submitted to KEMRON Environmental Services.

Review and compilation of your report was completed by KEMRON's Sales and Service Team 3. If you have questions, comments or require further assistance please contact one of our team members at 800-373-4071. We can also be reached at the e-mail addresses listed below.

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abock@kemron-lab.com

This report was reviewed by: Timothy Hoeflich Date: 10/15/03

I certify that all test results meet all of the requirements of the NELAP standards and other applicable contract terms and conditions. All results for soil samples are reported on a "dry-weight" basis unless specified otherwise. Analytical results for water and wastes are reported on an "as received" basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of KEMRON Environmental Services.

Certified by: David E. Vandenberg
David E. Vandenberg
Laboratory Director

NYDOH NELAP Id: 10861 April 1, 2003 thru April 1, 2004
Non-Potable Water and Solid/Hazardous Waste

This report contains a total of 29 pages.

LABORATORY REPORT

L0310055

10/15/03 18:38

Submitted By

Kemron Environmental Services
109 Starlite Park
Marietta, Ohio 45750
(740)373-4071

For

Account Name: KEMRON Environmental Services, Inc

3145 Medlock Bridge Road
Norcross, GA 30071
Attention: Chana Gilzenrat

Account Number: 460-NORCROSS
Work ID: 3254-000/OUTER HARBOR

P.O. Number: IDC

Sample Summary

Client ID	Lab ID	Date Collected	Date Recieved
3254-001	L0310055-01	01-OCT-03	02-OCT-03
3254-002	L0310055-02	01-OCT-03	02-OCT-03

KEMRON ENVIRONMENTAL SERVICES
REPORT NARRATIVE

L0310055

SHIPMENT CONDITIONS:

The chain of custody was received sealed in the cooler. The cooler temperature was 4° C.

SAMPLE MANAGEMENT:

The samples were received intact.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

REVIEWED: Vicky Lauer DATE: 10/2/03

REPORT NARRATIVE
GC/MS SEMIVOLATILE ORGANICS

KEMRON Report No.: L0310055

METHOD

Preparation: SW- 846 3550B(Soils) 3510C(Waters)
Analysis: SW-846 8270C

HOLDING TIMES

Sample Preparation: All holding times were met.
Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally .

CALIBRATION

Initial calibrations: For all compounds which yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.
Laboratory Control Samples: All other acceptance criteria were met.
Matrix Spikes: The MS/MSD were not associated with these samples.

SAMPLES

Internal Standards: All acceptance criteria were met.
Surrogates: All acceptance criteria were met.
Samples: Samples 01 and 02 were re-analyzed at a 10x dilution in order to obtain results within the linear range of the instrument calibration. All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and KEMRON Environmental Services, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Analyst: ALT REVIEWED: _____ DATE: 10/20/03

Report Number: L0310055
Report Date : October 15, 2003

Sample Number: L0310055-01
Client ID: 3254-001
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Mercury, TCLP	7470A	mg/L		ND	.005	.001	1
Silver, TCLP	6010B	mg/L		ND	.1	.05	1
Arsenic, TCLP	6010B	mg/L		ND	1	.1	1
Barium, TCLP	6010B	mg/L	0.340		.1	.025	1
Cadmium, TCLP	6010B	mg/L		ND	.1	.025	1
Chromium, TCLP	6010B	mg/L		ND	.2	.025	1
Lead, TCLP	6010B	mg/L		ND	1	.1	1
Selenium, TCLP	6010B	mg/L		ND	.8	.5	1

Regulatory Information

Analyte	CAS. Number	EPA HW#	TCLP. Limit
Mercury, TCLP	7439-97-6	D009	0.2
Silver, TCLP	7440-22-4	D011	5
Arsenic, TCLP	7440-38-2	D004	5
Barium, TCLP	7440-39-3	D005	100
Cadmium, TCLP	7440-43-9	D006	1
Chromium, TCLP	7440-47-3	D007	5
Lead, TCLP	7439-92-1	D008	5
Selenium, TCLP	7782-49-2	D010	1

ND Not detected at or above the reporting limit

Sample Number: L0310055-01
Client ID: 3254-001
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Report Number: L0310055
Report Date : October 15, 2003

Sample Number: L0310055-01
Client ID: 3254-001
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Phenol	8270C	ug/L		ND	50	25	1
pyridine	8270C	ug/L		ND	50	25	1
Bis(2-Chloroethyl)ether	8270C	ug/L		ND	50	25	1
2-Chlorophenol	8270C	ug/L		ND	50	25	1
1,3-Dichlorobenzene	8270C	ug/L		ND	50	25	1
1,4-Dichlorobenzene	8270C	ug/L		ND	50	25	1
Benzyl alcohol	8270C	ug/L		ND	50	25	1
1,2-Dichlorobenzene	8270C	ug/L	247		50	25	1
2-Methylphenol	8270C	ug/L		ND	50	25	1
3-,4-Methylphenol	8270C	ug/L		ND	50	25	1
bis(2-Chloroisopropyl)ether	8270C	ug/L		ND	50	25	1
N-Nitroso-di-n-propylamine	8270C	ug/L		ND	50	25	1
Hexachloroethane	8270C	ug/L		ND	50	25	1
Nitrobenzene	8270C	ug/L	10600		500	250	10
Isophorone	8270C	ug/L		ND	50	25	1
2-Nitrophenol	8270C	ug/L		ND	50	25	1
2,4-Dimethylphenol	8270C	ug/L		ND	50	25	1
Benzoic acid	8270C	ug/L		ND	250	125	1
Bis(2-Chloroethoxy)Methane	8270C	ug/L		ND	50	25	1
2,4-Dichlorophenol	8270C	ug/L		ND	50	25	1
1,2,4-Trichlorobenzene	8270C	ug/L	50.4		50	25	1
Naphthalene	8270C	ug/L	4100		500	250	10
4-Chloroaniline	8270C	ug/L	2150		500	250	10
Hexachlorobutadiene	8270C	ug/L		ND	50	25	1
4-Chloro-3-methylphenol	8270C	ug/L		ND	50	25	1
2-Methylnaphthalene	8270C	ug/L		ND	50	25	1
Hexachlorocyclopentadiene	8270C	ug/L		ND	50	25	1
2,4,6-Trichlorophenol	8270C	ug/L		ND	50	25	1
2,4,5-Trichlorophenol	8270C	ug/L		ND	50	25	1
2-Chloronaphthalene	8270C	ug/L		ND	50	25	1
2-Nitroaniline	8270C	ug/L		ND	250	125	1
Dimethylphthalate	8270C	ug/L		ND	50	25	1
Acenaphthylene	8270C	ug/L		ND	50	25	1
2,6-Dinitrotoluene	8270C	ug/L		ND	50	25	1
3-Nitroaniline	8270C	ug/L	447		250	125	1
Acenaphthene	8270C	ug/L		ND	50	25	1
2,4-Dinitrophenol	8270C	ug/L		ND	250	125	1
4-Nitrophenol	8270C	ug/L		ND	250	125	1
Dibenzofuran	8270C	ug/L		ND	50	25	1
2,4-Dinitrotoluene	8270C	ug/L		ND	50	25	1
Diethylphthalate	8270C	ug/L		ND	50	25	1
4-Chlorophenyl-phenyl ether	8270C	ug/L		ND	50	25	1
Fluorene	8270C	ug/L		ND	50	25	1
4-Nitroaniline	8270C	ug/L		ND	250	125	1
4,6-Dinitro-2-methylphenol	8270C	ug/L		ND	250	125	1
N-Nitrosodiphenylamine	8270C	ug/L		ND	50	25	1
4-Bromophenyl-phenylether	8270C	ug/L		ND	50	25	1
Hexachlorobenzene	8270C	ug/L		ND	50	25	1
Pentachlorophenol	8270C	ug/L		ND	250	125	1
Phenanthrene	8270C	ug/L		ND	50	25	1
Anthracene	8270C	ug/L		ND	50	25	1
Di-N-Butylphthalate	8270C	ug/L		ND	50	25	1

Report Number: L0310055
Report Date : October 15, 2003

Sample Number: L0310055-01
Client ID: 3254-001
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Fluoranthene	8270C	ug/L		ND	50	25	1
Pyrene	8270C	ug/L		ND	50	25	1
Butylbenzylphthalate	8270C	ug/L		ND	50	25	1
3,3'-Dichlorobenzidine	8270C	ug/L		ND	100	25	1
Benzo(a)anthracene	8270C	ug/L		ND	50	25	1
Chrysene	8270C	ug/L		ND	50	25	1
bis(2-Ethylhexyl)phthalate	8270C	ug/L		ND	50	25	1
Di-n-octylphthalate	8270C	ug/L		ND	50	25	1
Benzo(b)fluoranthene	8270C	ug/L		ND	50	25	1
Benzo(k)fluoranthene	8270C	ug/L		ND	50	25	1
Benzo(a)pyrene	8270C	ug/L		ND	50	25	1
Indeno(1,2,3-cd)pyrene	8270C	ug/L		ND	50	25	1
Dibenzo(a,h)Anthracene	8270C	ug/L		ND	50	25	1
Benzo(g,h,i)Perylene	8270C	ug/L		ND	50	25	1

Surrogate	% Recovery	Lower	Upper	Qual
2-Fluorophenol	46.8	21	100	
2-Fluorophenol	34.8	21	100	
Phenol-d5	31.2	10	94	
Phenol-d5	22.8	10	94	
Nitrobenzene-d5	77.3	35	114	
Nitrobenzene-d5	64.3	35	114	
2-Fluorobiphenyl	94.4	43	116	
2-Fluorobiphenyl	78.8	43	116	
2,4,6-Tribromophenol	76.6	10	123	
2,4,6-Tribromophenol	86.4	10	123	
p-Terphenyl-d14	125	33	141	
p-Terphenyl-d14	94.1	33	141	

Regulatory Information

Report Number: L0310055
Report Date : October 15, 2003

Sample Number: L0310055-01
Client ID: 3254-001
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	CAS. Number	EPA HW#	TCLP. Limit
Phenol	108-95-2		
pyridine	110-86-1		
Bis(2-Chloroethyl)ether	111-44-4		
2-Chlorophenol	95-57-8		
1,3-Dichlorobenzene	541-73-1		
1,4-Dichlorobenzene	106-46-7	D027	7500
Benzyl alcohol	100-51-6		
1,2-Dichlorobenzene	95-50-1		
2-Methylphenol	95-48-7	D023	200000
3-,4-Methylphenol	106-44-5	D025	200000
bis(2-Chloroisopropyl)ether	39638-32-9		
N-Nitroso-di-n-propylamine	621-64-7		
Hexachloroethane	67-72-1	D034	3000
Nitrobenzene	98-95-3	D036	2000
Isophorone	78-59-1		
2-Nitrophenol	88-75-5		
2,4-Dimethylphenol	105-67-9		
Benzoic acid	65-85-0		
Bis(2-Chloroethoxy)Methane	111-91-1		
2,4-Dichlorophenol	120-83-2		
1,2,4-Trichlorobenzene	120-82-1		
Naphthalene	91-20-3		
4-Chloroaniline	106-47-8		
Hexachlorobutadiene	87-68-3	D033	500
4-Chloro-3-methylphenol	59-50-7		
2-Methylnaphthalene	91-57-6		
Hexachlorocyclopentadiene	77-47-4		
2,4,6-Trichlorophenol	88-06-2	D042	2000
2,4,5-Trichlorophenol	95-95-4	D041	400000
2-Chloronaphthalene	91-58-7		
2-Nitroaniline	88-74-4		
Dimethylphthalate	131-11-3		
Acenaphthylene	208-96-8		
2,6-Dinitrotoluene	606-20-2		
3-Nitroaniline	99-09-2		
Acenaphthene	83-32-9		
2,4-Dinitrophenol	51-28-5		
4-Nitrophenol	100-02-7		
Dibenzofuran	132-64-9		
2,4-Dinitrotoluene	121-14-2	D030	130
Diethylphthalate	84-66-2		
4-Chlorophenyl-phenyl ether	7005-72-3		
Fluorene	86-73-7		
4-Nitroaniline	100-01-6		
4,6-Dinitro-2-methylphenol	534-52-1		
N-Nitrosodiphenylamine	86-30-6		
4-Bromophenyl-phenylether	101-55-3		
Hexachlorobenzene	118-74-1	D032	130
Pentachlorophenol	87-86-5	D037	100000
Phenanthrene	85-01-8		
Anthracene	120-12-7		
Di-N-Butylphthalate	84-74-2		

Report Number: L0310055
Report Date : October 15, 2003

Sample Number: L0310055-01
Client ID: 3254-001
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	CAS. Number	EPA HW#	TCLP. Limit
Fluoranthene	206-44-0		
Pyrene	129-00-0		
Butylbenzylphthalate	85-68-7		
3,3'-Dichlorobenzidine	91-94-1		
Benzo(a)anthracene	56-55-3		
Chrysene	218-01-9		
bis(2-Ethylhexyl)phthalate	117-81-7		
Di-n-octylphthalate	117-84-0		
Benzo(b)fluoranthene	205-99-2		
Benzo(k)fluoranthene	207-08-9		
Benzo(a)pyrene	50-32-8		
Indeno(1,2,3-cd)pyrene	193-39-5		
Dibenzo(a,h)Anthracene	53-70-3		
Benzo(g,h,i)Perylene	191-24-2		

ND Not detected at or above the reporting limit

Sample Number: L0310055-02
Client ID: 3254-002
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Mercury, TCLP	7470A	mg/L		ND	.005	.001	1
Silver, TCLP	6010B	mg/L		ND	.1	.05	1
Arsenic, TCLP	6010B	mg/L		ND	1	.1	1
Barium, TCLP	6010B	mg/L	0.400		.1	.025	1
Cadmium, TCLP	6010B	mg/L		ND	.1	.025	1
Chromium, TCLP	6010B	mg/L		ND	.2	.025	1
Lead, TCLP	6010B	mg/L		ND	1	.1	1
Selenium, TCLP	6010B	mg/L		ND	.8	.5	1

Regulatory Information

Analyte	CAS. Number	EPA HW#	TCLP. Limit
Mercury, TCLP	7439-97-6	D009	0.2
Silver, TCLP	7440-22-4	D011	5
Arsenic, TCLP	7440-38-2	D004	5
Barium, TCLP	7440-39-3	D005	100
Cadmium, TCLP	7440-43-9	D006	1
Chromium, TCLP	7440-47-3	D007	5
Lead, TCLP	7439-92-1	D008	5
Selenium, TCLP	7782-49-2	D010	1

ND Not detected at or above the reporting limit

Report Number: L0310055
Report Date : October 15, 2003

Sample Number:	L0310055-02
Client ID:	3254-002
Work ID:	3254-000/OUTER HARBOR
Matrix:	Leachate
Date Collected:	10/01/2003 23:59

Report Number: L0310055
Report Date : October 15, 2003

Sample Number: L0310055-02
Client ID: 3254-002
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Phenol	8270C	ug/L		ND	50	25	1
pyridine	8270C	ug/L		ND	50	25	1
Bis(2-Chloroethyl)ether	8270C	ug/L		ND	50	25	1
2-Chlorophenol	8270C	ug/L		ND	50	25	1
1,3-Dichlorobenzene	8270C	ug/L		ND	50	25	1
1,4-Dichlorobenzene	8270C	ug/L		ND	50	25	1
Benzyl alcohol	8270C	ug/L		ND	50	25	1
1,2-Dichlorobenzene	8270C	ug/L	281		50	25	1
2-Methylphenol	8270C	ug/L		ND	50	25	1
3-,4-Methylphenol	8270C	ug/L		ND	50	25	1
bis(2-Chloroisopropyl)ether	8270C	ug/L		ND	50	25	1
N-Nitroso-di-n-propylamine	8270C	ug/L		ND	50	25	1
Hexachloroethane	8270C	ug/L		ND	50	25	1
Nitrobenzene	8270C	ug/L	12700		500	250	10
Isophorone	8270C	ug/L		ND	50	25	1
2-Nitrophenol	8270C	ug/L		ND	50	25	1
2,4-Dimethylphenol	8270C	ug/L		ND	50	25	1
Benzoic acid	8270C	ug/L		ND	250	125	1
Bis(2-Chloroethoxy)Methane	8270C	ug/L		ND	50	25	1
2,4-Dichlorophenol	8270C	ug/L		ND	50	25	1
1,2,4-Trichlorobenzene	8270C	ug/L	53.1		50	25	1
Naphthalene	8270C	ug/L	4660		500	250	10
4-Chloroaniline	8270C	ug/L	2120		500	250	10
Hexachlorobutadiene	8270C	ug/L		ND	50	25	1
4-Chloro-3-methylphenol	8270C	ug/L		ND	50	25	1
2-Methylnaphthalene	8270C	ug/L		ND	50	25	1
Hexachlorocyclopentadiene	8270C	ug/L		ND	50	25	1
2,4,6-Trichlorophenol	8270C	ug/L		ND	50	25	1
2,4,5-Trichlorophenol	8270C	ug/L		ND	50	25	1
2-Chloronaphthalene	8270C	ug/L		ND	50	25	1
2-Nitroaniline	8270C	ug/L		ND	250	125	1
Dimethylphthalate	8270C	ug/L		ND	50	25	1
Acenaphthylene	8270C	ug/L		ND	50	25	1
2,6-Dinitrotoluene	8270C	ug/L		ND	50	25	1
3-Nitroaniline	8270C	ug/L	455		250	125	1
Acenaphthene	8270C	ug/L		ND	50	25	1
2,4-Dinitrophenol	8270C	ug/L		ND	250	125	1
4-Nitrophenol	8270C	ug/L		ND	250	125	1
Dibenzofuran	8270C	ug/L		ND	50	25	1
2,4-Dinitrotoluene	8270C	ug/L		ND	50	25	1
Diethylphthalate	8270C	ug/L		ND	50	25	1
4-Chlorophenyl-phenyl ether	8270C	ug/L		ND	50	25	1
Fluorene	8270C	ug/L		ND	50	25	1
4-Nitroaniline	8270C	ug/L		ND	250	125	1
4,6-Dinitro-2-methylphenol	8270C	ug/L		ND	250	125	1
N-Nitrosodiphenylamine	8270C	ug/L		ND	50	25	1
4-Bromophenyl-phenylether	8270C	ug/L		ND	50	25	1
Hexachlorobenzene	8270C	ug/L		ND	50	25	1
Pentachlorophenol	8270C	ug/L		ND	250	125	1
Phenanthrene	8270C	ug/L		ND	50	25	1
Anthracene	8270C	ug/L		ND	50	25	1
Di-N-Butylphthalate	8270C	ug/L		ND	50	25	1

Report Number: L0310055
Report Date : October 15, 2003

Sample Number: L0310055-02
Client ID: 3254-002
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	Method	Units	Result	Qual	RL	MDL	Dilution
Fluoranthene	8270C	ug/L		ND	50	25	1
Pyrene	8270C	ug/L		ND	50	25	1
Butylbenzylphthalate	8270C	ug/L		ND	50	25	1
3,3'-Dichlorobenzidine	8270C	ug/L		ND	100	25	1
Benzo(a)anthracene	8270C	ug/L		ND	50	25	1
Chrysene	8270C	ug/L		ND	50	25	1
bis(2-Ethylhexyl)phthalate	8270C	ug/L		ND	50	25	1
Di-n-octylphthalate	8270C	ug/L		ND	50	25	1
Benzo(b)fluoranthene	8270C	ug/L		ND	50	25	1
Benzo(k)fluoranthene	8270C	ug/L		ND	50	25	1
Benzo(a)pyrene	8270C	ug/L		ND	50	25	1
Indeno(1,2,3-cd)pyrene	8270C	ug/L		ND	50	25	1
Dibenzo(a,h)Anthracene	8270C	ug/L		ND	50	25	1
Benzo(g,h,i)Perylene	8270C	ug/L		ND	50	25	1

Surrogate	% Recovery	Lower	Upper	Qual
2-Fluorophenol	42.6	21	100	
Phenol-d5	28.8	10	94	
Nitrobenzene-d5	68.8	35	114	
2-Fluorobiphenyl	87.3	43	116	
2,4,6-Tribromophenol	67.6	10	123	
p-Terphenyl-d14	108	33	141	

Regulatory Information

Report Number: L0310055
Report Date : October 15, 2003

Sample Number: L0310055-02
Client ID: 3254-002
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	CAS. Number	EPA HW#	TCLP. Limit
Phenol	108-95-2		
pyridine	110-86-1		
Bis(2-Chloroethyl)ether	111-44-4		
2-Chlorophenol	95-57-8		
1,3-Dichlorobenzene	541-73-1		
1,4-Dichlorobenzene	106-46-7	D027	7500
Benzyl alcohol	100-51-6		
1,2-Dichlorobenzene	95-50-1		
2-Methylphenol	95-48-7	D023	200000
3-,4-Methylphenol	106-44-5	D025	200000
bis(2-Chloroisopropyl)ether	39638-32-9		
N-Nitroso-di-n-propylamine	621-64-7		
Hexachloroethane	67-72-1	D034	3000
Nitrobenzene	98-95-3	D036	2000
Isophorone	78-59-1		
2-Nitrophenol	88-75-5		
2,4-Dimethylphenol	105-67-9		
Benzoic acid	65-85-0		
Bis(2-Chloroethoxy)Methane	111-91-1		
2,4-Dichlorophenol	120-83-2		
1,2,4-Trichlorobenzene	120-82-1		
Naphthalene	91-20-3		
4-Chloroaniline	106-47-8		
Hexachlorobutadiene	87-68-3	D033	500
4-Chloro-3-methylphenol	59-50-7		
2-Methylnaphthalene	91-57-6		
Hexachlorocyclopentadiene	77-47-4		
2,4,6-Trichlorophenol	88-06-2	D042	2000
2,4,5-Trichlorophenol	95-95-4	D041	400000
2-Chloronaphthalene	91-58-7		
2-Nitroaniline	88-74-4		
Dimethylphthalate	131-11-3		
Acenaphthylene	208-96-8		
2,6-Dinitrotoluene	606-20-2		
3-Nitroaniline	99-09-2		
Acenaphthene	83-32-9		
2,4-Dinitrophenol	51-28-5		
4-Nitrophenol	100-02-7		
Dibenzofuran	132-64-9		
2,4-Dinitrotoluene	121-14-2	D030	130
Diethylphthalate	84-66-2		
4-Chlorophenyl-phenyl ether	7005-72-3		
Fluorene	86-73-7		
4-Nitroaniline	100-01-6		
4,6-Dinitro-2-methylphenol	534-52-1		
N-Nitrosodiphenylamine	86-30-6		
4-Bromophenyl-phenylether	101-55-3		
Hexachlorobenzene	118-74-1	D032	130
Pentachlorophenol	87-86-5	D037	100000
Phenanthrene	85-01-8		
Anthracene	120-12-7		
Di-N-Butylphthalate	84-74-2		

Report Number: L0310055
Report Date : October 15, 2003

Sample Number: L0310055-02
Client ID: 3254-002
Work ID: 3254-000/OUTER HARBOR
Matrix: Leachate
Date Collected: 10/01/2003 23:59

Analyte	CAS. Number	EPA HW#	TCLP. Limit
Fluoranthene	206-44-0		
Pyrene	129-00-0		
Butylbenzylphthalate	85-68-7		
3,3'-Dichlorobenzidine	91-94-1		
Benzo(a)anthracene	56-55-3		
Chrysene	218-01-9		
bis(2-Ethylhexyl)phthalate	117-81-7		
Di-n-octylphthalate	117-84-0		
Benzo(b)fluoranthene	205-99-2		
Benzo(k)fluoranthene	207-08-9		
Benzo(a)pyrene	50-32-8		
Indeno(1,2,3-cd)pyrene	193-39-5		
Dibenzo(a,h)Anthracene	53-70-3		
Benzo(g,h,i)Perylene	191-24-2		

ND Not detected at or above the reporting limit

WORKGROUP SUMMARY BY SAMPLE

WORKGROUP SUMMARY BY SAMPLE

Client ID: 3254-001
Collect Date/Time: 10/01/2003 11:59 PM
Sample Matrix: Leachate
Lab ID: L0310055-01
Received Date/Time: 10/02/2003 10:01 AM

Department Name	Method	Workgroup	Analyst	Analysis Date	Inst Id	Tag
Metals - ICP	6010B	WG151175	SLP	10/06/2003 07:12 PM	PE-ICP	01
Metals - AA	7470A	WG151160	KHR	10/06/2003 10:23 AM	HYDRA	01
Extraction	8270C	WG151057	CAF	10/03/2003 08:15 AM	SEP-FUNNEL	

Client ID: 3254-002
Collect Date/Time: 10/01/2003 11:59 PM
Sample Matrix: Leachate
Lab ID: L0310055-02
Received Date/Time: 10/02/2003 10:01 AM

Department Name	Method	Workgroup	Analyst	Analysis Date	Inst Id	Tag
Metals - ICP	6010B	WG151175	SLP	10/06/2003 07:18 PM	PE-ICP	01
Metals - AA	7470A	WG151160	KHR	10/06/2003 10:25 AM	HYDRA	01
Extraction	8270C	WG151057	CAF	10/03/2003 08:15 AM	SEP-FUNNEL	

Kemron Environmental Services
Analyst Listing
Tuesday, October 14 2003

AA - ADRIAN ACHTERMANN
AJF - AMANDA J. FICKIESEN
ALB - ANNIE L. BOCK
ALT - ANN L. THAYER
AMT - ANDREA M. TUCKER
ARB - AMANDA R. BLAIR
ARS - ANGELINA R. SCOTT
BRF - BRENT F. FOOS
BRG - BRENDA R. GREGORY
CAB - CASSIE A. BAKER
CAF - CHERYL A. FLOWERS
CAK - CHERYL A. KOELSCH
CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD
CLK - CARL L. KING
CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS
CM - CHARLIE MARTIN
CMS - CRYSTAL M. STEVENS
CPD - CHAD P. DAVIS
CRC - CARLA R. COCHRAN
CSH - CHRIS S. HILL
DAS - DALLAS A. SULLIVAN
DDE - DEBRA D. ELLIOTT
DEL - DON E. LIGHTFRITZ
DEV - DAVID E. VANDENBERG
DGB - DOUGLAS G. BUTCHER
DIH - DEANNA I. HESSON
DLA - DENISE L. ADAMS
DLB - DAVID L. BUMGARNER
DLN - DEANNA L. NORTON
DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH
DMV - DAVID M. VANDEVELDE
DOV - DENISE O. VANDENBERG
DP - DEANNA L. PIERSON
DRB - DOUG R. BARNETT
DSM - DAVID S. MOSSOR
DST - DENNIS S. TEPE
ECL - ERIC C. LAWSON
EED - EMILY E. DECKER
ELW - ERICA L. WEBB
GSG - GALEN S. GEORGE
HV - HEMA VILASAGAR
JAL - JOHN A. LENT
JJG - JAKE J. GREUEY
JKW - JANE K. THOMPSON
JLC - JEANIE L. CRESS
JLS - JANICE L. SCHIMMEL
JMM - JARROD M. MARTIN
JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES
JYH - JI Y. HU
KHR - KIM H. RHODES
KRA - KATHY R. ALBERTSON
LKN - LINDA K. NEDEFF
LLL - LONNIE L. LEWIS
LSA - LUCINDA S. ARNOLD
LSB - LESLIE S. BUCINA
MAH - MICALYN A. HARRIS
MDA - MICHAEL D. ALBERTSON
MDC - MICHAEL D. COCHRAN
MEF - MIKE E. FLANAGAN
MES - MARY E. SCHILLING
MKZ - MARILYN K. ZUMBRO
MLR - MARY L. ROCHOTTE
MLS - MICHAEL L. SCHIMMEL
MMB - MAREN M. BEERY
MSW - MATT S. WILSON
NJB - NATALIE J. BOOTH
NNM - NINA N. MONWAY
OGT - OKEY G. TUCKER
PAS - PATRICK A. STREET
RDC - REBECCA D. CUTLIP
REK - ROBERT E. KYER
RJW - RHONDA J. WITTEKIND
RWC - ROD W. CAMPBELL
SCM - SUSAN C. MOELLENDICK
SH - SHAUNA M. HYDE
SLM - STEPHANIE L. MOSSBURG
SLP - SHERI L. PFALZGRAF
SPL - STEVE P. LEARN
TDB - TAMARA D. BISSELL
TJH - TIM J. HOEFLICH
TLT - TIFFINI L. TINGLER
TMM - TAMMY M. MORRIS
VC - VICKI COLLIER
VKL - VICKY K. LAUER
WSM - WALTER F. MARTIN

KEMRON FORMS: JUL-25-02
Printed: OCT-14-03 09:27:14

KEMRON Environmental Services, Inc
List of Valid Qualifiers
August 5, 2002

Standard Qualifiers

These are KEMRON's Standard Report Qualifiers

B	Present in the method blank
C	Confirmed by GC/MS
CG	Confluent growth
D	The analyte was quantified at a secondary dilution factor
DL	Surrogate or spike was diluted out
E	Estimated concentration due to sample matrix interference
FL	Free liquid
I	Semi-quantitative result, out of instrument calibration range
J	Present below nominal reporting limit
L	Sample reporting limits elevated due to matrix interference
N	Tentatively Identified Compound (TIC)
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
NF	Not found
NFL	No free liquid
NI	Non-ignitable
NS	Not spiked
P	Concentration >40% difference between The two GC columns
QNS	Quantity not sufficient to perform analysis
RA	Re analysis confirms reported results
RE	Re analysis confirms sample matrix interference
S	Analyzed by method of standard addition
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TNTC	Too numerous to count
U	Analyzed for but not detected
W	Post-digestion spike for furnace AA out o f control limits
X	Exceeds regulatory limit
Z	Can not be resolved from isomer.***
+	Correlation coefficient for the MSA is less than 0.995
<	Less than
>	Greater than
*	Surrogate or spike compound out of range

***** Special Notes for Organic Analytes**

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene
3. N-nitrosodiphenylamine cannot be separated from diphenylamine
4. 3-Methyphenol and 4-Methyphenol are unresolvable compounds
5. m-Xylene and p-Xylene are unresolvable compounds
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent

AFCEE Qualifiers

These are KEMRON's AFCEE Report Qualifiers

J	The analyte was positively identified, the quantitation is an estimation
U	The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL
F	The analyte was positively identified but the associated numerical value is below the RL
R	The data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
B	The analyte was found in an associated blank, as well as in the sample
M	The matrix effect was present
S	To be applied to all field screening data
T	Tentatively identified compound (using GC/MS)

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK SUMMARY

Login Number: L0310055
Blank File ID: 12M2353
Date Analyzed: 10/13/03
Time Analyzed: 16:39
Analyst: SPL

Work Group: WG151332
Blank Sample ID: WG151057-02
Instrument ID: HPMS12
Method: 8270C

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
3254-001	L0310055-01	5M29194	10/07/03 15:36	01
3254-002	L0310055-02	5M29195	10/07/03 16:05	01
3254-001	L0310055-01	5M29204	10/07/03 21:48	DL01
3254-002	L0310055-02	5M29205	10/07/03 22:17	DL1
LCS	WG151057-03	12M2354	10/13/03 17:12	01

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0310055 Run Date: 10/13/2003 Sample ID: WG151057-02
Instrument ID: HPMS12 Run Time: 16:39 Prep Method: 3510C
File ID: 12M2353 Analyst: SPL Method: 8270C
Workgroup (AAB#): WG151332 Matrix: Leachate Units: ug/L
Contract #: Cal ID: HPMS12-11-OCT-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Phenol	2.50	5.00	2.50	1	ND
pyridine	2.50	5.00	2.50	1	ND
Bis(2-Chloroethyl)ether	2.50	5.00	2.50	1	ND
2-Chlorophenol	2.50	5.00	2.50	1	ND
1,3-Dichlorobenzene	2.50	5.00	2.50	1	ND
1,4-Dichlorobenzene	2.50	5.00	2.50	1	ND
Benzyl alcohol	2.50	5.00	2.50	1	ND
1,2-Dichlorobenzene	2.50	5.00	2.50	1	ND
2-Methylphenol	2.50	5.00	2.50	1	ND
3-,4-Methylphenol	2.50	5.00	2.50	1	ND
bis(2-Chloroisopropyl)ether	2.50	5.00	2.50	1	ND
N-Nitroso-di-n-propylamine	2.50	5.00	2.50	1	ND
Hexachloroethane	2.50	5.00	2.50	1	ND
Nitrobenzene	2.50	5.00	2.50	1	ND
Isophorone	2.50	5.00	2.50	1	ND
2-Nitrophenol	2.50	5.00	2.50	1	ND
2,4-Dimethylphenol	2.50	5.00	2.50	1	ND
Benzoic acid	12.5	25.0	12.5	1	ND
Bis(2-Chloroethoxy)Methane	2.50	5.00	2.50	1	ND
2,4-Dichlorophenol	2.50	5.00	2.50	1	ND
1,2,4-Trichlorobenzene	2.50	5.00	2.50	1	ND
Naphthalene	2.50	5.00	2.50	1	ND
4-Chloroaniline	2.50	5.00	2.50	1	ND
Hexachlorobutadiene	2.50	5.00	2.50	1	ND
4-Chloro-3-methylphenol	2.50	5.00	2.50	1	ND
2-Methylnaphthalene	2.50	5.00	2.50	1	ND
Hexachlorocyclopentadiene	2.50	5.00	2.50	1	ND
2,4,6-Trichlorophenol	2.50	5.00	2.50	1	ND
2,4,5-Trichlorophenol	2.50	5.00	2.50	1	ND
2-Chloronaphthalene	2.50	5.00	2.50	1	ND
2-Nitroaniline	12.5	25.0	12.5	1	ND
Dimethylphthalate	2.50	5.00	2.50	1	ND
Acenaphthylene	2.50	5.00	2.50	1	ND
2,6-Dinitrotoluene	2.50	5.00	2.50	1	ND
3-Nitroaniline	12.5	25.0	12.5	1	ND
Acenaphthene	2.50	5.00	2.50	1	ND
2,4-Dinitrophenol	12.5	25.0	12.5	1	ND
4-Nitrophenol	12.5	25.0	12.5	1	ND
Dibenzofuran	2.50	5.00	2.50	1	ND
2,4-Dinitrotoluene	2.50	5.00	2.50	1	ND
Diethylphthalate	2.50	5.00	2.50	1	ND
4-Chlorophenyl-phenyl ether	2.50	5.00	2.50	1	ND

KEMRON FORMS - Modified 10/07/2003
Version 1.3
Report generated 10/20/2003 08:55

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0310055 | Run Date: 10/13/2003 | Sample ID: WG151057-02
Instrument ID: HPMS12 | Run Time: 16:39 | Prep Method: 3510C
File ID: 12M2353 | Analyst: SPL | Method: 8270C
Workgroup (AAB#): WG151332 | Matrix: Leachate | Units: ug/L
Contract #: | Cal ID: HPMS12-11-OCT-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Fluorene	2.50	5.00	2.50	1	ND
4-Nitroaniline	12.5	25.0	12.5	1	ND
4,6-Dinitro-2-methylphenol	12.5	25.0	12.5	1	ND
N-Nitrosodiphenylamine	2.50	5.00	2.50	1	ND
4-Bromophenyl-phenylether	2.50	5.00	2.50	1	ND
Hexachlorobenzene	2.50	5.00	2.50	1	ND
Pentachlorophenol	12.5	25.0	12.5	1	ND
Phenanthrene	2.50	5.00	2.50	1	ND
Anthracene	2.50	5.00	2.50	1	ND
Di-N-Butylphthalate	2.50	5.00	2.50	1	ND
Fluoranthene	2.50	5.00	2.50	1	ND
Pyrene	2.50	5.00	2.50	1	ND
Butylbenzylphthalate	2.50	5.00	2.50	1	ND
3,3'-Dichlorobenzidine	2.50	10.0	2.50	1	ND
Benzo(a)anthracene	2.50	5.00	2.50	1	ND
Chrysene	2.50	5.00	2.50	1	ND
bis(2-Ethylhexyl)phthalate	2.50	5.00	2.50	1	ND
Di-n-octylphthalate	2.50	5.00	2.50	1	ND
Benzo(b)fluoranthene	2.50	5.00	2.50	1	ND
Benzo(k)fluoranthene	2.50	5.00	2.50	1	ND
Benzo(a)pyrene	2.50	5.00	2.50	1	ND
Indeno(1,2,3-cd)pyrene	2.50	5.00	2.50	1	ND
Dibenzo(a,h)Anthracene	2.50	5.00	2.50	1	ND
Benzo(g,h,i)Perylene	2.50	5.00	2.50	1	ND

Surrogates	% Recovery	Surrogate Limits	Qualifier
2-Fluorophenol	25.4	21 - 100	PASS
Phenol-d5	17.6	10 - 94	PASS
Nitrobenzene-d5	50.7	35 - 114	PASS
2-Fluorobiphenyl	51.6	43 - 116	PASS
2,4,6-Tribromophenol	55.7	10 - 123	PASS
p-Terphenyl-d14	72.7	33 - 141	PASS

* Analyte detected above RDL
ND Analyte Not detected at or above reporting limit

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLE

Login Number: L0310055 | Run Date: 10/13/2003 | Sample ID: WG151057-03
Instrument ID: HPMS12 | Run Time: 17:12 | Prep Method: 3510C
File ID: 12M2354 | Analyst: SPL | Method: 8270C
Workgroup (AAB#): WG151332 | Matrix: Leachate | Units: ug/L
Contract #: | Cal ID: HPMS12-11-OCT-2003 11:57

Analytes	Expected	Found	% Rec	LCS Limits	Q
Phenol	50.0	9.38	18.8	10 - 84	
pyridine	50.0	13.1	26.1	5 - 100	
Bis(2-Chloroethyl)ether	50.0	24.0	48.1	30 - 77	
2-Chlorophenol	50.0	22.8	45.5	15 - 78	
1,3-Dichlorobenzene	50.0	23.0	46.0	24 - 62	
1,4-Dichlorobenzene	50.0	22.6	45.2	24 - 62	
Benzyl alcohol	50.0	23.0	45.9	23 - 84	
1,2-Dichlorobenzene	50.0	24.1	48.1	25 - 66	
2-Methylphenol	50.0	22.2	44.4	15 - 86	
3-,4-Methylphenol	50.0	20.1	40.1	10 - 90	
bis(2-Chloroisopropyl)ether	50.0	24.2	48.4	24 - 80	
N-Nitroso-di-n-propylamine	50.0	27.8	55.5	34 - 86	
Hexachloroethane	50.0	22.2	44.4	21 - 90	
Nitrobenzene	50.0	26.0	52.0	20 - 78	
Isophorone	50.0	32.5	65.1	20 - 99	
2-Nitrophenol	50.0	26.5	53.0	19 - 86	
2,4-Dimethylphenol	50.0	26.9	53.8	20 - 93	
Benzoic acid	50.0	11.6	23.1	10 - 150	
Bis(2-Chloroethoxy)Methane	50.0	25.9	51.8	30 - 79	
2,4-Dichlorophenol	50.0	26.9	53.9	15 - 90	
1,2,4-Trichlorobenzene	50.0	24.4	48.9	26 - 72	
Naphthalene	50.0	25.5	51.1	25 - 76	
4-Chloroaniline	50.0	26.3	52.5	20 - 85	
Hexachlorobutadiene	50.0	25.6	51.1	27 - 76	
4-Chloro-3-methylphenol	50.0	29.9	59.9	20 - 113	
2-Methylnaphthalene	50.0	26.2	52.4	27 - 77	
Hexachlorocyclopentadiene	50.0	23.9	47.8	10 - 78	
2,4,6-Trichlorophenol	50.0	29.8	59.7	20 - 103	
2,4,5-Trichlorophenol	50.0	32.6	65.2	20 - 116	
2-Chloronaphthalene	50.0	27.6	55.1	34 - 95	
2-Nitroaniline	50.0	33.6	67.2	21 - 101	
Dimethylphthalate	50.0	36.4	72.7	27 - 107	
Acenaphthylene	50.0	31.1	62.2	31 - 96	
2,6-Dinitrotoluene	50.0	38.6	77.2	28 - 112	
3-Nitroaniline	50.0	36.5	72.9	10 - 121	
Acenaphthene	50.0	30.3	60.5	30 - 92	
2,4-Dinitrophenol	50.0	36.9	73.8	20 - 118	
4-Nitrophenol	50.0	15.9	31.9	10 - 139	
Dibenzofuran	50.0	31.1	62.3	33 - 94	
2,4-Dinitrotoluene	50.0	39.9	79.7	36 - 126	
Diethylphthalate	50.0	40.1	80.2	35 - 125	

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLE

Login Number: L0310055 | Run Date: 10/13/2003 | Sample ID: WG151057-03
Instrument ID: HPMS12 | Run Time: 17:12 | Prep Method: 3510C
File ID: 12M2354 | Analyst: SPL | Method: 8270C
Workgroup (AAB#): WG151332 | Matrix: Leachate | Units: ug/L
Contract #: | Cal ID: HPMS12-11-OCT-2003 11:57

Analytes	Expected	Found	% Rec	LCS Limits	Q
4-Chlorophenyl-phenyl ether	50.0	33.9	67.9	38 - 101	
Fluorene	50.0	34.8	69.5	40 - 104	
4-Nitroaniline	50.0	38.6	77.3	40 - 136	
4,6-Dinitro-2-methylphenol	50.0	37.0	73.9	30 - 125	
N-Nitrosodiphenylamine	50.0	40.7	81.3	43 - 122	
4-Bromophenyl-phenylether	50.0	31.7	63.3	42 - 101	
Hexachlorobenzene	50.0	38.5	77.0	50 - 121	
Pentachlorophenol	50.0	38.9	77.7	30 - 124	
Phenanthrene	50.0	39.2	78.3	58 - 120	
Anthracene	50.0	39.2	78.4	59 - 118	
Di-N-Butylphthalate	50.0	41.9	83.8	65 - 133	
Fluoranthene	50.0	40.1	80.1	63 - 128	
Pyrene	50.0	40.3	80.6	54 - 130	
Butylbenzylphthalate	50.0	44.1	88.3	51 - 147	
3,3'-Dichlorobenzidine	50.0	39.5	79.0	15 - 142	
Benzo(a)anthracene	50.0	40.1	80.3	54 - 124	
Chrysene	50.0	40.2	80.3	55 - 124	
bis(2-Ethylhexyl)phthalate	50.0	40.9	81.7	54 - 140	
Di-n-octylphthalate	50.0	40.9	81.8	66 - 138	
Benzo(b)fluoranthene	50.0	39.9	79.9	63 - 123	
Benzo(k)fluoranthene	50.0	40.3	80.6	62 - 124	
Benzo(a)pyrene	50.0	40.6	81.2	63 - 124	
Indeno(1,2,3-cd)pyrene	50.0	41.4	82.8	58 - 123	
Dibenzo(a,h)Anthracene	50.0	43.3	86.6	55 - 130	
Benzo(g,h,i)Perylene	50.0	41.9	83.7	59 - 124	

Surrogates	% Recovery	Surrogate Limits	Qualifier
2-Fluorophenol	29.2	21 - 100	PASS
Phenol-d5	19.7	10 - 94	PASS
Nitrobenzene-d5	57.8	35 - 114	PASS
2-Fluorobiphenyl	59.6	43 - 116	PASS
2,4,6-Tribromophenol	76.8	10 - 123	PASS
p-Terphenyl-d14	88.5	33 - 141	PASS

* Analyte outside control limits

NS Analyte not spiked

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0310055 Run Date: 10/06/2003 Sample ID: WG151086-02
Instrument ID: PE-ICP Run Time: 17:10 Prep Method: 3015
File ID: PE.100603.171025 Analyst: SLP Method: 6010B
Workgroup (AAB#): WG151175 Matrix: Leachate Units: mg/L
Contract #: Cal ID: PE-ICP-06-OCT-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Silver, TCLP	0.00500	0.0100	0.00500	1	ND
Arsenic, TCLP	0.0100	0.100	0.0100	1	ND
Barium, TCLP	0.00250	0.0100	0.00250	1	ND
Cadmium, TCLP	0.00250	0.0100	0.00250	1	ND
Chromium, TCLP	0.00250	0.0200	0.00250	1	ND
Lead, TCLP	0.0100	0.100	0.0100	1	ND
Selenium, TCLP	0.0500	0.0800	0.0500	1	ND

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLE

Login Number: L0310055 Run Date: 10/06/2003 Sample ID: WG151086-03
Instrument ID: PE-ICP Run Time: 17:16 Prep Method: 3015
File ID: PE.100603.171605 Analyst: SLP Method: 6010B
Workgroup (AAB#): WG151175 Matrix: Leachate Units: mg/L
Contract #: Cal ID: PE-ICP-06-OCT-2003 14:11

Analytes	Expected	Found	% Rec	LCS Limits	Q
Silver, TCLP	0.200	0.177	88.5	80 - 120	
Arsenic, TCLP	0.200	0.174	86.8	80 - 120	
Barium, TCLP	0.500	0.463	92.7	80 - 120	
Cadmium, TCLP	0.0250	0.0222	88.8	80 - 120	
Chromium, TCLP	0.250	0.232	92.6	80 - 120	
Lead, TCLP	0.250	0.226	90.5	80 - 120	
Selenium, TCLP	0.200	0.178	88.8	80 - 120	

KEMRON ENVIRONMENTAL SERVICES
METHOD BLANK REPORT

Login Number: L0310055 Run Date: 10/06/2003 Sample ID: WG151108-02
Instrument ID: HYDRA Run Time: 09:36 Prep Method: METHOD
File ID: HY.100603.093632 Analyst: KHR Method: 7470A
Workgroup (AAB#): WG151160 Matrix: Leachate Units: mg/L
Contract #: Cal ID: HYDRA-06-OCT-03

Analytes	MDL	RDL	Concentration	Dilution	Qualifier
Mercury, TCLP	0.000100	0.000500	0.000100	1	ND

KEMRON ENVIRONMENTAL SERVICES
LABORATORY CONTROL SAMPLE

Login Number: L0310055 Run Date: 10/06/2003 Sample ID: WG151108-03
Instrument ID: HYDRA Run Time: 09:38 Prep Method: METHOD
File ID: HY.100603.093850 Analyst: KHR Method: 7470A
Workgroup (AAB#): WG151160 Matrix: Leachate Units: mg/L
Contract #: Cal ID: HYDRA-06-OCT-2003 09:14

Analytes	Expected	Found	% Rec	LCS Limits	Q
Mercury, TCLP	0.00400	0.00422	106	80 - 120	

KEMRON ENVIRONMENTAL SERVICES

SAMPLE CHAIN-OF-CUSTODY RECORD

KEMRON ENVIRONMENTAL SERVICES, INC.
APPLIED TECHNOLOGIES GROUP
3145 MEDLOCK BRIDGE ROAD
NORCROSS, GEORGIA 30071
(770) 242-4090 FAX (770) 242-9198
WWW.KEMRON.COM

PROJECT NAME: Outer Harbor
ATG PROJECT #: 3254-000
TAT or DUE DATE: 72 hours
CONTACT: Chana Gilzenrat
ATG PROJECT MANAGER: Chana Gilzenrat
PHONE#: 770-242-4090 EXT. 236
RECEIVING LAB: KEMRON
PO#: 3730
SAMPLED BY: PRINTED NAME / SIGNATURE

ANALYSES (indicate target list)

SAMPLE NUMBER	SAMPLE DESCRIPTION	SAMPLE DATE/TIME	Sample Matrix	Preservative	# / Size of Cont.	TCL RCRA metals 1311-6010-7470	TCLP Semivolatiles 1311/8270							
3254-001	Soil	10/1/2003	S	Ice	1 x 8oz	X	X							
3254-002	Soil	10/1/2003	S	Ice	1 x 8oz	X	X							

SAMPLES RELINQUISHED BY:	DATE/ TIME	SAMPLES ACCEPTED BY:	DATE/ TIME	COMMENTS:
[signature]	10/1/03	Brenda Gregory	10/2/03 @1001	72 hour TAT c/c Dated Sb intact Cooler temp 4 bg

2

REV 5 11/26/01 — Dry Weight Results is Default for Soils/Applicable Wastes — h:\treat\coc1.xls

SAMPLE RECEIPT FORM

KEMRON
ENVIRONMENTAL SERVICES
109 STARLITE PARK
MARIETTA, OH
45750
(740) 373-4071

10:01

Date: 10/2/03 Client: Kemron- Atlanta

Shipped By: (✓) Fed-Ex ( ) UPS ( ) Airborne ( ) KEMRON ( ) Client ( ) Other

Opened By: CLS

Logged By: BLG Login #: L03/0055

IR Temp Gun: ( ) D (✓) F

COOLER INFORMATION

Number	Cooler ID	Temp °C	Airbill#	COC#	Other
1	RM25	4	7929 8083 0235		
2					
3					
4					
5					
6					

Were all coolers sealed?	(Y)	N	N/A
Were custody seals used on all coolers?	Y	(N)	N/A
Were custody seals intact?	Y	N	(N/A)
Was visible ice present?	(Y)	N	N/A
Were all coolers in the temperature range of 2-6C? (>6C*)	(Y)	N	N/A
Were the samples frozen?*	Y	(N)	N/A
Were COC papers provided?	(Y)	N	N/A
Were all sample containers intact?*	(Y)	N	N/A
Were all sample labels intact?	(Y)	N	N/A
Were all sample labels legible?*	(Y)	N	N/A
Did all sample labels match the COC?*	(Y)	N	N/A
Was the label information complete?*	(Y)	N	N/A
Were the correct containers used?*	(Y)	N	N/A
Were the correct preservatives added to water samples?*	Y	N	(N/A)
Was the pH tested on preserved water samples?	Y	N	(N/A)
Were pH ranges acceptable?*	Y	N	(N/A)
Was sufficient amount of sample provided?*	(Y)	N	N/A
Were bubbles present in VOA samples?*	Y	N	(N/A)
Were COC's signed and dated?	(Y)	N	N/A
Did samples arrive before hold time expired?*	(Y)	N	N/A
Are discrepancy forms attached?	Y	N	(N/A)

**Requires a discrepancy form*

Comments: _____

CRF #1
Revised 8/22/03

HYGEIA LABORATORIES, INC.

1300 Williams Drive, Suite A - Marietta, Georgia 30066-6299 - (770) 514-6933, FAX (770) 514-6966

Lab Project No. M0310165

Client Name: **Kemron Environmental Services, Inc**
Contact: **Chana Gilzenrat**
Address: 1359-A Ellsworth Industrial Boulevard
Atlanta, GA 30318
Project Name: **OUTER HARBOR**
Project ID: NONE
Receipt Date: 10/20/2003

Case Narrative

1. The sample holding times were met for all analyses.
2. The temperature of the sample cooler as received by the laboratory was 24° C.
3. Hygeia Labs assumes a sampling time of 12:00 PM unless otherwise specified on the Chain of Custody.
   Hygeia Laboratories, Inc., certifies that the following analytical results meet all the requirements of the National Environmental Laboratory Accreditation Conference (NELAC).
5. The requested analyses for sample M0310165-01 through -03 were placed on hold by client after preparation of the samples had begun. Results have not been reported for these samples.

Respectively Submitted:

Reviewed By: EDB

Hygeia Laboratories, Inc.

Sample Identification

Lab Sample #	Client Sample ID	Sample Supply	Collected
M0310165-01	3254-003	Soil	10/20/03
M0310165-02	3254-004	Soil	10/20/03
M0310165-03	3254-005	Soil	10/20/03
M0310165-04	3254-006	Soil	10/20/03
M0310165-05	3254-007	Soil	10/20/03
M0310165-06	3254-008	Soil	10/20/03

SPLP Semi-Volatile Organics Units: **mg/L (ppm)** Method #: **EPA_1312/8270C(Full)**

Matrix: Soil Analysis Date: 10/2/2003 Prep Date: 10/21/2003 Analyst: BG

Lab Sample #: **M0310165-04** Client ID: **3254-006**

Analyte(s)	CAS #	Result	Report Limit	Flag Code
Nitrobenzene	98-95-3	1.02	0.001	

SURROGATE:	Percent Recoveries	Report Limit
NITROBENZENE-d5	65%	0 - 147
2-FLUOROBIPHENYL	59%	0 - 141
TERPHENYL-d14	89%	25 - 156

TCLP Semi-Volatile Organics Units: **mg/L (ppm)** Method #: **EPA_1311/8270C(Full)**

Matrix: Soil Analysis Date: 10/21/2003 Prep Date: 10/21/2003 Analyst: BG

Lab Sample #: **M0310165-04** Client ID: **3254-006**

Analyte(s)	CAS #	Result	Report Limit	Flag Code
Nitrobenzene	98-95-3	0.999	0.001	

SURROGATE:	Percent Recoveries	Report Limit
NITROBENZENE-d5	51%	0 - 147
2-FLUOROBIPHENYL	43%	0 - 141
TERPHENYL-d14	78%	25 - 156

SPLP Semi-Volatile Organics Units: **mg/L (ppm)** Method #: **EPA_1312/8270C(Full)**

Matrix: Soil Analysis Date: 10/2/2003 Prep Date: 10/21/2003 Analyst: BG

Lab Sample #: **M0310165-05** Client ID: **3254-007**

Analyte(s)	CAS #	Result	Report Limit	Flag Code
Nitrobenzene	98-95-3	0.0744	0.0001	

SURROGATE:	Percent Recoveries	Report Limit
NITROBENZENE-d5	55%	0 - 147
2-FLUOROBIPHENYL	49%	0 - 141
TERPHENYL-d14	81%	25 - 156

TCLP Semi-Volatile Organics Units: **mg/L (ppm)** Method #: **EPA_1311/8270C(Full)**

Matrix: Soil Analysis Date: 10/21/2003 Prep Date: 10/21/2003 Analyst: BG

Lab Sample #: **M0310165-05** Client ID: **3254-007**

Analyte(s)	CAS #	Result	Report Limit	Flag Code
Nitrobenzene	98-95-3	0.0507	0.0001	

SURROGATE:	Percent Recoveries	Report Limit
NITROBENZENE-d5	53%	0 - 147
2-FLUOROBIPHENYL	47%	0 - 141
TERPHENYL-d14	80%	25 - 156

SPLP Semi-Volatile Organics Units: **mg/L (ppm)** Method #: **EPA_1312/8270C(Full)**

Matrix: Soil Analysis Date: 10/2/2003 Prep Date: 10/21/2003 Analyst: BG

Lab Sample #: **M0310165-06** Client ID: **3254-008**

Analyte(s)	CAS #	Result	Report Limit	Flag Code
Nitrobenzene	98-95-3	0.0169	0.0001	

SURROGATE:	Percent Recoveries	Report Limit
NITROBENZENE-d5	47%	0 - 147
2-FLUOROBIPHENYL	43%	0 - 141
TERPHENYL-d14	75%	25 - 156

TCLP Semi-Volatile Organics Units: **mg/L (ppm)** Method #: **EPA_1311/8270C(Full)**

Matrix: Soil Analysis Date: 10/21/2003 Prep Date: 10/21/2003 Analyst: BG

Lab Sample #: **M0310165-06** Client ID: **3254-008**

Analyte(s)	CAS #	Result	Report Limit	Flag Code
Nitrobenzene	98-95-3	0.0173	0.0001	

SURROGATE:	Percent Recoveries	Report Limit
NITROBENZENE-d5	49%	0 - 147
2-FLUOROBIPHENYL	44%	0 - 141
TERPHENYL-d14	81%	25 - 156

NOTES:

Results relate only to the samples tested as received (See Chain-of-Custody).

- BRL = "Below Reporting Limit"
- RL = "Reporting Limit"
- E = "Estimated Result"
- J = "Result is below the Reporting Limit but above the Method Detection Limit. Result is estimated."
- N = "1-Methylnaphthalene and 2-Methylnaphthalene are reported as per Hygeia Laboratories, Inc., SOP-61(EPA 610/8310)"
- Dates are presented in the format "month/day/year"

Certifications

Alabama - Lab ID 40970; Arkansas - No. 03-044-0; Connecticut - No. PH 0208; Georgia - No. 804; Indiana - Lab ID C-GA-01
Kentucky - Lab ID 90053, UST - No. 0005; Maryland - No. 293; Massachussetts No. M - GA040; North Carolina - No. 409; Oklahoma - No. 9945
Pennsylvania - No. 68-668; Rhode Island - License No. 263; South Carolina - No. 98012001; Tennessee - Lab ID 02827; Virginia - Lab ID 00024

Accreditations

NELAC - State of Florida DOH, No. E87257
NELAC - Louisiana DEQ, No. 02084

HYGEIA LABORATORIES, INC.
1300 Williams Drive
Marietta, GA 30066
770-514-6933

Georgia State Law (O. C. G. A. § 12-2-9) requires that all commercial environmental laboratories submitting data to the Environmental Protection Division for regulatory purposes to be **approved or accredited** as specified in GA EPD's rules and regulations. Additionally, any person submitting data **prepared** by a commercial analytical laboratory to the EPD for regulatory purposes shall stipulate that the laboratory is **approved or accredited**. As a courtesy to our clients, Hygeia Laboratories, Inc., is providing the necessary information that is needed to submit to the GA EPD.

Laboratory: Hygeia Laboratories, Inc.

ACCREDITOR: Florida Department of Health - NELAC
Accreditation ID: Certificate No. E87257

Scope: SDWA
CWA
RCRA

Effective: July 1, 2003
Expires: June 30, 2004

ACCREDITOR: Louisiana Department of Environmental Quality - NELAC
Accreditation ID: Certificate No. 02084

Scope: SDWA
CWA
RCRA

Effective: July 1, 2003
Expires: June 30, 2004

Certificates and Scopes may be viewed or downloaded in pdf format from our website at www.hygeia-envirolab.com. To view each certificate and scope, click on the *State Certifications* link in the Menu box. To view the Florida NELAC certificate and scope, click on the SDWA, CWA, RCRA link in red. To view the Louisiana NELAC certificate and scope, click on the Environmental link in red. Acrobat Reader will need to be installed on your computer in order to view or download the documents.

HYGEIA LABORATORIES, INC.

1300 Williams Drive, Suite A - Marietta, Georgia 30066-6299 - (770) 514-6933, FAX (770) 514-6966

Cooler Receipt Form

Client: Kemron Environmental Services, Inc **Order #:** M0310165
Client Code: 15519
Project: OUTER HARBOR
Cooler ID: 1

A. Preliminary Examination Phase: **Date cooler opened:** 10/20/2003 **Cooler opened by:** JB **Signature:**

1. **Was airbill Attached?** N/A **Airbill #:** **Carrier Name:** Client
2. **Custody Seals?** N/A **How many?** 0 **Location:** **Seal Name:**
3. **Seals intact?** N/A
4. **Screened for radiation?** N/A
5. **COC Attached?** N/A **Properly Completed?** Yes **Signed by Lab employee?** Yes
6. **Project Identification from custody paper:** OUTER HARBOR
7. **Preservative:** No **Temperature:** 4 C

Have designated person initial here to acknowledge receipt of cooler: JB **Date:** 10/20/03
Comments:

B. Log-In Phase: **Samples Log-in Date:** 10/20/2003 **Log-in By:** JB **Signature:**

1. **Packing Type:** Other
2. **Were samples in separate bags?** N/A
3. **Were containers intact?** Yes **Labels agree with COC?** Yes
4. **Number of bottles received:** 12 **Number of samples received:** 6
5. **Correct containers used?** Yes **Correct preservatives added?** N/A
6. **Sufficient sample volume?** Yes
7. **Bubbles in VOA samples?** N/A
8. **Was Project manager called and status discussed?** N/A
9. **Was anyone called?** No **Who was called?** _____ **By whom?** _____ **Date:** _____

Comments: