UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL SCIENCE CENTER
701 MAPES ROAD
FORT MEADE, MD 20755-5350

DATE : July 15, 2003

SUBJECT: Region III Data QA Review

FROM : Fredrick Foreman
Region III ESAT RPO (3ES22)

TO: Marjorie Easton
Regional Program Manager (3HS31)

Attached is the organic data validation report for Big John Salvage-Hoult Road Site (Case#:31620;SDG#:C0F23,C0F26) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III ESD.

If you have any questions regarding this review, please call me at (410) 305-2629.

Attachment

cc: Suddha Graves (E & E)

TO#: 0011, TDF#: 0634

OFFICE OF ANALYTICAL SERVICES AND QUALITY ASSURANCE

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US EPA Environmental Science Center
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LOCKHEED MARTIN

DATE: July 14, 2003

SUBJECT: Level M3 Organic Data Validation for Case 31620
SDG: C0F26
Site: Big John Salvage-Hoult Road

FROM: Mahboobeh Mecanic — Senior Data Review Chemist
Kenneth W. Curry — Senior Data Reviewer

TO: Fredrick Foreman
ESAT Region 3 Project Officer

OVERVIEW

Case 31620, Sample Delivery Group (SDG) C0F26, consisted of one (1) soil samples and one (1) associated aqueous trip blank submitted to CEIMIC Corp. for volatile, semivolatile, and Pest/PCB analyses. The trip blank was analyzed for volatiles only. Samples were analyzed according to Contract Laboratory Program (CLP) Statement of Work (SOW) OLM04.3 through the Routine Analytical Services (RAS) program.

SUMMARY

Data were validated according to Region 3 Modifications to the National Functional Guidelines for Organic Data Review, Level M3. This level of review includes assessment of all Quality Assurance/Quality Control (QA/QC) data, review of chromatograms, raw data and sample spectra. All samples were successfully analyzed for all target compounds except Hexachlorobutadiene as noted under "Major Problem" .

MAJOR PROBLEM

- Percent difference (%D) for Hexachlorobutadiene in the semivolatile fraction exceeded 90%. The reviewer, based on professional judgement, rejected non-detects for this analyte. Quantitation limits were qualified "R" on DSFs.

MINOR PROBLEMS

- Several compounds failed precision criteria (Percent Relative Standard Deviation (%RSD) or Percent Difference (%D)) in initial and/or continuing calibrations. Positive results for Acetone and bis(2-Ethylhexyl) phthalate in soil samples were impacted. The "J" qualifier for this outlier was superseded by "B" on the Data Summary Forms (DSFs). Quantitation limits for compounds with imprecision exceeding the fifty percent criteria (%RSD or %D > 50%) were qualify "UJ" on DSFs.

- Pesticide/PCB sample C0F26 reported surrogate recoveries of Tetrachloro-m-xylene (TCX) and Decafluorobiphenyl (DCB) outside the lower QC limits on DB35 column and less than ten percent (<10%) on column DB5. Review of sample chromatogram revealed matrix interferences from non-target compounds causing the recoveries reported. Based on reviewer's judgement, quantitation limits in this sample were qualified "UL" on DSF.

- Positive results for Pesticide/PCB compounds with percent differences (%Ds) greater than twenty-five percent (>25%) between the two analytical columns were qualified "J" on the Data Summary Forms (DSFs).

NOTES

- Based on screening, semivolatile sample C0F26 was initially analyzed at a twenty fold (20X) dilution and then at a hundred fold (100X) dilution, in order to quantitate all compounds within calibration range. Results for Phenanthrene, Fluoranthene, and Pyrene have been reported from the more diluted analysis and annotated with a "+" symbol on the DSF. CRQLS (Contract Required Quantitation Limits) are elevated in these samples due to the dilutions.

- Surrogates recoveries in semivolatile samples C0F26 and C0F26DL were diluted out since the original analysis was performed at 20X, and reanalysis was performed at 100X. Consequently, data could not be evaluated for extraction efficiency in semivolatile fraction.

- Concentrations of compounds found in the analyses of method and trip blanks associated with these samples are listed below. Only compounds used to qualify data are listed. Samples with concentrations of common laboratory contaminant less than ten times (<10X) blank concentrations have been qualified "B" on DSFs.

Compound	Concentration (µg/kg)	Affected samples
acetone*	2 J (C0F27-TB)(µg L)	C0F26
methylene chloride*	1 J (VBLKLE)	C0F26
bis(2-Ethylhexyl)phthalate*	71 J (SBLKAQ)	C0F26

* Common laboratory contaminant

- Tentatively Identified Compounds (TICs) were reviewed during validation. Compounds identified as common laboratory contaminant were crossed off Form Is by the reviewer. Compound identifications were changed to "Isomer" when the same compound was identified eluting at two different retention times. TIC Form Is are included in Appendix C.

- Benzo(k)fluoranthene was reported as a TIC compound in sample C0F26 and C0F26DL. The compound was crossed off by the reviewer and was replaced by "Unknown". The particular analyte is a target analyte and it was reported on Form I.

- Volatile Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample C0F26 reported the recovery of 1,1-Dichloroethene, Trichloroethene, and Chlorobenzene outside the lower control limits in both MS and MSD. Benzene and toluene recoveries were outside the lower control limit in the MSD only. All, Relative Percent Differences (RPDs) were within Quality Control (QC) limits. No data were qualified based on MS/MSD recoveries.

- Semivolatile MS/MSD analyses of sample C0F26 reported negative recovery of Acenaphthene and Pyrene in the MS. This outlier may be attributed to the high concentration of Acenaphthene and Pyrene in the neat sample. Phenol, 2-Chlorophenol, N-Nitroso-di-n-propylamine, 4-Nitrophenol, 2,4-Dinitrotoluene and Pentachlorophenol reported zero recoveries in the MS. 2-Chlorophenol, N-Nitroso-di-n-propylamine, 4-Nitrophenol, 2,4-Dinitrotoluene, and Pentachlorophenol reported zero recoveries in the MSD. RPDs for all spiked compounds, except for 4-Chloro-3-Methylphenol, were outside control limits. No data were qualified based on MS/MSD outliers.

- Pesticide/PCB MS/MSD analyses of sample C0F26 reported all recoveries outside the lower QC limit in both the MS and MSD. RPDs for all spiked compounds were within control limits except for Aldrin and Endrin. No data were qualified based on MS/MSD outliers.

- Compounds detected below Contract Required quantitation Limits (CRQLs) were qualified "J" if not superseded by "B" on DSFs.

- Region 3 requires that volatile soil samples be collected per SW-846 method 5035. No information regarding the collection technique used were provided in the data package.

- Pesticide/PCB analysis of sample C0F26MS/MSD had surrogate recoveries for Tetrachloro-m-xylene (TCX) below 10% on one column. No data were qualified based on these outliers.

- Sample weight other than five (5) gram for volatiles and other than thirty (30) gram for semivolatile and pesticide PCB fractions were utilized by the laboratory for the analyses of these samples. Dilution factors reported on DSFs were adjusted to reflect the actual sample size used and, therefore, reflect the resultant CRQLs.

- Sample C0F26 was used for MS/MSD analyses by the laboratory. Non-spiked compounds, other than blank contaminants, were reported in volatile and semivolatile analyses of sample C0F26 and the MS/MSD analyses of this sample. Results and precision estimate for samples C0F26, C0F26MS, C0F26MSD are listed below.

		Concentration (µg/Kg)		
Compound	C0F26	C0F26MS	C0F26MSD	%RSD
Carbon disulfide	3 J	5 J	4 J	25
Methylcyclohexane	5 J	9 J	9 J	30
Xylene	1 J	2 J	3 J	50
Isopropyl benzene	16	18	18	7

Compound	Concentration (µg/Kg) C0F26	C0F26MS	C0F26MSD	%RSD
Naphthalene	2800 J	2300 J	2400 J	11
1,1'-Biphenyl	3100 J	3800 J	11000	73
Acenaphthylene	7500 J	4800 J	16000	62
Dibenzofuran	16000	16000	77000E	97
Fluorene	59000	39000	200000E	88
Phenanthrene	76000E	72000E	480000E	112
Anthracene	51000	35000	220000E	100
Carbazole	3800 J	5300 J	5700 J	20
Fluoranthene	170000	87000	320000E	61
Benzo(a)anthracene	53000	29000	120000E	70
Chrysene	50000	26000	100000E	64
Benzo(b)fluoranthene	30000	17000	64000	66
Benzo(k)fluoranthene	35000	16000	65000	64
Benzo(a)pyrene	37000	19000	78000E	68
Indeno(1,2,3-cd)pyrene	15000	7500 J	27000	60
Dibenzo(a,h)anthracene	6000 J	3000 J	11000	61
Benzo(g,h,i) perylene	12000	6800 J	23000	59

%RSD = Percent Relative Standard Deviation
E = Exceeded the calibration range

- Sample weight other than five (5) gram for volatile and other than thirty (30) gram for the semivolatile and pesticide/PCB fractions was used for the analysis of these samples. Dilution factors reported on DSFs were adjusted to reflect the actual sample size used and, therefore, the resultant CRQLs.

All data for Case 31620, SDG C0F26, were reviewed in accordance with Region 3 Modifications to the National Functional Guidelines for Organic Data Review, September 1994.

ATTACHMENTS

1) Appendix A Glossary of Data Qualifier Terms
2) Appendix B Data Summary Forms
3) Appendix C Tentatively Identified Compounds
4) Appendix D Chain-of-Custody Records
5) Appendix E Laboratory Case Narrative

Appendix A

Glossary of Data Qualifier Codes

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of analytes):

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte Present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

[ ] = Analyte present. As values approach the IDL the quantitation may not be accurate.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

Q = No analytical result.

Appendix B

Data Summary Forms

Case #: 31620 SDG : C0F26 Number of Soil Samples : 1
Site : BIG JOHN'S HOULT RD Number of Water Samples : 1
Lab. : CEIMIC

Sample Number :		C0F26									
Sampling Location :		BJSD49									
Matrix :		Soil									
Units :		ug/Kg									
Date Sampled :		04/29/2003									
Time Sampled :		13:30									
%Moisture :		23									
Dilution Factor :		0.91									
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	13	B								
Carbon Disulfide	10	3	J								
Methyl Acetate	10										
Methylene Chloride	10	3	B								
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
2-Butanone	10		UJ								
Chloroform	10										
1,1,1-Trichloroethane	10										
Cyclohexane	10										
Carbon Tetrachloride	10										
Benzene	10	3	J								
1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10	5	J								
1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
Tetrachloroethene	10										

Case #: 31620 SDG : C0F26
Site : BIG JOHN'S HOULT RD
Lab. : CEIMIC

Sample Number :		C0F26									
Sampling Location :		BJSD49									
Matrix :		Soil									
Units :		ug/Kg									
Date Sampled :		04/29/2003									
Time Sampled :		13:30									
%Moisture :		23									
Dilution Factor :		1.0									
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
Chlorobenzene	10										
Ethylbenzene	10										
Xylenes (total)	10	1	J								
Styrene	10										
Bromoform	10										
Isopropylbenzene	10	16									
1,1,2,2-Tetrachloroethane	10										
1,3-Dichlorobenzene	10										
1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

Case #: 31620 SDG : C0F26
Site : BIG JOHN'S HOULT RD
Lab. : CEIMIC

Sample Number		C0F27									
Sampling Location		TRIP BLANK									
Field QC		TRIP BLANK									
Matrix :		Water									
Units :		ug/L									
Date Sampled :		04/29/2003									
Time Sampled :		14:00									
pH :		1.0									
Dilution Factor :		1.0									
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
*Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
*1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	2	J								
Carbon Disulfide	10										
Methyl Acetate	10										
*Methylene Chloride	10	2	J								
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
*2-Butanone	10										
Chloroform	10										
*1,1,1-Trichloroethane	10										
Cyclohexane	10										
*Carbon Tetrachloride	10										
*Benzene	10										
*1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
*1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
*Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
*Tetrachloroethene	10										

Case #: 31620 SDG : C0F26
Site : BIG JOHN'S HOULT RD
Lab. : CEIMIC

Sample Number :		C0F27									
Sampling Location :		TRIP BLANK									
Field QC		TRIP BLANK									
Matrix :		Water									
Units :		ug/L									
Date Sampled :		04/29/2003									
Time Sampled :		14:00									
pH :		1.0									
Dilution Factor :		1.0									
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
*Chlorobenzene	10										
*Ethylbenzene	10										
Xylenes (total)	10										
*Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
*1,3-Dichlorobenzene	10										
*1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRQL * Dilution Factor) Revised 09/99

Case #: 31620 SDG : C0F26 Number of Soil Samples 1

Site : BIG JOHN'S HOULT RD Number of Water Samples 0

Lab. : CEIMIC

Sample Number		C0F26									
Sampling Location		BJSD49									
Matrix :		Soil									
Units :		ug/Kg									
Date Sampled :		04/29/2003									
Time Sampled :		13:30									
%Moisture :		25									
pH :		7.5									
Dilution Factor :		19.7/98.4									
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	330										
Phenol	330										
bis-(2-Chloroethyl) ether	330										
2-Chlorophenol	330										
2-Methylphenol	330										
2,2'-oxybis(1-Chloropropane)	330										
Acetophenone	330										
4-Methylphenol	330										
N-Nitroso-di-n-propylamine	330										
Hexachloroethane	330										
Nitrobenzene	330										
Isophorone	330										
2-Nitrophenol	330										
2,4-Dimethylphenol	330										
bis(2-Chloroethoxy)methane	330										
2,4-Dichlorophenol	330										
Naphthalene	330	2800	J								
4-Chloroaniline	330										
Hexachlorobutadiene	330		R								
Caprolactam	330										
4-Chloro-3-methylphenol	330										
2-Methylnaphthalene	330										
Hexachlorocyclopentadiene	330										
2,4,6-Trichlorophenol	330										
2,4,5-Trichlorophenol	830										
1,1'-Biphenyl	330	3100	J								
2-Chloronaphthalene	330										
2-Nitroaniline	830										
Dimethylphthalate	330										
2,6-Dinitrotoluene	330										
Acenaphthylene	330	7500	J								
3-Nitroaniline	830										

Case #: 31620 SDG : C0F26
Site : BIG JOHN'S HOULT RD
Lab. : CEIMIC

Sample Number		C0F26									
Sampling Location		BJSD49									
Matrix :		Soil									
Units :		ug/Kg									
Date Sampled :		04/29/2003									
Time Sampled :		13:30									
%Moisture :		25									
pH :		7.5									
Dilution Factor :		19.7/98.4									
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	330	23000									
2,4-Dinitrophenol	830										
4-Nitrophenol	830										
Dibenzofuran	330	16000									
2,4-Dinitrotoluene	330										
Diethylphthalate	330										
Fluorene	330	59000									
4-Chlorophenyl-phenyl ether	330										
4-Nitroaniline	830										
4,6-Dinitro-2-methylphenol	830										
N-Nitrosodiphenylamine	330										
4-Bromophenyl-phenylether	330										
Hexachlorobenzene	330										
Atrazine	330										
Pentachlorophenol	830										
Phenanthrene	330	45000	+								
Anthracene	330	51000									
Carbazole	330	3800	J								
Di-n-butylphthalate	330										
Fluoranthene	330	88000	+								
Pyrene	330	61000	+								
Butylbenzylphthalate	330										
3,3'-Dichlorobenzidine	330										
Benzo(a)anthracene	330	53000									
Chrysene	330	50000									
bis(2-Ethylhexyl)phthalate	330	2800	B								
Di-n-octylphthalate	330										
Benzo(b)fluoranthene	330	30000									
Benzo(k)fluoranthene	330	35000									
Benzo(a)pyrene	330	37000									
Indeno(1,2,3-cd)pyrene	330	15000									
Dibenzo(a,h)anthracene	330	6000	J								
Benzo(g,h,i)perylene	330	12000									

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

+ = Result is reported from diluted analysis

Case #: 31620 SDG : C0F26 Number of Soil Samples : 0
Site : BIG JOHN'S HOULT RD Number of Water Samples : 0
Lab. : CEIMIC

Sample Number		C0F26									
Sampling Location		BJSD49									
Matrix :		Soil									
Units :		ug/Kg									
Date Sampled :		04/29/2003									
Time Sampled :		13:30									
%Moisture :		25									
pH :		7.5									
Dilution Factor :		0.98									
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	1.7		UL								
beta-BHC	1.7		UL								
delta-BHC	1.7		UL								
gamma-BHC (Lindane)	1.7		UL								
Heptachlor	1.7		UL								
Aldrin	1.7		UL								
Heptachlor epoxide	1.7		UL								
Endosulfan I	1.7		UL								
Dieldrin	3.3		UL								
4,4'-DDE	3.3		UL								
Endrin	3.3		UL								
Endosulfan II	3.3		UL								
4,4'-DDD	3.3		UL								
Endosulfan sulfate	3.3		UL								
4,4'-DDT	3.3		UL								
Methoxychlor	17		UL								
Endrin ketone	3.3		UL								
Endrin aldehyde	3.3		UL								
alpha-Chlordane	1.7		UL								
gamma-Chlordane	1.7		UL								
Toxaphene	170		UL								
Aroclor-1016	33		UL								
Aroclor-1221	67		UL								
Aroclor-1232	33		UL								
Aroclor-1242	33		UL								
Aroclor-1248	33		UL								
Aroclor-1254	33		UL								
Aroclor-1260	33		UL								

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

Appendix C

Tentatively Identified Compounds

1F

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

C0F26

Lab Name: CEIMIC CORP Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 31620 SAS No.: SDG No.: C0F26

Matrix: (soil/water) SOIL Lab Sample ID: 030476-01

Sample wt/vol: 5.5 (g/mL) G Lab File ID: L0376

Level: (low/med) LOW Date Received: 04/30/03

% Moisture: not dec. 23 Date Analyzed: 04/30/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 30 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	98-82-8	BENZENE, (1-METHYLETHYL)-	19.88	34	NJ
2.	1073-06-9	BENZENE, 1-BROMO-3-FLUORO-	20.18	63	NJ
3.	135-98-8	BENZENE, (1-METHYLPROPYL)-	21.56	93	NJ
4.	527-84-4	BENZENE, 1-METHYL-2-(1-METHY	22.08	14	NJ
5.	496-11-7	INDANE	22.21	140	NJ
6.		UNKNOWN	22.79	15	J
7.	98-51-1	4-TERT-BUTYLTOLUENE	22.88	58	NJ
8.	27133-93-3	2,3-DIHYDRO-1-METHYLINDENE	23.00	30	NJ
9.	2719-52-0	BENZENE, (1-METHYLBUTYL)-	23.04	45	NJ
10.		C4-BENZENE ISOMER	23.15	20	J
11.		C4-BENZENE ISOMER	23.33	18	J
12.	95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	23.39	40	NJ
13.	27133-93-3	2,3-DIHYDRO-1-METHYLINDENE	23.85	28	NJ
14.	2039-89-6	BENZENE, 2-ETHENYL-1,4-DIMET	24.09	110	NJ
15.		UNKNOWN	24.23	15	J
16.	767-59-9	1H-INDENE, 1-METHYL-	24.38	17	NJ
17.	6031-02-3	BENZENE, (1-METHYLPENTYL)-	24.53	79	NJ
18.	4706-90-5	BENZENE, 1,3-DIMETHYL-5-(1-M	24.68	18	NJ
19.		C6-BENZENE ISOMER	24.75	21	J
20.		UNKNOWN	24.85	19	J
21.	700-88-9	BENZENE, CYCLOPENTYL-	25.43	120	NJ
22.		UNKNOWN	25.79	37	J
23.	17057-82-8	1H-INDENE, 2,3-DIHYDRO-1,2-D	25.89	14	NJ
24.		C5-BENZENE ISOMER	25.96	17	J
25.		UNKNOWN	26.09	15	J
26.		UNKNOWN	26.34	15	J
27.		UNKNOWN	26.43	31	J
28.		C4-BENZENE ISOMER	26.56	20	J
29.	1078-04-2	1H-INDENE, 2,3-DIHYDRO-1,1,4	26.85	50	NJ
30.	827-52-1	BENZENE, CYCLOHEXYL-	27.68	100	NJ

1F

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

C0F27

Lab Name: CEIMIC CORP Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 31620 SAS No.: SDG No.: C0F26

Matrix: (soil/water) WATER Lab Sample ID: 030476-02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P7881

Level: (low/med) LOW Date Received: 04/30/03

% Moisture: not dec. _____ Date Analyzed: 05/02/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
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1G

EPA SAMPLE NO.

C0F26

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CEIMIC CORP Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 31620 SAS No.: SDG No.: C0F26

Matrix: (soil/water) SOIL Lab Sample ID: 030476-01

Sample wt/vol: 30.5 (g/mL) G Lab File ID: AF173

Level: (low/med) LOW Date Received: 04/30/03

% Moisture: 25 Decanted: (Y/N) N Date Extracted:04/30/03

Concentrated Extract Volume: 500(uL) Date Analyzed: 05/04/03

Injection Volume: 2.0(uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

Number TICs found: 30 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	4957-14-6	BENZENE, 1,1'-METHYLENEBIS[4	8.11	23000	NJ
2.	7320-53-8	DIBENZOFURAN, 4-METHYL-	8.30	12000	NJ
3.		UNKNOWN	8.37	4300	J
4.		UNKNOWN	8.47	14000	J
5.		UNKNOWN	8.58	2200	J
6.		UNKNOWN	8.75	3600	J
7.		UNKNOWN	8.87	2200	J
8.		UNKNOWN	9.12	2900	J
9.	2531-84-2	PHENANTHRENE, 2-METHYL-	9.41	3100	NJ
10.	4505-48-0	1H-INDENE, 2-PHENYL-	9.44	1800	NJ
11.	613-12-7	ANTHRACENE, 2-METHYL-	9.47	2400	NJ
12.	203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRE	9.53	9200	NJ
13.	35465-71-5	2-PHENYLNAPHTHALENE	9.64	3300	NJ
14.		UNKNOWN	9.83	2500	J
15.	243-42-5	BENZO[B]NAPHTHO[2,3-D]FURAN	10.30	2700	NJ
16.		UNKNOWN PAH	10.39	4400	J
17.	238-84-6	11H-BENZO[A]FLUORENE	10.49	12000	NJ
18.	243-17-4	11H-BENZO[B]FLUORENE	10.54	8800	NJ
19.	3442-78-2	PYRENE, 2-METHYL-	10.67	4600	NJ
20.		UNKNOWN PAH	10.85	3800	J
21.	239-35-0	BENZO[B]NAPHTHO[2,1-D]THIOPH	11.09	3700	NJ
22.		UNKNOWN	11.15	2100	J
23.	34777-33-8	BENZO(C)CARBAZOLE	11.56	4400	NJ
24.	6111-78-0	BENZ[A]ANTHRACENE, 11-METHYL	11.84	3700	NJ
25.		UNKNOWN	11.91	3600	J
26.		BENZOFLUORANTHENE	13.01	14000	NJ
27.	~~207-08-9~~	~~BENZO[K]FLUORANTHENE~~ Unknown	13.32	34000	NJ
28.		UNKNOWN	13.88	8000	J
29.	0-00-0	1,2:7,8-DIBENZPHENANTHRENE	16.20	8100	NJ
30.	214-17-5	BENZO[B]CHRYSENE	16.32	12000	NJ

1G

EPA SAMPLE NO.

C0F26DL

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CEIMIC CORP Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 31620 SAS No.: SDG No.: C0F26

Matrix: (soil/water) SOIL Lab Sample ID: 030476-01DL

Sample wt/vol: 30.5 (g/mL) G Lab File ID: AF192

Level: (low/med) LOW Date Received: 04/30/03

% Moisture: 25 Decanted: (Y/N) N Date Extracted:04/30/03

Concentrated Extract Volume: 500(uL) Date Analyzed: 05/05/03

Injection Volume: 2.0(uL) Dilution Factor: 100.0

GPC Cleanup: (Y/N) Y pH: 7.5 Extraction: (Type) SONC

Number TICs found: 8 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	21895-16-9	BENZENE, 1-METHYL-3-[(4-METH	8.12	17000	NJD
2.	7320-53-8	DIBENZOFURAN, 4-METHYL-	8.32	12000	NJD
3.	~~7320-53-8~~	DIBENZOFURAN, 4-METHYL- Isomer	8.39	9400	NJD
4.	26137-53-1	NAPHTHALENE, 1,2,3-TRIMETHYL	8.50	31000	NJD
5.	203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRE	9.57	20000	NJD
6.	238-84-6	11H-BENZO[A]FLUORENE	10.57	14000	NJD
7.	238-84-6	11H-BENZO[A]FLUORENE	10.62	8000	NJD
8.	~~207-08-9~~	~~BENZO[K]FLUORANTHENE~~ Unknown	13.42	13000	NJD
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10.					
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Appendix D

Chain of Custody Records

Organic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Organic CLP Analysis)

Case No. 31620

1. Project Code: —	2. Region No.: III	Sampling Co.: E & E, Inc.	4. Date Shipped: 4/29/03
Carrier: Fed-Ex	Account Code: 2000T03N5010250371LA00	Sampler (Name): Suddha Graves	Airbill Number: 834009105171
Site Name: Big John Salvage	Sampler Signature: Suddha Graves	5. Ship To: Ceimic Corporation, 10 Dean Knauss Dr., Narragansett, RI 02882, ATTN: Karen Williamsen	
City, State: Fairmont, WV	Site Spill ID: 0371	Op Unit: —	

3. Purpose**: Lead: SF, PRP, ST, ED50, BZ; Early Action: IA, PA, REM, RI, SI, ESI; Long-Term Action: RIFS, RD, RA, O&M

6. Matrix (Enter in Column A): 1. Surface Water, 2. Ground Water, 3. Leachate, 4. Field QC, 5. Soil/Sediment, 6. PE-water, 7. PE-soil, 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl, 2. HNO3, 3. NaHSO4, 4. H2SO4, 5. Ice only, 6. CH3OH, 7. Other (specify in Column D), N. Not Preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 7) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 — VOA	E RAS Analysis TA (circle one) PR* 7 14 21 — BNA	E RAS Analysis TA (circle one) PR* 7 14 21 — Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank, S = Field Spike, D = Field Duplicate, R = Rinsate, PE = Perform Eval)
COF26	5	L	G	5	X	X	X	3-3035548-549	BJSD49	4/29/03 1330	MCOE17	SG	—
COF27	4	L	G	1	X	—	—	3-3046979-980	Trip Blank	4/29/03 1400	—	SG	B
—								Temperature Indicator					

Shipment for Case Complete? (Y/N): Y

Page 1 of 1

VOA MS/MSD Required? Y/N Sample #: COF26

BNA MS/MSD Required? Y/N Sample #: COF26

Pest/PCB MS/MSD Required? Y/N Sample #: COF26

Additional Sampler Signatures: —

Chain of Custody Seal Number(s): —

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Suddha Graves	4/29/03 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

AR315182

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

CLASS-99-001

Appendix E

Laboratory Case Narratives

SDG Narrative

The enclosed data package is in response to USEPA, Region III, Case No. 31620, SDG No. C0F26, Contract No. 68-W-03-018. Under this SDG there are 4 VOA, 3 SVOA and 3 Pest/PCB analyses for 1 soil and 1 water samples received at Ceimic Corporation on April 30, 2003.

EPA ID:	CEIMIC ID:	Analysis
C0F26	030476-01	VOA, SVOA, Pest PCB
C0F26ms	030476-01ms	VOA, SVOA, Pest PCB
C0F26msd	030476-01msd	VOA, SVOA, Pest PCB
C0F27	030476-02	VOA

Sample Receipt

Cooler Temperatures upon receipt were 6°C.

(2) Instrumentation and Column Identification

The following instruments were used for the analyses:

GC/MS Analysis

A. VOA

MS12 HP5973 GC/MS,25 m, 0.20mm ID, 1um, DB-624 capillary column
OI trap #10 (8cm Tenax, 8cm silica gel, 8cm carbon molecular sieve)

MS16 HP5972 GC/MS, 30m, 0.32mm ID, 1.8 um, DB-624 capillary column.
OI trap #10 (8cm Tenax, 8cm silica gel, 8cm carbon molecular sieve)

B. SVOA

MS1 HP5890SeriesII GC, HP5972MS,30 m,25 mm ID, ZB-5 fused silica capillary column

C. Pest/PCB

AD6: HP5890II (GC8) using 30m x 0.53mm ID, DB5 megabore column
AD7: HP5890II (GC8) using 30m x 0.53mm ID, DB35 megabore column

(3) Sample Information

An "x" qualifier is flagged by Target Thru-put software whenever the data is manually edited. The letters "M" for GC/MS and "FF" for GC are used on the raw data of the quantitation report whenever a manual integration is performed. Manual integrations are

performed on GC/MS and GC standards and samples when computer generated integration picks up only a portion of the chromatographic peak, due to software limitations. When manual integrations are required, these integrations are performed using sound defensible professional judgment, in order to report accurate data. Each manual integration is signed and dated, and reviewed by both the lab supervisor and the GC/MS Interpretation Specialist for GC/MS or the Organic Lab Manager for Pest/PCB.

A. VOA Fraction (Method CLP SOW OLM04.3)

The pH of the water sample was:

Client ID:	Ceimic ID:	pH:
C0F27	030476-02	1

The %moisture of the soil sample was:

Client ID:	Ceimic ID:	%M:
C0F26	030476-01	23

The majority of recoveries of the spike compounds were flagged as outliers in the matrix spike duplicates. All of the Relative Percent Differences (RPD) met criteria in the comparison of the duplicate matrix spikes. In accordance with the Statement of Work (SOW), we have reported the data without further analysis.

B. SVOA Fraction (Method CLP SOW OLM04.3)

The pH and %moisture of the soil sample was:

Client ID:	Ceimic ID:	pH	%M
C0F26	030476-01	7.5	25

The sample was initially analyzed at a 20:1 dilution. The sample was re-analyzed at a 100:1 dilution. The associated duplicate matrix spikes were analyzed at the same level of dilution (20x) as the original. At this level of dilution, the spike compounds are present at concentration levels which preclude accurate quantitation. In accordance with the Statement of Work (SOW), we have reported the data without further analysis.

C. Pest/PCB Fraction (Method CLP SOW OLM04.3)

All samples were extracted and analyzed within their respective holding times.

Surrogate recoveries are low in the samples, as shown below:

Sample	Lab ID	Surrogate	DB5 Recov.	DB35 Recov.
C0F26	030476-01	Tetrachloro-m-xylene	5%	12%
		Decachlorobiphenyl	9%	20%

C0F26MS		Tetrachloro-m-xylene	8%	16%
C0F26MSD		Tetrachloro-m-xylene	9%	18%

Matrix spike compound recoveries are low in the MS/MSD pair, as shown below

Compound	MS recovery	MSD recovery
Gamma-BHC	7%	9%
Heptachlor	17%	16%
Aldrin	6%	11%
Dieldrin	9%	10%
Endrin	3%	5%
4,4'-DDT	10%	7%

Additionally, relative difference in recovery is high for Aldrin (59%) and Endrin (50%).

Surrogate recoveries are within their respective QC limits for the method blank. The low recoveries in the samples are most likely due to the unusually wet nature of the sample extracts.

No target analytes are identified in the sample.

Deviations from the SOW

None other than specified above.

End of SDG Narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature.

Ines Bauer, Laboratory Manager

5/8/03

Date

ALKANE NARRATIVE REPORT
Report date : 05/07/2003
SDG: C0F26

Client Sample ID: C0F26 Lab Sample ID: 030476-01 File ID: LO376

Compound	RT	Est. Conc.	Q
Cyclic Alkane	13.44	9	J
Branched Alkane	14.30	22	J
Cyclic Alkane	15.13	14	J
Cyclic Alkane	16.14	15	J
Branched Alkane	16.69	15	J
Cyclic Alkane	17.19	9	J
Cyclic Alkane	18.53	12	J
Cyclic Alkane	19.09	10	J
Branched Alkane	19.44	18	J
Branched Alkane	19.65	24	J
Branched Alkane	27.42	8	J

Lockheed Martin Environmental Services
US EPA Environmental Science Center
701 Mapes Road Ft. Meade, MD 20755-5350
Telephone 410-305-3037 Facsimile 410-305-3597

LOCKHEED MARTIN

DATE: July 14, 2003

SUBJECT: Level M3 Organic Data Validation for Case 31620
SDG: C0F23
Site: Big John Salvage-Hoult Road

FROM: Mahboobeh Mecanic
Senior Data Review Chemist

Kenneth W. Curry
Senior Data Reviewer

TO: Fredrick Foreman
ESAT Region 3 Project Officer

OVERVIEW

Case 31620, Sample Delivery Group (SDG) C0F23, consisted of two (2) soil samples and one (1) associated aqueous trip blank submitted to CEIMIC Corp. for volatile, semivolatile, and Pest/PCB analyses. The trip blank was analyzed for volatiles only. Samples were analyzed according to Contract Laboratory Program (CLP) Statement of Work (SOW) OLM04.3 through the Routine Analytical Services (RAS) program.

SUMMARY

Data were validated according to Region 3 Modifications to the National Functional Guidelines for Organic Data Review, Level M3. This level of review includes assessment of all Quality Assurance/Quality Control (QA/QC) data, review of chromatograms, raw data and sample spectra. All samples were successfully analyzed for all target compounds.

MINOR PROBLEM

- Several compounds failed precision criteria [Percent Relative Standard Deviation (%RSD) or Percent Difference (%D)] in initial and/or continuing calibrations. Positive results were qualified "J" except when superseded by "B" on the Data Summary Form (DSF). Imprecision did not exceed fifty percent, therefore quantitation limits were not impacted.

- Positive results for Pesticide/PCB compounds with percent differences (%Ds) greater than twenty-five percent (>25%) between the two analytical columns were qualified "J" on the Data Summary Forms (DSFs).

NOTES

- Based on screening, semivolatile samples C0F23 and C0F24 were initially analyzed at five (5X) and ten fold (10X) dilutions respectively, in order to quantitate all compounds within calibration range. CRQLS (Contract Required Quantitation Limits) are elevated in these samples due these dilutions.

- Concentrations of compounds found in the analyses of method, field and trip blanks associated with these samples are listed below. Only compounds used to qualify data are listed. Samples with concentrations of these common laboratory contaminant less than ten times (<10X) blank concentrations have been qualified "B" on DSFs.

Compound	Concentration (µg/kg)	Affected samples
acetone	2 J (VHBLK01)(µg/L)	C0F23, C0F24, C0F25
methylene chloride	1 J (VBLKLU)	C0F23
	1 J (VBLKLV)	C0F24

- Volatile Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample C0F23 reported the recovery of 1,1-Dichloroethene, Trichloroethene, and Chlorobenzene outside the lower control limits in both MS and MSD. Benzene and toluene recoveries were outside the lower control limit in the MS only. All Relative Percent Differences (RPDs) were within Quality Control (QC) limits. No data were qualified based on MS/MSD recoveries.

- Sample C0F23 was used for MS/MSD analyses by the laboratory. Non-spiked compounds, other than blank contaminants, were reported in semivolatile and pesticide/PCB analyses of sample C0F23 and the MS/MSD analyses of this sample. Results and precision estimates are listed below.

		Concentration (µg/Kg)		
Compound	C0F23	C0F23MS	C0F23MSD	%RSD
Naphthalene	580 J	510 J	660 J	13
2-methylnaphthalene	300 J	ND	ND	IN
Acenaphthylene	440 J	390 J	300 J	19
Dibenzofuran	1000 J	840 J	640 J	22
Fluorene	1500 J	1200 J	930 J	24
Phenanthrene	7600	5000	5000	26
Anthracene	2300 J	2000 J	1800 J	12
Carbazole	910 J	570 J	480 J	35
Fluoranthene	11000	7000	7500	26
Benzo(a)anthracene	4600	3200	3400	20
Chrysene	4400	3100	3200	20
bis(2-Ethylhexyl)phthalate	930 J	590 J	ND	45 *
benzo(b)fluoranthene	3900	3400	3200	10
benzo(k)fluoranthene	4000	2800	2800	22
benzo(a)pyrene	3600	2800	2800	15
Indeno(1,2,3-cd)pyrene	1900 J	1500 J	1500 J	14
Dibenzo(a,h)anthracene	700 J	450 J	520 J	23
Benzo(g,h,i) perylene	1300 J	1200 J	1100 J	8
4,4'-DDE	7.1	15 J	10 J	37
alpha-Chlordane	3.6 J	4.2 J	4.4 J	10

%RSD = Percent Relative Standard Deviation
ND = Non-detects
* = Relative Percent Difference (RPD) instead of %RSD

- Semivolatile MS/MSD analyses of sample C0F23 reported the recovery of pyrene outside the lower QC limit in both the MS and MSD. This outlier may be attributed to the high concentration of pyrene in the neat sample. RPDs for all spiked compounds, except for Acenaphthene and Pyrene, were within control limits. No data were qualified based on MS/MSD outliers.

- Compounds detected below Contract Required Quantitation Limits (CRQLs) were qualified "J" if not superseded by "B" on DSFs.

- Tentatively Identified Compounds (TICs) were reviewed during validation. Compounds identified as common laboratory contaminant were crossed off Form Is by the reviewer. Compound identifications were changed to "Isomer" when the same compound was identified eluting at two different retention times. TIC Form Is are included in Appendix C.

- Benzo(k)fluoranthene was reported as a TIC compound in sample C0F23. The compound was crossed off by the reviewer and was replaced by "Unknown". The particular analyte is a target analyte and it was reported on Form I.

- Sample weight other than five (5) gram for volatile and other than thirty (30) gram for the pesticide/PCB fraction was used for the analysis of these samples. Dilution factors reported on DSFs were adjusted to reflect the actual sample size used and, therefore, the resultant CRQLs.

- Region 3 requires that volatile soil samples be collected per SW-846 method 5035. No information regarding the collection technique used were provided in the data package.

- Pesticide/PCB analysis of sample C0F23MSD had surrogate recoveries for Decachlorobiphenyl (DCB) outside the upper QC limit on both columns while C0F23MS had DCB outside the upper QC limit on one (1) column. No data were qualified based on these outliers.

- Pesticide/PCB MS/MSD analyses of sample C0F23 reported the recovery of gamma-BHC outside the lower QC limit in both the MS and MSD. Also, the recovery of Dieldrin was outside the lower QC limit in the MS. RPDs for all spiked compounds were within control limits. No data were qualified based on MS/MSD outliers.

All data for Case 31620, SDG C0F23, were reviewed in accordance with Innovative Approaches for validation of Organic Data, Region III, June 1995.

ATTACHMENTS

1) Appendix A Glossary of Data Qualifier Terms
2) Appendix B Data Summary Forms
3) Appendix C Tentatively Identified Compounds
4) Appendix D Chain-of-Custody Records
5) Appendix E Laboratory Case Narrative

DCN: 31620-C0F23rpt

Appendix A

Glossary of Data Qualifier Codes

GLOSSARY OF DATA QUALIFIER CODES

CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of analytes):

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte Present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

[ ] = Analyte present. As values approach the IDL the quantitation may not be accurate.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

Q = No analytical result.

Appendix B

Data Summary Forms

Case #: 31620 SDG : C0F23 Number of Soil Samples : 2
Site : BIG JOHN'S HOULT RD Number of Water Samples : 1
Lab. : CEIMIC

Sample Number :		C0F23		C0F24							
Sampling Location :		BJSD47		BJSD48							
Field QC		DUP (C0F24)		DUP (C0F23)							
Matrix :		Soil		Soil							
Units :		ug/Kg		ug/Kg							
Date Sampled :		04/14/2003		04/14/2003							
Time Sampled :		13:25		13:35							
%Moisture :		30		33							
Dilution Factor :		0.93		1.06							
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	14	B	10	B						
Carbon Disulfide	10										
Methyl Acetate	10										
Methylene Chloride	10	4	B	3	B						
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
2-Butanone	10										
Chloroform	10										
1,1,1-Trichloroethane	10										
Cyclohexane	10										
Carbon Tetrachloride	10										
Benzene	10										
1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
Tetrachloroethene	10										

Case #: 31620 SDG : C0F23
Site : BIG JOHN'S HOULT RD
Lab. : CEIMIC

Sample Number		C0F23		C0F24							
Sampling Location		BJSD47		BJSD48							
Field QC		DUP (C0F24)		DUP (C0F23)							
Matrix		Soil		Soil							
Units		ug/Kg		ug/Kg							
Date Sampled		04/14/2003		04/14/2003							
Time Sampled		13:25		13:35							
%Moisture		30		33							
Dilution Factor		0.93		1.06							
Dilution Factor		1.0		1.0							
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
Chlorobenzene	10										
Ethylbenzene	10										
Xylenes (total)	10										
Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
1,3-Dichlorobenzene	10										
1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

Case #: 31620 SDG : C0F23
Site : BIG JOHN'S HOULT RD
Lab. : CEIMIC

Sample Number		C0F25									
Sampling Location :		TRIP BLANK									
Field QC		TRIP BLANK									
Matrix :		Water									
Units :		ug/L									
Date Sampled		04/14/2003									
Time Sampled		17:00									
pH :		1.0									
Dilution Factor :		1.0									
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	10										
Chloromethane	10										
*Vinyl Chloride	10										
Bromomethane	10										
Chloroethane	10										
Trichlorofluoromethane	10										
*1,1-Dichloroethene	10										
1,1,2-Trichloro-1,2,2-trifluoroethane	10										
Acetone	10	2	B								
Carbon Disulfide	10										
Methyl Acetate	10										
*Methylene Chloride	10										
trans-1,2-Dichloroethene	10										
Methyl tert-Butyl Ether	10										
1,1-Dichloroethane	10										
cis-1,2-Dichloroethene	10										
*2-Butanone	10										
Chloroform	10										
*1,1,1-Trichloroethane	10										
Cyclohexane	10										
*Carbon Tetrachloride	10										
*Benzene	10										
*1,2-Dichloroethane	10										
Trichloroethene	10										
Methylcyclohexane	10										
*1,2-Dichloropropane	10										
Bromodichloromethane	10										
cis-1,3-Dichloropropene	10										
4-Methyl-2-pentanone	10										
*Toluene	10										
trans-1,3-Dichloropropene	10										
1,1,2-Trichloroethane	10										
*Tetrachloroethene	10										

Case #: 31620 SDG : C0F23
Site BIG JOHN'S HOULT RD
Lab. : CEIMIC

Sample Number :		C0F25									
Sampling Location :		TRIP BLANK									
Field QC		TRIP BLANK									
Matrix :		Water									
Units :		ug/L									
Date Sampled :		04/14/2003									
Time Sampled :		17:00									
pH :		1.0									
Dilution Factor :		1.0									
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2-Hexanone	10										
Dibromochloromethane	10										
1,2-Dibromoethane	10										
*Chlorobenzene	10										
*Ethylbenzene	10										
Xylenes (total)	10										
*Styrene	10										
Bromoform	10										
Isopropylbenzene	10										
1,1,2,2-Tetrachloroethane	10										
*1,3-Dichlorobenzene	10										
*1,4-Dichlorobenzene	10										
1,2-Dichlorobenzene	10										
1,2-Dibromo-3-chloropropane	10										
1,2,4-Trichlorobenzene	10										

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRQL * Dilution Factor) Revised 09/99

Case #: 31620 SDG : C0F23 Number of Soil Samples : 2

Site : BIG JOHN'S HOULT RD Number of Water Samples : 0

Lab. : CEIMIC

Sample Number		C0F23		C0F24							
Sampling Location :		BJSD47		BJSD48							
Field QC		DUP (C0F24)		DUP (C0F23)							
Matrix :		Soil		Soil							
Units :		ug/Kg		ug/Kg							
Date Sampled :		04/14/2003		04/14/2003							
Time Sampled :		13:25		13:35							
pH:		6.4		7.4							
%Moisture :		35		30							
Dilution Factor :		5.0		10.0							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Benzaldehyde	330										
Phenol	330										
bis-(2-Chloroethyl) ether	330										
2-Chlorophenol	330										
2-Methylphenol	330										
2,2'-oxybis(1-Chloropropane)	330										
Acetophenone	330										
4-Methylphenol	330										
N-Nitroso-di-n-propylamine	330										
Hexachloroethane	330										
Nitrobenzene	330										
Isophorone	330										
2-Nitrophenol	330										
2,4-Dimethylphenol	330										
bis(2-Chloroethoxy)methane	330										
2,4-Dichlorophenol	330										
Naphthalene	330	580	J	1300	J						
4-Chloroaniline	330										
Hexachlorobutadiene	330										
Caprolactam	330										
4-Chloro-3-methylphenol	330										
2-Methylnaphthalene	330	300	J	570	J						
Hexachlorocyclopentadiene	330										
2,4,6-Trichlorophenol	330										
2,4,5-Trichlorophenol	830										
1,1'-Biphenyl	330										
2-Chloronaphthalene	330										
2-Nitroaniline	830										
Dimethylphthalate	330										
2,6-Dinitrotoluene	330										
Acenaphthylene	330	440	J	1200	J						
3-Nitroaniline	830										

Case #: 31620 SDG : C0F23
Site : BIG JOHN'S HOULT RD
Lab. : CEIMIC

Sample Number		C0F23		C0F24							
Sampling Location		BJSD47		BJSD48							
Field QC		DUP (C0F24)		DUP (C0F23)							
Matrix :		Soil		Soil							
Units :		ug/Kg		ug/Kg							
Date Sampled		04/14/2003		04/14/2003							
Time Sampled :		13:25		13:35							
pH:		6.4		7.4							
%Moisture :		35		30							
Dilution Factor :		5.0		10.0							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Acenaphthene	330	640	J	1500	J						
2,4-Dinitrophenol	830										
4-Nitrophenol	830										
Dibenzofuran	330	1000	J	2000	J						
2,4-Dinitrotoluene	330										
Diethylphthalate	330										
Fluorene	330	1500	J	3000	J						
4-Chlorophenyl-phenyl ether	330										
4-Nitroaniline	830										
4,6-Dinitro-2-methylphenol	830										
N-Nitrosodiphenylamine	330										
4-Bromophenyl-phenylether	330										
Hexachlorobenzene	330										
Atrazine	330										
Pentachlorophenol	830										
Phenanthrene	330	7600		14000							
Anthracene	330	2300	J	6400	J						
Carbazole	330	910	J	1600	J						
Di-n-butylphthalate	330										
Fluoranthene	330	11000		24000							
Pyrene	330	8100		20000							
Butylbenzylphthalate	330										
3,3'-Dichlorobenzidine	330										
Benzo(a)anthracene	330	4600		11000							
Chrysene	330	4400		11000							
bis(2-Ethylhexyl)phthalate	330	930	J	990	J						
Di-n-octylphthalate	330										
Benzo(b)fluoranthene	330	3900		11000							
Benzo(k)fluoranthene	330	4000		9700							
Benzo(a)pyrene	330	3600		9200							
Indeno(1,2,3-cd)pyrene	330	1900	J	5200							
Dibenzo(a,h)anthracene	330	700	J	1900	J						
Benzo(g,h,i)perylene	330	1300	J	4000	J						

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

Case #: 31620 SDG : C0F23 Number of Soil Samples : 2
Site : BIG JOHN'S HOULT RD Number of Water Samples : 0
Lab. : CEIMIC

Sample Number		C0F23		C0F24							
Sampling Location		BJSD47		BJSD48							
Field QC		DUP (C0F24)		DUP (C0F23)							
Matrix :		Soil		Soil							
Units :		ug/Kg		ug/Kg							
Date Sampled :		04/14/2003		04/14/2003							
Time Sampled :		13:25		13:35							
pH :		6.4		7.4							
%Moisture :		35		30							
Dilution Factor :		1.0		0.98							
Pesticide/PCB Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
alpha-BHC	1.7										
beta-BHC	1.7										
delta-BHC	1.7										
gamma-BHC (Lindane)	1.7										
Heptachlor	1.7										
Aldrin	1.7										
Heptachlor epoxide	1.7										
Endosulfan I	1.7										
Dieldrin	3.3										
4,4'-DDE	3.3	7.1		4.7	J						
Endrin	3.3										
Endosulfan II	3.3										
4,4'-DDD	3.3										
Endosulfan sulfate	3.3										
4,4'-DDT	3.3										
Methoxychlor	17										
Endrin ketone	3.3										
Endrin aldehyde	3.3										
alpha-Chlordane	1.7	3.6	J	3.0	J						
gamma-Chlordane	1.7			2.6	J						
Toxaphene	170										
Aroclor-1016	33										
Aroclor-1221	67										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										

CRQL = Contract Required Quantitation Limit SEE NARRATIVE FOR CODE DEFINITIONS
To calculate sample quantitation limits: (CRQL * Dilution Factor) / (100 - %Moisture) / 100 Revised 09/99

Appendix C

Tentatively Identified Compounds

1F

EPA SAMPLE NO.

C0F23

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CEIMIC CORP Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 31620 SAS No.: SDG No.: C0F23

Matrix: (soil/water) SOIL Lab Sample ID: 030411-11

Sample wt/vol: 5.4 (g/mL) G Lab File ID: L0163

Level: (low/med) LOW Date Received: 04/16/03

% Moisture: not dec. 30 Date Analyzed: 04/21/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1F

EPA SAMPLE NO.

C0F24

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CEIMIC CORP Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 31620 SAS No.: SDG No.: C0F23

Matrix: (soil/water) SOIL Lab Sample ID: 030411-02

Sample wt/vol: 4.7 (g/mL) G Lab File ID: L0185

Level: (low/med) LOW Date Received: 04/16/03

% Moisture: not dec. 33 Date Analyzed: 04/22/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1F

EPA SAMPLE NO.

C0F25

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CEIMIC CORP Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 31620 SAS No.: SDG No.: C0F23

Matrix: (soil/water) WATER Lab Sample ID: 030411-03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: P7718

Level: (low/med) LOW Date Received: 04/16/03

% Moisture: not dec. _____ Date Analyzed: 04/22/03

GC Column: RTX-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1G

EPA SAMPLE NO.

C0F23

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CEIMIC CORP Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 31620 SAS No.: SDG No.: C0F23

Matrix: (soil/water) SOIL Lab Sample ID: 030411-01

Sample wt/vol: 30.1 (g/mL) G Lab File ID: K3987

Level: (low/med) LOW Date Received: 04/16/03

% Moisture: 35 Decanted: (Y/N) N Date Extracted:04/17/03

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/18/03

Injection Volume: 2.0(uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) Y pH: 6.4 Extraction: (Type) SONC

Number TICs found: 16 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	581-40-8	NAPHTHALENE, 2,3-DIMETHYL-	7.74	650	NJ
2.		UNKNOWN PAH	9.96	1000	J
3.	243-17-4	11H-BENZO[B]FLUORENE	10.79	1100	NJ
4.	~~243-17-4~~	11H-BENZO[B]FLUORENE Isomer	10.88	2000	NJ
5.	~~243-17~~-4	11H-BENZO[B]FLUORENE Isomer	10.93	1100	NJ
6.	2381-21-7	PYRENE, 1-METHYL-	11.05	1100	NJ
7.		UNKNOWN	11.21	600	J
8.		UNKNOWN PAH	11.93	810	J
9.	1705-84-6	TRIPHENYLENE, 2-METHYL-	12.10	870	NJ
10.	3351-31-3	CHRYSENE, 3-METHYL-	12.15	610	NJ
11.	~~207-08-9~~	~~BENZO[K]FLUORANTHENE~~ Unknown	13.14	1300	NJ
12.	192-97-2	BENZO[E]PYRENE	13.40	4700	NJ
13.		UNKNOWN	14.39	1500	J
14.		UNKNOWN	15.17	1200	J
15.		UNKNOWN PAH	15.36	1600	J
16.		UNKNOWN	17.30	2600	J
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1G

EPA SAMPLE NO.

C0F24

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CEIMIC CORP Contract: 68-W-03-018

Lab Code: CEIMIC Case No.: 31620 SAS No.: SDG No.: C0F23

Matrix: (soil/water) SOIL Lab Sample ID: 030411-02

Sample wt/vol: 30.0 (g/mL) G Lab File ID: K3990

Level: (low/med) LOW Date Received: 04/16/03

% Moisture: 30 Decanted: (Y/N) N Date Extracted:04/17/03

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/18/03

Injection Volume: 2.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 7.4 Extraction: (Type) SONC

Number TICs found: 24 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	571-61-9	NAPHTHALENE, 1,5-DIMETHYL-	7.74	1500	NJ
2.	829-26-5	NAPHTHALENE, 2,3,6-TRIMETHYL	8.41	1200	NJ
3.		UNKNOWN PAH	8.93	980	J
4.		UNKNOWN PAH	9.97	2400	J
5.	1210-12-4	9-ANTHRACENECARBONITRILE	10.77	980	NJ
6.	2381-21-7	PYRENE, 1-METHYL-	10.81	2700	NJ
7.	238-84-6	11H-BENZO[A]FLUORENE	10.90	5100	NJ
8.	~~243-17-4~~	11H-BENZO[B]FLUORENE Isomer	10.95	2200	NJ
9.	2381-21-7	PYRENE, 1-METHYL-	10.99	1200	NJ
10.	~~2381-21-7~~	PYRENE, 1-METHYL- Isomer	11.08	2500	NJ
11.	84-15-1	O-TERPHENYL	11.26	1500	NJ
12.		UNKNOWN AROMATIC COMPOUND	11.35	990	J
13.	239-35-0	BENZO[B]NAPHTHO[2,1-D]THIOPH	11.46	2400	NJ
14.	34777-33-8	BENZO(C)CARBAZOLE	11.88	1400	NJ
15.		UNKNOWN AROMATIC COMPOUND	11.96	1600	J
16.	1705-84-6	TRIPHENYLENE, 2-METHYL-	12.13	1900	NJ
17.	~~1705-84-6~~	TRIPHENYLENE, 2-METHYL- Isomer	12.19	1200	NJ
18.		UNKNOWN PAH	12.57	1100	J
19.		UNKNOWN AROMATIC COMPOUND	12.79	3700	J
20.	205-82-3	BENZO[J]FLUORANTHENE	13.17	2200	NJ
21.	198-55-0	PERYLENE	13.44	6700	NJ
22.		UNKNOWN AROMATIC COMPOUND	15.20	3100	J
23.	215-58-7	BENZO[B]TRIPHENYLENE	15.93	1200	NJ
24.	~~215-58-7~~	BENZO[B]TRIPHENYLENE Isomer	16.03	2400	NJ
25.					
26.					
27.					
28.					
29.					
30.					

Appendix D

Chain of Custody Records

Organic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program

(For Organic CLP Analysis)

Case No. 31620

1. Project Code: —	2. Region No.: III	Sampling Co.: E&E, Inc.	4. Date Shipped: 4-15-03	Carrier: Fed-Ex
Account Code: 2000T03N5010200371LA00	Sampler (Name): Younus Burhan		Airbill Number: 839339068761	
Site Name: Big John Salvage	Sampler Signature:		5. Ship To: Ceimic Corporation, 10 Dean Knauss Dr., Narragansett, RI 02882, ATTN: Karen Williamsen	
City, State: Fairmont, WV.	Site Spill ID: 0371	Op Unit: —	3. Purpose**: Lead [X] SF [ ] PRP [ ] ST [ ] FED [ ] BZ; Early Action [ ] IA [ ] PA [ ] REM [ ] RI [ ] SI [ ] ESI; Long-Term Action [ ] RIFS [ ] RD [ ] RA [ ] O&M	

6. Matrix (Enter in Column A): 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. PE-water 7. PE-soil 8. Other (specify in Column A)

7. Preservative (Enter in Column D): 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. CH3OH 7. Other (specify in Column D) N. Not Preserved

CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med	C Sample Type: Comp./ Grab	D Preservative (from Box 7) Other:	E RAS Analysis TA (circle one) PR* 7 14 21 VOA	E TA (circle one) PR* 7 14 21 BNA	E TA (circle one) PR* 7 14 21 Pest/ PCB	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier (B = Blank S = Field Spike D = Field Duplicate R = Rinsate PE = Perform Eval.)
COF23	5	L	G	5	X	X	X	3-3046971-972	BJSD47	4/14/03 1325	MCOE15	YL	—
COF24	5	L	G	5	X	X	X	3-3046974-975	BJSD48	4/14/03 1335	MCOE16	YL	D of COF23
COF25	4	L	G	1	X			3-3046978+977	Trip Blank	4/14/03 1700	—	SG	B
								Temperature Indicator					

Shipment for Case Complete? (Y/N): Y

Page 1 of 1

VOA MS/MSD Required? (Y)/N Sample #: COF23
BNA MS/MSD Required? (Y)/N Sample #: COF23
Pest/PCB MS/MSD Required? (Y)/N Sample #: COF23

Additional Sampler Signatures: Suddha Graves

Chain of Custody Seal Number(s): —

*PR provides 7-day data turnaround in addition to preliminary results. Requests for preliminary results will increase analytical costs.

Chain of Custody Record

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by (Signature)
	4/14/03 1730	Suddha Graves 4/14/03 1730	Suddha Graves	4-15-03 1000	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
					APR 2003
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	RECEIVED

Distribution: Blue - Region Copy; White - Lab Copy for Return to SMO; Pink - SMO Copy; Yellow - Lab Copy for Return to Region

See Reverse for Additional Standard Instructions

**See Reverse for Purpose Code Definitions

EPA Form 9110-2 (2/99)

Appendix E

Laboratory Case Narratives

SDG Narrative

The enclosed data package is in response to USEPA, Region III, Case No. 31620, SDG No. C0F23, Contract No. 68-W-03-018. Under this SDG there are 5 VOA, 4 SVOA and 4 Pest/PCB analyses for 3 soil samples received at Ceimic Corporation on April 16, 2003.

EPA ID:	CEIMIC ID:	Analysis
C0F23	030411-01	VOA, SVOA, Pest/PCB
C0F23MS	030411-01ms	VOA, SVOA, Pest/PCB
C0F23MSD	030411-01msd	VOA, SVOA, Pest/PCB
C0F24	030411-02	VOA, SVOA, Pest/PCB
C0F25	030411-03	VOA

Sample Receipt

Cooler Temperatures upon receipt were 6°C.

(2) Instrumentation and Column Identification

The following instruments were used for the analyses:

GC/MS Analysis

A. VOA

MS12 HP5973 GC/MS,25 m, 0.20mm ID, 1um, DB-624 capillary column
OI trap #10 (8cm Tenax, 8cm silica gel, 8cm carbon molecular sieve)

MS16 HP5972 GC/MS, 30m, 0.32mm ID, 1.8 um, DB-624 capillary column.
OI trap #10 (8cm Tenax, 8cm silica gel, 8cm carbon molecular sieve)

B. SVOA

MS11 HP6890 GC, HP5973MS,30 m,25 mm ID, ZB-5 fused silica capillary column

C. Pest/PCB

AD6: HP5890II (GC8) using 30m x 0.53mm ID, DB5 megabore column
AD7: HP5890II (GC8) using 30m x 0.53mm ID, DB35 megabore column

(3) Sample Information

An "x" qualifier is flagged by Target Thru-put software whenever the data is manually edited. The letters "M" for GC/MS and "FF" for GC are used on the raw data of the quantitation report whenever a manual integration is performed. Manual integrations are

performed on GC/MS and GC standards and samples when computer generated integration picks up only a portion of the chromatographic peak, due to software limitations. When manual integrations are required, these integrations are performed using sound defensible professional judgment, in order to report accurate data. Each manual integration is signed and dated, and reviewed by both the lab supervisor and the GC/MS Interpretation Specialist for GC/MS or the Organic Lab Manager for Pest/PCB.

A. VOA Fraction (Method CLP SOW OLM04.3)

The pH of the water samples was:

Client ID:	Ceimic ID:	pH:
C0F25	030411-03	1

The %moistures of the soil samples were:

Client ID:	Ceimic ID:	%M:
C0F23	030411-01	30
C0F24	030411-02	33

The associated duplicate matrix spikes did not meet all advisory accuracy criteria. All Relative Percent Difference (RPD) precision criteria were met in the comparison of the duplicate matrix spikes. In accordance with the Statement of Work (SOW), we have reported the data without further analysis.

B. SVOA Fraction (Method CLP SOW OLM04.3)

The pH and %moisture of the soil samples were:

Client ID:	Ceimic ID:	pH	%M
C0F23	030411-01	6.4	35
C0F24	030411-02	7.4	30

The samples were analyzed at the following dilution:

Client ID:	Ceimic ID:	Dilution:
C0F23	030411-01	5:1
C0F24	030411-02	10:1

The recovery of the spike compound pyrene was flagged as an outlier in the matrix spike and matrix spike duplicate. The Relative Percent Differences (RPD) of acenaphthene and pyrene were flagged as outliers in the comparison of the duplicate matrix spikes.

C. Pest/PCB Fraction (Method CLP SOW OLM04.3)

All samples were extracted and analyzed within their respective holding times.

DCB recovery was high in the following samples, due to co-elution with the sample matrix:

Sample	% DCB 1	% DCB 2
C0F23MS		165
C0F23MSD	165	170

The following recoveries were outside the QC limits in C0F23MS/MSD:

Analyte	% MS	% MSD
Gamma-BHC	34	40
Dieldrin	29	

No other non-compliances were noted.

Deviations from the SOW

None other than specified above.

End of SDG Narrative

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature.

Ines Bauer

Ines Bauer, Laboratory Manager

4/28/03

Date