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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III
OFFICE OF ANALYTICAL SERVICES AND QUALITY ASSURANCE
201 DEFENSE HIGHWAY
SUITE 200
ANNAPOLIS, MARYLAND 21401

DEC 0 6 1995

DATE : November 30, 1995

SUBJECT: Region III Data QA Review

FROM : Cynthia E. Caporale
Region III ESAT RPO (3EP20)

TO : Andrew Sochanski
Regional Project Manager (3HW72)

Attached is the organic and inorganic data validation report for the Koppers County Factory Plant (DE) site (report 951460) 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) 573-2732.

Attachment

cc: Robert Miller, U.S. Army Corps of Engineers

TID File: 03951110

AR310127

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DEC 0 6 1995

Lockheed

Environmental Services Assistance Teams
Region 3
1419 Forest Drive, Suite 104
Annapolis, Maryland 21403

Phone: (410) 268-7705
Fax: (410) 268-8472

DATE: November 29, 1995

SUBJECT: Organic Data Validation For Non-CLP Case 951460
Site: Koppers Co. Fac. Plant

FROM: Mahmoud Hamid MH
Senior Oversight Chemist

Mahboobeh Mecanic MM
Senior Oversight Chemist

TO: Cynthia E. Caporale
ESAT Regional Project Officer

THROUGH: Dale S. Boshart DSB
ESAT Team Manager

OVERVIEW

Samples from Case 951460 were submitted to EA Laboratories (EAENG) for volatile, semivolatile and pesticide/PCB analyses. The case consisted of eight (8) aqueous samples including three (3) trip blanks. The trip blanks were analyzed for volatiles only. Two samples, 32685 and 32686, were analyzed for pesticide/PCB as per the chain of custody (COC). The samples were analyzed as a Non-Contract Laboratory Program (Non-CLP) according to the Statement of Work (SOW) OLM01.9.

SUMMARY

All samples were successfully analyzed for all target compounds. All instrument and method sensitivities were according to the specified method.

MINOR PROBLEMS

- In the volatile analyses, samples 32684, 32685 and 32686 were analyzed fifteen (15) days after the date of sample collection. The technical holding time of fourteen (14) days from the date of sample collection has been exceeded by one (1) day for the preserved aqueous samples The quantitation limits were qualified "UL", except when superseded by the "UJ" qualifier, on the Data Summary Forms (DSFs). No positive results were detected.

- The semivolatile and pesticide/PCB extractions of all samples were performed ten (10) to twelve (12) days after the date of sample collection. The technical holding time of seven (7) days from the date of sample collection for the aqueous samples has been exceeded by three (3) to five (5) days. The quantitation limits were qualified "UJ" and positive results were qualified "J" on the DSFs.

- In the volatile analyses of sample 32685, the internal standard 1,4-difluorobenzene (IS2) had a response outside the lower QC limit. Quantitation limits for compounds using this internal standard were qualified "UJ" on the DSFs.

- In the semivolatile analyses, sample 32687 had the internal standard perylene-d12 (IS6) outside the QC limits and sample 32703 had the internal standards chrysene-d12 (IS5) and IS6 outside the QC limits. Reanalyses of these two samples produced a better response for sample 32703 and a poorer response for sample 32687. Results from the initial analyses of sample 32687 and the reanalysis of sample 32703 were reported on the DSFs. Quantitation limits for compounds quantitated using these internal standards were qualified "UJ" on the DSFs. No positive results were detected.

- In the pesticide/PCB analyses, the surrogate compound tetrechloro-m-xylene (TCX) was outside the lower QC limits on both columns for samples 32685 and 32686. Quantitation limits were qualified "UJ". No positive results were detected.

NOTES

- In the volatile MS/MSD analyses of sample 32685, four (4) out of ten (10) spike recoveries were outside the QC limits.

- In the semivolatile MS/MSD analyses of sample 32705, three (3) out of twenty-two (22) spike recoveries were outside the QC limits.

- In the semivolatile analyses, the laboratory control sample SLCS3302 had the recovery of phenol above the QC limit and the recovery of 1,4-dichlorobenzene below the QC limits. Data have already been qualified "UJ" because of holding time.

- In the pesticide/PCB analyses, the laboratory control sample PLCS3302 had the recoveries of aldrin and heptachlor outside the lower QC limits. Data have already been qualified "UJ" because of holding time.

- In the pesticide/PCB analyses, the surrogate compound TCX was outside the lower QC limits on both columns for samples PBLK06, PLCS06A and PLCS06B.

- In the semivolatile and pesticide/PCB analyses, the laboratory used the station locations to identify the samples on the Form Is. The reviewer added the EPA identification numbers to the Form Is.

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- The instrument identification number (ID) for instruments used for the analyses were not reported on the initial calibration, continuing calibrations, Form Is or the QC forms.

- Non-spiked compounds were detected in sample 32705 and its MS/MSD analyses. Comparison and precision estimates are as follow:

	Concentration µg/L			
Compound	32705	MS	MSD	%RSD
Naphthalene	1 J	ND	2 J	67
Dibenzofurane	17	ND	19	11*
Fluorene	17	ND	ND	IN
Phenanthrene	24	16	32	33
Anthracene	4 J	3 J	5 J	25
Carbazole	5 J	4 J	5 J	12
Fluoranthene	14	13	13	4

%RSD = Percent Relative Standard Deviation
* = Relative Percent Difference (RPD) instead of %RSD
IN = Indeterminate

- The tentatively identified compounds (TICs) were reviewed and corrected during data validation. Compounds identified as blank contaminants were crossed of the TICs Form Is.

All data for Case 951460 were reviewed in accordance with the National Functional Guidelines for Evaluating Organic Analyses with modification for use within Region III. The text of the report addresses only those problems affecting usability.

ATTACHMENTS

1) Appendix A- Glossary of data qualifiers

2) Appendix B- Data Summary Forms

3) Appendix C- Results as reported by the laboratory for all target compounds

4) Appendix D- Tentatively Identified Compounds (TICs)

5) Appendix E- Support documentation

DCN:951460

Appendix A
Glossary of Data Qualifiers

GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

CODES RELATED TO IDENTIFICATION
(confidence concerning presence or absence of compounds)

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

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

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.

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

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

Q = No analytical result.

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Appendix B
Data Summary Forms

DATA SUMMARY FORM O L A T I L E S 1 Page ___ of ___ 6

Site Name: KOPPERS CO.FAC. PLANT

WATER SAMPLES
(ug/L)

Case #: 951460 Sampling Date(s): 9-11-95 to 9-14-95

To calculate sample quantitation limits:
(CRDL * Dilution Factor)

	Sample No.	32684	32685	32686	32687	32702	32703	32704	32705	
	Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
	Location	KNDMW7ATB	KNDMW7A-QA	KNDMW7B-QA	KNDMW5A-QA	KNDMW4B-TB	KNDMW4B-QA	KNDMW10A-TB	KNDMW10A-QA	
CRQL	COMPOUND	SAMPLE IS A TRIP BLANK.				SAMPLE IS A TRIP BLANK.		SAMPLE IS A TRIP BLANK.		
10	Chloromethane	UL	UL	UL						
10	Bromomethane	UL	UL	UL						
10	*Vinyl Chloride	UL	UL	UL						
10	Chloroethane	UL	UL	UL						
10	*Methylene Chloride	UL	UL	UL						
10	Acetone	UL	UL	UL						
10	Carbon Disulfide	UL	UL	UL						
10	*1,1-Dichloroethene	UL	UL	UL						
10	1,1-Dichloroethane	UL	UL	UL						
10	*Total 1,2-Dichloroethene	UL	UL	UL						
10	Chloroform	UL	UL	UL						
10	*1,2-Dichloroethane	UL	UL	UL						
10	*2-Butanone	UL	UL	UL						
10	*1,1,1-Trichloroethane	UL	UJ	UL						
10	*Carbon Tetrachloride	UL	UJ	UL						
10	Bromodichloromethane	UL	UJ	UL						

CRQL = Contract Required Quantitation Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

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AR311134

DATA SUMMARY FORM: O L A T I L E S 2

Site Name: KOPPERS CO.FAC. PLANT

WATER SAMPLES
(ug/L)

Case #: 951460 Sampling Date(s): 9-11-95 to 9-14-95

To calculate sample quantitation limits:
(CRQL * Dilution Factor)

	Sample No.	32684		32685		32686		32687		32702		32703		32704		32705			
	Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0			
	Location	KNDMW7ATB		KNDMW7A-QA		KNDMW7B-QA		KNDMW5A-QA		KNDMW4B-TB		KNDMW4B-QA		KNDMW10A-TB		KNDMW10A-QA			
CRQL	COMPOUND	SAMPLE IS A TRIP BLANK.								SAMPLE IS A TRIP BLANK.				SAMPLE IS A TRIP BLANK.					
10	*1,2-Dichloropropene		UL		UJ		UL												
10	Cis-1,3-Dichloropropene		UL		UJ		UL												
10	Trichloroethene		UL		UJ		UL												
10	Dibromochloromethane		UL		UJ		UL												
10	1,1,2-Trichloroethane		UL		UJ		UL												
10	*Benzene		UL		UJ		UL												
10	Trans-1,3-Dichloropropene		UL		UJ		UL												
10	Bromoform		UL		UJ		UL												
10	4-Methyl-2-pentanone		UL		UL		UL												
10	2-Hexanone		UL		UL		UL												
10	*Tetrachloroethene		UL		UL		UL	3	J										
10	1,1,2,2-Tetrachloroethane		UL		UL		UL												
10	*Toluene		UL		UL		UL												
10	*Chlorobenzene		UL		UL		UL												
10	*Ethylbenzene		UL		UL		UL												
10	*Styrene		UL		UL		UL												
10	*Total Xylenes		UL		UL		UL												

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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Site Name: KOPPERS CO.FAC. PLANT

WATER SAMPLES
(ug/L)

Case #: 951460 Sampling Date(s): 9-11-95 to 9-14-95

To calculate sample quantitation limits:
(CRDL * Dilution Factor)

	Sample No.	32685	32686	32687	32703RE	32705				
	Dilution Factor	1.0	1.0	1.0	1.0	1.0				
	Location	KNDMW7A-GA	KNDMW7B-GA	KNDMW5A-GA	KNDMW6B-GA	KNDMW10A-GA				
CRQL	COMPOUND									
10	Phenol	UJ	UJ	UJ	UJ	UJ				
10	bis(2-Chloroethyl)ether	UJ	UJ	UJ	UJ	UJ				
10	2-Chlorophenol	UJ	UJ	UJ	UJ	UJ				
10	*1,3-Dichlorobenzene	UJ	UJ	UJ	UJ	UJ				
10	*1,4-Dichlorobenzene	UJ	UJ	UJ	UJ	UJ				
10	1,2-Dichlorobenzene	UJ	UJ	UJ	UJ	UJ				
10	2-Methylphenol	UJ	UJ	UJ	UJ	UJ				
10	2,2'-oxybis(1-chloropropane)	UJ	UJ	UJ	UJ	UJ				
10	4-Methylphenol	UJ	UJ	UJ	UJ	UJ				
10	N-Nitroso-di-n-propylamine	UJ	UJ	UJ	UJ	UJ				
10	Hexachloroethane	UJ	UJ	UJ	UJ	UJ				
10	Nitrobenzene	UJ	UJ	UJ	UJ	UJ				
10	Isophorone	UJ	UJ	UJ	UJ	UJ				
10	2-Nitrophenol	UJ	UJ	UJ	UJ	UJ				
10	2,4-Dimethylphenol	UJ	UJ	UJ	UJ	UJ				
10	bis(2-Chloroethoxy)methane	UJ	UJ	UJ	UJ	UJ				
10	2,4-Dichlorophenol	UJ	UJ	UJ	UJ	UJ				
10	1,2,4-Trichlorobenzene	UJ	UJ	UJ	UJ	UJ				
10	Naphthalene	UJ	UJ	UJ	UJ	1 J				
10	4-Chloroaniline	UJ	UJ	UJ	UJ	UJ				

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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DATA SUMMARY : B N A 2

Site Name: KOPPERS CO.FAC. PLANT

WATER SAMPLES
(ug/L)

Case #: 951460 Sampling Date(s): 9-11-95 to 9-14-95

To calculate sample quantitation limits:
(CRQL * Dilution Factor)

	Sample No.	32685		32686		32687		32703RE		32705							
	Dilution Factor	1.0		1.0		1.0		1.0		1.0							
	Location	KNDMW7A-QA		KNDMW7B-QA		KNDMW5A-QA		KNDMW4B-QA		KNDMW10A-QA							
CRQL	COMPOUND																
10	Hexachlorobutadiene		UJ		UJ		UJ		UJ		UJ						
10	4-Chloro-3-methylphenol		UJ		UJ		UJ		UJ		UJ						
10	2-Methylnaphthalene		UJ		UJ		UJ		UJ		UJ						
10	Hexachlorocyclopentadiene		UJ		UJ		UJ		UJ		UJ						
10	2,4,6-Trichlorophenol		UJ		UJ		UJ		UJ		UJ						
25	2,4,5-Trichlorophenol		UJ		UJ		UJ		UJ		UJ						
10	2-Chloronaphthalene		UJ		UJ		UJ		UJ		UJ						
25	2-Nitroaniline		UJ		UJ		UJ		UJ		UJ						
10	Dimethylphthalate		UJ		UJ		UJ		UJ		UJ						
10	Acenaphthylene		UJ		UJ		UJ		UJ		UJ						
10	2,6-Dinitrotoluene		UJ		UJ		UJ		UJ		UJ						
25	3-Nitroaniline		UJ		UJ		UJ		UJ		UJ						
10	Acenaphthene		UJ		UJ		UJ		UJ	14	J						
25	2,4-Dinitrophenol		UJ		UJ		UJ		UJ		UJ						
25	4-Nitrophenol		UJ		UJ		UJ		UJ		UJ						
10	Dibenzofuran		UJ		UJ		UJ		UJ	17	J						
10	2,4-Dinitrotoluene		UJ		UJ		UJ		UJ		UJ						
10	Diethylphthalate		UJ		UJ		UJ		UJ		UJ						
10	4-Chlorophenyl-phenylether		UJ		UJ		UJ		UJ		UJ						
10	Fluorene		UJ		UJ		UJ		UJ	17	J						
25	4-Nitroaniline		UJ		UJ		UJ		UJ		UJ						
25	4,6-Dinitro-2-methylphenol		UJ		UJ		UJ		UJ		UJ						

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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Site Name: KOPPERS CO.FAC. PLANT

WATER SAMPLES
(ug/L)

Case #: 951460 Sampling Date(s): 9-11-95 to 9-14-95

To calculate sample quantitation limits:
(CRDL * Dilution Factor)

	Sample No.	32685	32686	32687	32703RE	32705				
	Dilution Factor	1.0	1.0	1.0	1.0	1.0				
	Location	KNDMW7A-QA	KNDMW7B-QA	KNDMW5A-QA	KNDMW4B-QA	KNDMW10A-QA				
CRQL	COMPOUND									
10	N-Nitrosodiphenylamine	UJ	UJ	UJ	UJ	UJ				
10	4-Bromophenyl-phenylether	UJ	UJ	UJ	UJ	UJ				
10	*Hexachlorobenzene	UJ	UJ	UJ	UJ	UJ				
25	*Pentachlorophenol	UJ	UJ	UJ	UJ	UJ				
10	Phenanthrene	UJ	UJ	UJ	UJ	24 J				
10	Anthracene	UJ	UJ	UJ	UJ	4 J				
10	Carbazole	UJ	UJ	UJ	UJ	5 J				
10	Di-n-butylphthalate	UJ	UJ	UJ	UJ	UJ				
10	Fluoranthene	UJ	UJ	UJ	UJ	14 J				
10	Pyrene	UJ	UJ	UJ	UJ	8 J				
10	Butylbenzylphthalate	UJ	UJ	UJ	UJ	UJ				
10	3,3'-Dichlorobenzidine	UJ	UJ	UJ	UJ	UJ				
10	Benzo(a)anthracene	UJ	UJ	UJ	UJ	UJ				
10	Chrysene	UJ	UJ	UJ	UJ	UJ				
10	bis(2-Ethylhexyl)phthalate	UJ	UJ	UJ	UJ	UJ				
10	Di-n-octylphthalate	UJ	UJ	UJ	UJ	UJ				
10	Benzo(b)fluoranthene	UJ	UJ	UJ	UJ	UJ				
10	Benzo(k)fluoranthene	UJ	UJ	UJ	UJ	UJ				
10	Benzo(a)pyrene	UJ	UJ	UJ	UJ	UJ				
10	Indeno(1,2,3-cd)pyrene	UJ	UJ	UJ	UJ	UJ				
10	Dibenz(a,h)anthracene	UJ	UJ	UJ	UJ	UJ				
10	Benzo(g,h,i)perylene	UJ	UJ	UJ	UJ	UJ				

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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DATA SUMMARY FORM: PESTICIDES AND PCBS

Site Name: KOPPERS CO.FAC. PLANT

WATER SAMPLES
(ug/L)

To calculate sample quantitation limits:
(CRQL * Dilution Factor)

Case #: 951460 Sampling Date(s): 9-11-95 to 9-14-95

	Sample No.	32685		32686						
	Dilution Factor	1.0		1.0						
	Location	KNDMW7A-QA		KNDMW7B-QA						
CRQL	COMPOUND									
0.05	alpha-BHC		UJ		UJ					
0.05	beta-BHC		UJ		UJ					
0.05	delta-BHC		UJ		UJ					
0.05	*gamma-BHC (Lindane)		UJ		UJ					
0.05	*Heptachlor		UJ		UJ					
0.05	Aldrin		UJ		UJ					
0.05	Heptachlor Epoxide		UJ		UJ					
0.05	Endosulfan I		UJ		UJ					
0.10	Dieldrin		UJ		UJ					
0.10	4,4'-DDE		UJ		UJ					
0.10	*Endrin		UJ		UJ					
0.10	Endosulfan II		UJ		UJ					
0.10	4,4'-DDD		UJ		UJ					
0.10	Endosulfan Sulfate		UJ		UJ					
0.10	4,4'-DDT		UJ		UJ					
0.50	*Methoxychlor		UJ		UJ					
0.10	Endrin Ketone		UJ		UJ					
0.10	Endrin Aldehyde		UJ		UJ					
0.05	*alpha-Chlordane		UJ		UJ					
0.05	*gamma-Chlordane		UJ		UJ					
5.0	*Toxaphene		UJ		UJ					
1.0	*Aroclor-1016		UJ		UJ					
2.0	*Aroclor-1221		UJ		UJ					
1.0	*Aroclor-1232		UJ		UJ					
1.0	*Aroclor-1242		UJ		UJ					
1.0	*Aroclor-1248		UJ		UJ					
1.0	*Aroclor-1254		UJ		UJ					
1.0	*Aroclor-1260		UJ		UJ					

CRQL = Contract Required Quantitation Limit

*Action Level Exists

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Appendix C
Results As Reported By The Laboratory

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32684

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513301

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6688

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q TB
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2 Dichloroethene	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

AR310141

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32685

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513302

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6691

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
540-59-0	1,2 Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32686

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513303

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6694

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
540-59-0	1,2 Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

AR310143

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32687

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513304

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6695

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
540-59-0	1,2 Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	3	J
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

AR310144

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32702

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513305

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6689

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

TB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
540-59-0	1,2 Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32703

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513306

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6696

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
540-59-0	1,2 Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

AR310146

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32704

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513307

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6690

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2 Dichloroethene	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

AR310147

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32705

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6697

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q TB
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
540-59-0	1,2 Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

AR310148

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW7AQA 132685

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513302

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6944

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW7AQA /3268S

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513302

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6944

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW7BQA/32686

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513303

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6945

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW7BQA/32686

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513303

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6945

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

AR310152

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW5AQA/32687

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513304

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6946

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW5AQA/3268

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513304

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6946

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW5AQARE/32687RE

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513304

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6977

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/29/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW5AQARE/3268-8E

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513304

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6977

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/29/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW4BQA/32703

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513306

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6947

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW4BQA/3270

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513306

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6947

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW4BQARE/327036E

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513306

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6978

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/30/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW4BQARE/32702 dE

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513306

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6978

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/30/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW10AQA/32705

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6948

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	1	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	14	
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	17	

AR310161

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW10AQA/3270C

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6948

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	17	
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	24	
120-12-7	Anthracene	4	J
86-74-8	Carbazole	5	J
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	14	
129-00-0	Pyrene	8	J
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

AR310162

1D

PESTICIDE COMPOUNDS ORGANICS ANALYSIS SHEET

EPA SAMPLE NO.

95-KNDMW7A-Q

Lab Name: EA LABS Contract: _____

Lab Code: EAENG Case No: _____ SAS No: _____ SDG No: 32685

Matrix: (soil/water) WATER Lab Sample ID: 9513302

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 645FADSM

% Moisture: _____ decanted: (Y/N): N Date Received: 09/18/95

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 09/23/95

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/01/95

Injection Volume: 1.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-36-3	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	2.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

1D
PESTICIDE COMPOUNDS ORGANICS ANALYSIS SHEET

EPA SAMPLE NO.

95-KNDMW7B-Q

Lab Name: EA LABS Contract: _____

Lab Code: EAENG Case No: _____ SAS No: _____ SDG No: 32686

Matrix: (soil/water) WATER Lab Sample ID: 9513303

Sample wt/vol: 1000.0(g/mL) ML Lab File ID: 646FADSM

% Moisture: _____ decanted: (Y/N): N Date Received: 09/18/95

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 09/23/95

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/01/95

Injection Volume: 1.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-36-3	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	2.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

Appendix D
Reviewed and corrected Tentatively Identified Compounds (TICs)

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32684

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513301

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6688

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

AR310166

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32685

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513302

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6691

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32686

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513303

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6694

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32687

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513304

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6695

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32702

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513305

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6689

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32703

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513306

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6696

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

AR310171

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32704

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513307

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6690

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32705

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6697

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

MW7AQA 32685

b Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513302

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6944

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

Number TICS found: 3

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.108-93-0~~	~~Cyclohexanol~~	~~4.93~~	~~11~~	~~JN~~
~~2.111-76-2~~	~~Ethanol, 2-butoxy~~	~~5.13~~	~~2~~	~~BJN~~
~~3.111-77-3~~	~~Ethanol, 2-(2-methoxyethoxy)~~	~~5.56~~	~~2~~	~~BJN~~

MA 11/22

FORM I SV-TIC 3/90

AR310174

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

MW7BQA / 32686

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513303

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6945

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

Number TICS found: 0

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

MW5AQA / 32687

ab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513304

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6946

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

Number TICS found: 4

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.111-77-3~~	~~Ethanol, 2 (2 methoxyethoxy)~~	~~5.56~~	~~2~~	~~BJN~~
2.----------	Unknown	13.20	27	J
3.----------	Unknown	13.53	2	J
4.10544-50-0--	Sulfur, mol. (S8)	17.93	1000	JN

WA 11/2

FORM I SV-TIC 3/90

AR310176

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

MW5AQARE/32687

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513304

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6977

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/29/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

Number TICS found: 3

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.111-77-3~~	~~Ethanol, 2-(2-methoxyethoxy)~~	~~5.50~~	~~2~~	~~JN~~
2.----------	Unknown	13.17	21	J
3.10544-50-0--	Sulfur, mol. (S8)	17.72	2700	JN

MDL 1422

AR310177

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

MW4BQA /32703

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513306

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6947

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

Number TICS found: 2

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.----------	Unknown	13.25	23	J
2.10544-50-0--	Sulfur, mol. (S8)	17.84	1100	JN

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

MW4BQARE/32703

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513306

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6978

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/30/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

Number TICS found: 1

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.10544-50-0--	Sulfur, mol. (S8)	17.66	1400	JN

AR310179

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

MW10AQA / 32705

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6948

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

Number TICS found: 9

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
~~1.111-77-3~~	~~Ethanol, 2-(2-methoxyethoxy)~~	~~5.57~~	~~2~~	~~BJN~~
2.----------	Unknown	7.46	2	J
3.----------	Unknown	13.85	5	J
4.----------	Methylbiphenyl isomer	13.94	2	J
5.----------	Unknown	14.01	4	J
6.132-65-0----	Dibenzothiophene	15.33	2	JN
7.203-64-5----	4H-Cyclopenta[def]phenanthre	16.78	3	JN
8.----------	Unknown	18.97	2	J
9.----------	Unknown	19.08	3	J

mdt 11/22

Appendix E
Support Documentation

Response Factor Report VH8

Method : C:\HPCHEM\1\METHODS\CLPW.M
Title : VOA Standards for 5 point calibration
Last Update : Tue Sep 26 05:48:33 1995
Response via : Continuing Calibration

Calibration Files
10 =VH8A6582.D 20 =VH8A6581.D 50 =VH8A6578.D
100 =VH8A6580.D 200 =VH8A6579.D

		Compound	10	20	50	100	200	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	T	Dichlorodifluorometha	0.609	0.746	0.875	0.727	0.837	0.8	13.70
3)	P	Chloromethane	0.469	0.579	0.603	0.620	0.675	0.6	12.87
4)	PC	Vinyl Chloride	0.431	0.586	0.652	0.620	0.638	0.6	15.38
5)	PC	Bromomethane	0.978	1.239	1.234	1.259	1.235	1.2	9.96
6)	P	Chloroethane	0.300	0.415	0.440	0.436	0.451	0.4	15.23
7)	T	Dichlorofluoromethane	1.688	1.992	2.115	1.979	2.034	2.0	8.25
8)	T	Trichlorofluoromethan	1.168	1.359	1.664	1.377	1.511	1.4	13.05
9)	T	Acrolein	0.057	0.056	0.036	0.047	0.041	0.0	19.12
10)	P	Acetone	0.146	0.195	0.171	0.187	0.162	0.2	11.32
11)	MPC	1,1-Dichloroethene	0.676	0.864	0.926	0.915	0.958	0.9	12.97
12)	T	3-Chloro-1-propene	0.659	0.805	0.849	0.806	0.875	0.8	10.46
13)	P	Methylene Chloride	0.856	1.064	1.082	1.090	1.107	1.0	9.98
14)	P	Carbon Disulfide	1.825	2.286	2.474	2.515	2.586	2.3	13.15
15)	T	Acrylonitrile	0.136	0.161	0.137	0.160	0.146	0.1	8.26
16)	P	trans-1,2-Dichloroeth	0.800	1.026	1.086	1.107	1.152	1.0	13.40
17)	PC	1,1-Dichloroethane	1.525	1.810	1.771	1.883	1.901	1.8	8.49
18)	P	2-Butanone	0.253	0.311	0.260	0.316	0.299	0.3	10.26
19)	P	cis-1,2-Dichloroethen	1.017	1.245	1.238	1.308	1.354	1.2	10.49
20)	PC	Chloroform	2.307	2.647	2.641	2.710	2.736	2.6	6.63
21)	T	Tetrahydrofuran	0.151	0.173	0.135	0.167	0.146	0.2	10.08
22)	S	1,2-Dichloroethane-d4	1.139	1.272	1.266	1.321	1.298	1.3	5.62
23)	P	1,2 Dichloroethene (t	0.909	1.136	1.162	1.208	1.253	1.1	11.77
24)	PC	1,2-Dichloroethane	1.291	1.557	1.418	1.524	1.508	1.5	7.37
25)	I	1,4-Difluorobenzene	----------ISTD----------						
26)	T	Methyl t-butyl ether	0.494	0.585	0.542	0.571	0.561	0.6	6.42
27)	T	Diisopropyl ether	0.596	0.664	0.600	0.648	0.648	0.6	4.91
28)	T	Vinyl Acetate	0.362	0.439	0.361	0.458	0.449	0.4	11.73
29)	PC	1,1,1-Trichloroethane	0.562	0.630	0.623	0.656	0.657	0.6	6.20
30)	PC	Carbon Tetrachloride	0.485	0.547	0.559	0.607	0.620	0.6	9.55
31)	MPC	Benzene	0.613	0.702	0.662	0.722	0.705	0.7	6.43
32)	MPC	Trichloroethene	0.367	0.431	0.447	0.476	0.480	0.4	10.33
33)	P	1,2-Dichloropropane	0.307	0.358	0.334	0.369	0.365	0.3	7.44
34)	PC	Bromodichloromethane	0.803	0.916	0.881	0.947	0.936	0.9	6.49
35)	T	2-Chloroethyl vinyl e	0.140	0.185	0.180	0.212	0.203	0.2	15.03
36)	PC	cis-1,3-Dichloroprope	0.447	0.532	0.510	0.564	0.564	0.5	9.20
37)	PC	trans-1,3-Dichloropro	0.392	0.464	0.441	0.510	0.510	0.5	10.82
38)	PC	1,1,2-Trichloroethane	0.395	0.440	0.408	0.452	0.438	0.4	5.58
39)	PC	Dibromochloromethane	0.833	0.944	0.921	0.998	0.976	0.9	6.83
40)	T	1,2-Dibromoethane (ED	0.601	0.675	0.655	0.669	0.670	0.7	4.65
41)	PC	Bromoform	0.667	0.755	0.718	0.788	0.764	0.7	6.38
42)	I	Chlorobenzene-d5	----------ISTD----------						

(#) = Out of Range

Response Factor Report VH8

Method : C:\HPCHEM\1\METHODS\CLPW.M
Title : VOA Standards for 5 point calibration
Last Update : Tue Sep 26 05:48:33 1995
Response via : Continuing Calibration

Calibration Files
10 =VH8A6582.D 20 =VH8A6581.D 50 =VH8A6578.D
100 =VH8A6580.D 200 =VH8A6579.D

		Compound	10	20	50	100	200	Avg	%RSD
43)	P	4-Methyl-2-Pentanone	0.419	0.499	0.407	0.498	0.454	0.5	9.43
44)	S	Toluene-d8	0.886	0.892	1.021	0.888	0.894	0.9	6.42
45)	MPC	Toluene	0.468	0.532	0.524	0.573	0.580	0.5	8.43
46)	P	2-Hexanone	0.187	0.208	0.162	0.216	0.187	0.2	11.00
47)	PC	Tetrachloroethene	0.294	0.369	0.383	0.439	0.447	0.4	15.98
48)	MPC	Chlorobenzene	0.746	0.837	0.833	0.915	0.917	0.8	8.33
49)	PC	Ethylbenzene	0.220	0.261	0.274	0.275	0.307	0.3	11.77
50)	PC	m&p-Xylenes	0.290	0.339	0.339	0.385	0.378	0.3	10.90
51)	PC	o-Xylene	0.314	0.359	0.359	0.397	0.402	0.4	9.69
52)	PC	Xylene (total)	0.314	0.359	0.359	0.397	0.402	0.4	9.69
53)	PC	Styrene	0.573	0.651	0.648	0.729	0.739	0.7	10.19
54)	PC	1,1,2,2-Tetrachloroet	0.938	0.995	0.829	0.965	0.877	0.9	7.31
55)	S	Bromofluorobenzene	0.888	0.713	0.813	0.666	0.652	0.7	13.55
56)	T	1,2,3-Trichloropropan	0.634	0.612	0.511	0.541	0.507	0.6	10.45
57)	T	1,3-Dichlorobenzene	0.486	0.552	0.724	0.615	0.646	0.6	15.03
58)	T	1,4-Dichlorobenzene	0.565	0.628	0.797	0.675	0.704	0.7	12.84
59)	T	1,2-Dichlorobenzene	0.608	0.644	0.773	0.653	0.676	0.7	9.

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : O:\ORG\VOA\VH8\26SEP95\VH8A6680.D Vial: 1
Acq On : 26 Sep 95 5:14 am Operator: CHS
Sample : VSTD50,50PPB STD#13722,WATER,5 Inst : VH8
Misc : DAILY CALIBRATION Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\CLPW.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Sep 22 07:17:17 1995
Response via : Single Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	Bromochloromethane	1.000	1.000	0.0	83	-0.02
2	T	Dichlorodifluoromethane	0.759	0.912	-20.2	87	0.00
3	P	Chloromethane	0.589	0.605	-2.6	83	0.00
4	PC	Vinyl Chloride	0.585	0.559	4.5	71	0.00
5	PC	Bromomethane	1.189	1.233	-3.7	83	0.00
6	P	Chloroethane	0.408	0.435	-6.5	82	0.00
7	T	Dichlorofluoromethane	1.962	2.366	-20.6	93	0.00
8	T	Trichlorofluoromethane	1.416	1.803	-27.3	90	0.00
9	T	Acrolein	0.047	0.042	10.5	97	-0.02
10	P	Acetone	0.172	0.166	3.2	81	-0.04
11	MPC	1,1-Dichloroethene	0.868	0.872	-0.5	78	-0.02
12	T	3-Chloro-1-propene	0.799	0.951	-19.1	93	0.00
13	P	Methylene Chloride	1.040	1.109	-6.7	85	0.00
14	P	Carbon Disulfide	2.337	2.323	0.6	78	0.00
	T	Acrylonitrile	0.148	0.164	-10.5	99	0.00
	P	trans-1,2-Dichloroethene	1.034	1.049	-1.5	80	-0.02
17	PC	1,1-Dichloroethane	1.778	1.791	-0.7	84	0.00
18	P	2-Butanone	0.288	0.289	-0.3	92	0.00
19	P	cis-1,2-Dichloroethene	1.233	1.186	3.8	80	0.00
20	PC	Chloroform	2.608	2.612	-0.1	82	-0.01
21	T	Tetrahydrofuran	0.154	0.150	2.8	93	0.00
22	S	1,2-Dichloroethane-d4	1.259	1.445	-14.8	95	0.00
23	P	1,2 Dichloroethene (total)	1.133	~~0.000#~~ 1.18	~~100.0~~	1.32 ~~0#~~	0.00
24	PC	1,2-Dichloroethane	1.459	1.543	-5.7	91	0.00
25	I	1,4-Difluorobenzene	1.000	1.000	0.0	83	0.00
26	T	Methyl t-butyl ether	0.551	0.629	-14.2	96	0.00
27	T	Diisopropyl ether	0.631	0.707	-12.0	98	0.00
28	T	Vinyl Acetate	0.414	0.300	27.5	69	0.00
29	PC	1,1,1-Trichloroethane	0.626	0.623	0.4	83	0.00
30	PC	Carbon Tetrachloride	0.564	0.561	0.4	83	0.00
31	MPC	Benzene	0.681	0.630	7.4	79	0.00
32	MPC	Trichloroethene	0.440	0.412	6.3	76	0.00
33	P	1,2-Dichloropropane	0.347	0.311	10.1	77	0.00
34	PC	Bromodichloromethane	0.897	0.848	5.4	80	0.00
35	T	2-Chloroethyl vinyl ether	0.184	0.185	-0.6	85	0.02
36	PC	cis-1,3-Dichloropropene	0.523	0.467	10.8	76	0.00
37	PC	trans-1,3-Dichloropropene	0.463	0.427	7.8	80	0.00
38	PC	1,1,2-Trichloroethane	0.426	0.376	11.9	76	0.02
	PC	Dibromochloromethane	0.934	0.816	12.7	73	0.00
	T	1,2-Dibromoethane (EDB)	0.654	0.640	2.1	81	0.00
41	PC	Bromoform	0.739	0.606	17.9	70	0.00

(#) = Out of Range

AR310184

Evaluate Continuing Calibration Report

Data File : O:\ORG\VOA\VH8\26SEP95\VH8A6680.D Vial: 1
Acq On : 26 Sep 95 5:14 am Operator: CHS
Sample : VSTD50,50PPB STD#13722,WATER,5 Inst : VH8
Misc : DAILY CALIBRATION Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\CLPW.M
Title : VOA Standards for 5 point calibration
Last Update : Fri Sep 22 07:17:17 1995
Response via : Single Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 100% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
42	I	Chlorobenzene-d5	1.000	1.000	0.0	80	0.02
43	P	4-Methyl-2-Pentanone	0.455	0.447	1.8	88	0.00
44	S	Toluene-d8	0.916	1.053	-14.9	82	0.00
45	MPC	Toluene	0.535	0.486	9.3	74	0.00
46	P	2-Hexanone	0.192	0.172	10.2	85	0.00
47	PC	Tetrachloroethene	0.386	0.384	0.6	80	0.00
48	MPC	Chlorobenzene	0.850	0.781	8.0	75	0.00
49	PC	Ethylbenzene	0.267	0.243	8.9	71	0.00
50	PC	m&p-Xylenes	0.346	0.336	2.8	79	0.00
51	PC	o-Xylene	0.366	0.349	4.8	78	0.00
52	PC	Xylene (total)	0.366	0.349	4.8	78	0.00
53	PC	Styrene	0.668	0.611	8.5	75	0.00
54	PC	1,1,2,2-Tetrachloroethane	0.921	0.774	15.9	75	0.00
55	S	Bromofluorobenzene	0.746	0.831	-11.3	82	0.02
56	T	1,2,3-Trichloropropane	0.561	0.538	4.2	84	0.0
57	T	1,3-Dichlorobenzene	0.605	0.648	-7.1	71	0.00
58	T	1,4-Dichlorobenzene	0.674	0.747	-10.9	75	0.00
59	T	1,2-Dichlorobenzene	0.671	0.711	-6.0	73	0.00

Associated Samples
VBLK1
LCS #V3303
32684
32702
32704
32685
32685 MS
32685 MSD
32686
32687
32703
32705

(#) = Out of Range SPCC's out = 1 CCC's out = 0
VH8A6680.D CLPW.M Tue Sep 26 05:48:01 1995 VR310185 Page 2

Response Factor Report SC3

Method : C:\HPCHEM\1\METHODS\SC3390.M
Title : Semivolatile Analysis - 2 uL Injection
Last Update : Fri Sep 22 15:51:41 1995
Response via : Continuing Calibration

Calibration Files
020 =SC3A6822.D 050 =SC3A6821.D 080 =SC3A6823.D
120 =SC3A6824.D 160 =SC3A6825.D

			Compound	020	050	080	120	160	Avg	%RSD
1)	I	CI30	d4-1,4-Dichlorob	----------	----------	ISTD	----------	----------		
2)	SPC	CS50	2-Fluorophenol	1.396	1.272	1.347	1.278	1.229	1.305	5.10
3)	SPC	CS45	Phenol-d5	1.655	1.597	1.728	1.681	1.595	1.651	3.45
4)	MPC	C315	Phenol	1.517	1.700	1.882	1.795	1.751	1.729	7.87
5)	SPC	CS35	2-Chlorophenol-d	1.532	1.427	1.436	1.354	1.268	1.404	7.02
6)	TPC	C325	bis(2-Chloroethy	1.787	1.636	1.642	1.513	1.401	1.596	9.14
7)	MPC	C330	2-Chlorophenol	1.526	1.424	1.412	1.303	1.213	1.376	8.75
8)	TPC	C335	1,3-Dichlorobenz	1.547	1.446	1.413	1.286	1.204	1.379	9.80
9)	MPC	C340	1,4-Dichlorobenz	1.615	1.484	1.442	1.298	1.206	1.409	11.37
10)	SPC	CS40	1,2-Dichlorobenz	1.031	0.966	0.894	0.753	0.668	0.862	17.38
11)	TPC	C350	1,2-Dichlorobenz	1.502	1.403	1.350	1.204	1.108	1.314	11.99
12)	TPC	C355	2-Methylphenol	1.337	1.249	1.261	1.166	1.071	1.217	8.36
13)	T	C357	2,2'-oxybis(1-Ch	1.523	1.349	1.555	1.653	1.632	1.542	7.84
14)	TPC	C365	4-Methylphenol	1.385	1.303	1.225	1.090	1.008	1.202	12.77
15)	MPC	C370	N-Nitrosodi-n-pr	1.231	1.134	1.155	1.122	1.057	1.140	5.51
16)	TPC	C375	Hexachloroethane	0.702	0.687	0.654	0.609	0.563	0.643	8.91
17)	I	CI40	d8-Naphthalene	----------	----------	ISTD	----------	----------		
18)	SPC	CS20	Nitrobenzene-d5	0.440	0.421	0.436	0.421	0.406	0.425	3.19
19)	TPC	C410	Nitrobenzene	0.450	0.430	0.432	0.412	0.399	0.425	4.62
20)	TPC	C415	Isophorone	0.915	0.867	0.903	0.871	0.822	0.875	4.12
21)	TPC	C420	2-Nitrophenol	0.241	0.238	0.239	0.223	0.212	0.230	5.45
22)	TPC	C425	2,4-Dimethlyphen	0.319	0.319	0.339	0.336	0.327	0.328	2.86
23)	TPC	C435	bis(2-Chloroetho	0.600	0.541	0.541	0.508	0.474	0.533	8.79
24)	TPC	C440	2,4-Dichlorophen	0.329	0.313	0.309	0.284	0.269	0.301	7.95
25)	MPC	C445	1,2,4-Trichlorob	0.351	0.319	0.314	0.290	0.271	0.309	9.86
26)	TPC	C450	Naphthalene	1.099	1.011	0.966	0.861	0.808	0.949	12.27
27)	T	C455	4-Chloroaniline	0.489	0.450	0.458	0.419	0.381	0.439	9.35
28)	T	C460	Hexachlorobutadi	0.168	0.154	0.158	0.148	0.141	0.154	6.55
29)	T	C797	o-Toluic acid		0.196	0.220	0.228	0.212	0.214	6.53
30)	T	C795	m-Toluic acid		0.363	0.419	0.429	0.291	0.376	16.84
31)	T	C796	p-Toluic acid		0.364	0.402	0.395	0.344	0.376	7.23
32)	MPC	C465	4-Chloro-3-methy	0.352	0.324	0.329	0.320	0.286	0.322	7.41
33)	TPC	C470	2-Methylnaphthal	0.691	0.641	0.597	0.527	0.481	0.587	14.39
34)	I	CI50	d10-Acenaphthene	----------	----------	ISTD	----------	----------		
35)	T	C510	Hexachlorocyclop	0.349	0.337	0.356	0.350	0.339	0.346	2.25
36)	TPC	C515	2,4,6-Trichlorop	0.453	0.420	0.414	0.395	0.372	0.411	7.36
37)	TPC	C520	2,4,5-Trichlorop	0.496	0.467	0.457	0.429	0.402	0.450	7.96
38)	TPC	C525	2-Chloronaphthal	1.257	1.163	1.078	0.973	0.920	1.078	12.72
39)	SPC	CS25	2-Fluorobiphenyl	1.401	1.266	1.176	1.066	0.988	1.179	13.82
40)	T	C530	2-Nitroaniline	0.506	0.495	0.515	0.525	0.490	0.506	2.84
41)	T	C535	Dimethylphthalat	1.590	1.506	1.456	1.388	1.260	1.440	8.67

(#) = Out of Range

Response Factor Report SC3

Method : C:\HPCHEM\1\METHODS\SC3390.M
Title : Semivolatile Analysis - 2 uL Injection
Last Update : Fri Sep 22 15:51:41 1995
Response via : Continuing Calibration

Calibration Files
020 =SC3A6822.D 050 =SC3A6821.D 080 =SC3A6823.D
120 =SC3A6824.D 160 =SC3A6825.D

			Compound	020	050	080	120	160	Avg	%RSD
42)	TPC	C540	Acenaphthylene	2.141	1.979	1.841	1.670	1.553	1.837	12.81
43)	T	C545	3-Nitroaniline	0.470	0.473	0.477	0.457	0.411	0.457	5.96
44)	MPC	C550	Acenaphthene	1.295	1.174	1.097	0.985	0.909	1.092	13.97
45)	T	C555	2,4-Dinitropheno		0.296	0.305	0.306	0.266	0.293	6.41
46)	M	C560	4-Nitrophenol		0.168	0.174	0.171	0.151	0.166	6.14
47)	TPC	C565	Dibenzofuran	1.715	1.557	1.393	1.262	1.155	1.416	15.85
48)	MPC	C570	2,4-Dinitrotolue	0.528	0.501	0.464	0.430	0.371	0.459	13.43
49)	TPC	C575	2,6-Dinitrotolue	0.391	0.398	0.382	0.365	0.335	0.374	6.72
50)	T	C580	Diethylphthalate	1.571	1.498	1.470	1.348	1.197	1.417	10.35
51)	TPC	C585	4-Chlorophenyl p	0.672	0.600	0.578	0.517	0.468	0.567	13.80
52)	TPC	C590	Fluorene	1.397	1.294	1.176	1.019	0.921	1.162	16.73
53)	T	C595	4-Nitroaniline	0.483	0.484	0.497	0.486	0.411	0.472	7.39
54)	S	CS55	2,4,6-Tribromoph	0.216	0.196	0.217	0.210	0.194	0.207	5.36
55)	I	CI60	d10-Phenanthrene	----------ISTD----------						
56)	T	C610	4,6-Dinitro-2-me		0.229	0.226	0.221	0.207	0.221	4.44
57)	T	C615	N-Nitrosodipheny	0.570	0.522	0.504	0.466	0.462	0.505	8.[illegible]
58)	TPC	C625	4-Bromophenyl ph	0.237	0.218	0.212	0.200	0.196	0.213	7.[illegible]
59)	TPC	C630	Hexachlorobenzen	0.280	0.243	0.248	0.238	0.237	0.249	7.12
60)	MPC	C635	Pentachloropheno		0.177	0.183	0.181	0.173	0.178	2.53
61)	TPC	C640	Phenanthrene	1.339	1.183	1.084	0.954	0.911	1.094	15.89
62)	TPC	C645	Anthracene	1.342	1.183	1.053	0.921	0.862	1.072	18.23
63)	T	C647	Carbazole	1.321	1.232	1.118	1.010	0.908	1.118	14.84
64)	T	C650	Di-n-butyl phtha	1.879	1.775	1.612	1.459	1.304	1.606	14.47
65)	TPC	C655	Fluoranthene	1.304	1.209	1.099	0.945	0.829	1.077	17.87
66)	I	CI70	d12-Chrysene	----------ISTD----------						
67)	MPC	C715	Pyrene	1.650	1.562	1.539	1.519	1.718	1.598	5.25
68)	SPC	CS30	Terphenyl-d14	1.096	1.029	1.047	1.038	1.145	1.071	4.54
69)	T	C720	Butylbenzylphtha	0.974	0.984	0.960	0.956	0.971	0.969	1.15
70)	T	C725	3,3'-Dichloroben	0.426	0.410	0.390	0.342	0.338	0.381	10.41
71)	TPC	C730	Benz[a]anthracen	1.249	1.174	1.078	1.012	1.035	1.110	8.98
72)	T	C735	bis(2-Ethylhexyl	1.369	1.395	1.324	1.248	1.286	1.324	4.50
73)	TPC	C740	Chrysene	1.187	1.189	1.122	1.071	1.044	1.122	5.88
74)	I	CI75	d12-Perylene	----------ISTD----------						
75)	T	C760	Di-n-octyl phtha	3.849	3.925	4.400	4.447	4.436	4.211	7.07
76)	TPC	C765	Benzo[b]fluorant	1.822	1.737	1.822	1.763	1.686	1.766	3.29
77)	TPC	C770	Benzo[k]fluorant	1.707	1.715	1.760	1.746	1.709	1.728	1.38
78)	TPC	C775	Benzo[a]pyrene	1.554	1.500	1.464	1.393	1.422	1.466	4.33
79)	TPC	C780	Indeno[1,2,3-cd]	1.001	0.948	0.757	0.744	1.006	0.891	14.68
80)	TPC	C785	Dibenz[ah]anthra	0.781	0.762	0.607	0.595	0.804	0.710	14.[illegible]
81)	TPC	C790	Benzo[ghi]peryle	0.725	0.685	0.537	0.542	0.799	0.658	17[illegible]

(#) = Out of Range

Continuing Calibration Report SC3

Method : C:\HPCHEM\1\METHODS\SC3390.M
Title : Semivolatile Analysis - 2 uL Injection
Last Update : Fri Sep 22 16:30:33 1995
Response via : Continuing Calibration

Continuing Calibration File: SC3A6821.D

Min. RRF : 0.010 Min. Rel. Area : 1%
Max. RRF Dev : 100% Max. Rel. Area : 500%

Samples
SBLK3302
SLCS3302
1W7AGA
1W7BGA
1W5AGA
1W4BGA
1W10AGA
1W10AGA MS
1W10AGA MSD

			Compound	AvgRF	CCRF	%Dev	Area%
1	I	CI30	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	100
2	SPC	CS50	2-Fluorophenol	1.305	1.272	2.5	100
3	SPC	CS45	Phenol-d5	1.651	1.597	3.3	100
4	MPC	C315	Phenol	1.729	1.700	1.7	100
5	SPC	CS35	2-Chlorophenol-d4	1.404	1.427	-1.7	100
6	TPC	C325	bis(2-Chloroethyl)ether	1.596	1.636	-2.5	100
7	MPC	C330	2-Chlorophenol	1.376	1.424	-3.5	100
8	TPC	C335	1,3-Dichlorobenzene	1.379	1.446	-4.9	100
9	MPC	C340	1,4-Dichlorobenzene	1.409	1.484	-5.3	100
10	SPC	CS40	1,2-Dichlorobenzene-d4	0.862	0.966	-12.0	100
11	TPC	C350	1,2-Dichlorobenzene	1.314	1.403	-6.8	100
12	TPC	C355	2-Methylphenol	1.217	1.249	-2.6	100
13	T	C357	2,2'-oxybis(1-Chloroprop	1.542	1.349	12.6	100
14	TPC	C365	4-Methylphenol	1.202	1.303	-8.4	100
15	MPC	C370	N-Nitrosodi-n-propylamin	1.140	1.134	0.5	100
16	TPC	C375	Hexachloroethane	0.643	0.687	-6.9	100
17	I	CI40	d8-Naphthalene	1.000	1.000	0.0	100
18	SPC	CS20	Nitrobenzene-d5	0.425	0.421	0.8	100
19	TPC	C410	Nitrobenzene	0.425	0.430	-1.2	100
20	TPC	C415	Isophorone	0.875	0.867	1.0	100
21	TPC	C420	2-Nitrophenol	0.230	0.238	-3.3	100
22	TPC	C425	2,4-Dimethlyphenol	0.328	0.319	2.8	100
23	TPC	C435	bis(2-Chloroethoxy)metha	0.533	0.541	-1.5	100
24	TPC	C440	2,4-Dichlorophenol	0.301	0.313	-3.9	100
25	MPC	C445	1,2,4-Trichlorobenzene	0.309	0.319	-3.2	100
26	TPC	C450	Naphthalene	0.949	1.011	-6.6	100
27	T	C455	4-Chloroaniline	0.439	0.450	-2.5	100
28	T	C460	Hexachlorobutadiene	0.154	0.154	-0.2	100
29	T	C797	o-Toluic acid	0.214	0.196	8.5	100
30	T	C795	m-Toluic acid	0.376	0.363	3.3	100
31	T	C796	p-Toluic acid	0.376	0.364	3.2	100
32	MPC	C465	4-Chloro-3-methylphenol	0.322	0.324	-0.5	100
33	TPC	C470	2-Methylnaphthalene	0.587	0.641	-9.0	100
34	I	CI50	d10-Acenaphthene	1.000	1.000	0.0	100
35	T	C510	Hexachlorocyclopentadien	0.346	0.337	2.7	100
36	TPC	C515	2,4,6-Trichlorophenol	0.411	0.420	-2.2	100
37	TPC	C520	2,4,5-Trichlorophenol	0.450	0.467	-3.7	100
38	TPC	C525	2-Chloronaphthalene	1.078	1.163	-7.9	100
39	SPC	CS25	2-Fluorobiphenyl	1.179	1.266	-7.3	100
40	T	C530	2-Nitroaniline	0.506	0.495	2.2	100
41	T	C535	Dimethylphthalate	1.440	1.506	-4.6	100

(#) = Out of Range

Continuing Calibration Report SC3

Method : C:\HPCHEM\1\METHODS\SC3390.M
Title : Semivolatile Analysis - 2 uL Injection
Last Update : Fri Sep 22 16:30:33 1995
Response via : Continuing Calibration

Continuing Calibration File: SC3A6821.D

Min. RRF : 0.010 Min. Rel. Area : 1%
Max. RRF Dev : 100% Max. Rel. Area : 500%

		Compound	AvgRF	CCRF	%Dev	Area%
42	TPC	C540 Acenaphthylene	1.837	1.979	-7.7	100
43	T	C545 3-Nitroaniline	0.457	0.473	-3.4	100
44	MPC	C550 Acenaphthene	1.092	1.174	-7.5	100
45	T	C555 2,4-Dinitrophenol	0.293	0.296	-1.1	100
46	M	C560 4-Nitrophenol	0.166	0.168	-1.3	100
47	TPC	C565 Dibenzofuran	1.416	1.557	-9.9	100
48	MPC	C570 2,4-Dinitrotoluene	0.459	0.501	-9.2	100
49	TPC	C575 2,6-Dinitrotoluene	0.374	0.398	-6.3	100
50	T	C580 Diethylphthalate	1.417	1.498	-5.7	100
51	TPC	C585 4-Chlorophenvl phenyleth	0.567	0.600	-5.9	100
52	TPC	C590 Fluorene	1.162	1.294	-11.4	100
53	T	C595 4-Nitroaniline	0.472	0.484	-2.6	100
54	S	CS55 2,4,6-Tribromophenol	0.207	0.196	5.3	100
55	I	CI60 d10-Phenanthrene	1.000	1.000	0.0	100
56	T	C610 4,6-Dinitro-2-methylphen	0.221	0.229	-3.8	10[illegible]
57	T	C615 N-Nitrosodiphenylamine	0.505	0.522	-3.4	10[illegible]
58	TPC	C625 4-Bromophenyl phenylethe	0.213	0.218	-2.4	100
59	TPC	C630 Hexachlorobenzene	0.249	0.243	2.4	100
60	MPC	C635 Pentachlorophenol	0.178	0.177	0.8	100
61	TPC	C640 Phenanthrene	1.094	1.183	-8.1	100
62	TPC	C645 Anthracene	1.072	1.183	-10.3	100
63	T	C647 Carbazole	1.118	1.232	-10.2	100
64	T	C650 Di-n-butyl phthalate	1.606	1.775	-10.5	100
65	TPC	C655 Fluoranthene	1.077	1.209	-12.2	100
66	I	CI70 d12-Chrysene	1.000	1.000	0.0	100
67	MPC	C715 Pyrene	1.598	1.562	2.2	100
68	SPC	CS30 Terphenyl-d14	1.071	1.029	3.9	100
69	T	C720 Butylbenzylphthalate	0.969	0.984	-1.5	100
70	T	C725 3,3'-Dichlorobenzidine	0.381	0.410	-7.6	100
71	TPC	C730 Benz[a]anthracene	1.110	1.174	-5.8	100
72	T	C735 bis(2-Ethylhexyl)phthala	1.324	1.395	-5.3	100
73	TPC	C740 Chrysene	1.122	1.189	-5.9	100
74	I	CI75 d12-Perylene	1.000	1.000	0.0	100
75	T	C760 Di-n-octyl phthalate	4.211	3.925	6.8	100
76	TPC	C765 Benzo[b]fluoranthene	1.766	1.737	1.6	100
77	TPC	C770 Benzo[k]fluoranthene	1.728	1.715	0.7	100
78	TPC	C775 Benzo[a]pyrene	1.466	1.500	-2.3	100
79	TPC	C780 Indeno[1,2,3-cd]pyrene	0.891	0.948	-6.4	1[illegible]
80	TPC	C785 Dibenz[ah]anthracene	0.710	0.762	-7.4	1[illegible]
81	TPC	C790 Benzo[ghi]perylene	0.658	0.685	-4.1	10[illegible]

(#) = Out of Range SPCC's out = 0 CCC

Continuing Calibration Report SC3

Method : C:\HPCHEM\1\METHODS\SC3390.M
Title : Semivolatile Analysis - 2 uL Injection
Last Update : Thu Sep 28 17:07:27 1995
Response via : Continuing Calibration

Continuing Calibration File: SC3A6941.D

Min. RRF : 0.010 Min. Rel. Area : 1%
Max. RRF Dev : 100% Max. Rel. Area : 500%

			Compound	AvgRF	CCRF	%Dev	Area%
1	I	CI30	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	146
2	SPC	CS50	2-Fluorophenol	1.305	1.322	-1.3	151
3	SPC	CS45	Phenol-d5	1.651	1.771	-7.3	162
4	MPC	C315	Phenol	1.729	1.581	8.6	136
5	SPC	CS35	2-Chlorophenol-d4	1.404	1.506	-7.3	154
6	TPC	C325	bis(2-Chloroethyl)ether	1.596	1.696	-6.3	151
7	MPC	C330	2-Chlorophenol	1.376	1.452	-5.5	149
8	TPC	C335	1,3-Dichlorobenzene	1.379	1.439	-4.3	145
9	MPC	C340	1,4-Dichlorobenzene	1.409	1.477	-4.9	145
10	SPC	CS40	1,2-Dichlorobenzene-d4	0.862	0.920	-6.7	139
11	TPC	C350	1,2-Dichlorobenzene	1.314	1.413	-7.6	147
12	TPC	C355	2-Methylphenol	1.217	1.332	-9.5	156
13	T	C357	2,2'-oxybis(1-Chloroprop	1.542	1.600	-3.7	173
14	TPC	C365	4-Methylphenol	1.202	1.314	-9.3	147
15	MPC	C370	N-Nitrosodi-n-propylamin	1.140	1.250	-9.7	161
16	TPC	C375	Hexachloroethane	0.643	0.657	-2.1	139
17	I	CI40	d8-Naphthalene	1.000	1.000	0.0	151
18	SPC	CS20	Nitrobenzene-d5	0.425	0.429	-1.0	154
19	TPC	C410	Nitrobenzene	0.425	0.431	-1.5	151
20	TPC	C415	Isophorone	0.875	0.923	-5.5	161
21	TPC	C420	2-Nitrophenol	0.230	0.249	-7.9	158
22	TPC	C425	2,4-Dimethlyphenol	0.328	0.334	-1.7	158
23	TPC	C435	bis(2-Chloroethoxy)metha	0.533	0.560	-5.2	156
24	TPC	C440	2,4-Dichlorophenol	0.301	0.317	-5.5	153
25	MPC	C445	1,2,4-Trichlorobenzene	0.309	0.324	-4.9	153
26	TPC	C450	Naphthalene	0.949	0.996	-5.0	149
27	T	C455	4-Chloroaniline	0.439	0.471	-7.1	158
28	T	C460	Hexachlorobutadiene	0.154	0.161	-4.8	158
29	T	C797	o-Toluic acid	0.214	0.237	-10.7	183
30	T	C795	m-Toluic acid	0.376	0.441	-17.2	183
31	T	C796	p-Toluic acid	0.376	0.417	-10.9	173
32	MPC	C465	4-Chloro-3-methylphenol	0.322	0.358	-11.1	167
33	TPC	C470	2-Methylnaphthalene	0.587	0.660	-12.4	156
34	I	CI50	d10-Acenaphthene	1.000	1.000	0.0	167
35	T	C510	Hexachlorocyclopentadien	0.346	0.314	9.2	156
36	TPC	C515	2,4,6-Trichlorophenol	0.411	0.428	-4.3	170
37	TPC	C520	2,4,5-Trichlorophenol	0.450	0.477	-5.9	170
38	TPC	C525	2-Chloronaphthalene	1.078	1.128	-4.6	162
39	SPC	CS25	2-Fluorobiphenyl	1.179	1.216	-3.1	160
40	T	C530	2-Nitroaniline	0.506	0.518	-2.3	174
41	T	C535	Dimethylphthalate	1.440	1.570	-9.0	174

MW5A GOA RE
MW4B GOA RE

(#) = Out of Range

Continuing Calibration Report SC3

Method : C:\HPCHEM\1\METHODS\SC3390.M
Title : Semivolatile Analysis - 2 uL Injection
Last Update : Thu Sep 28 17:07:27 1995
Response via : Continuing Calibration

Continuing Calibration File: SC3A6941.D

Min. RRF : 0.010 Min. Rel. Area : 1%
Max. RRF Dev : 100% Max. Rel. Area : 500%

			Compound	AvgRF	CCRF	%Dev	Area%
42	TPC	C540	Acenaphthylene	1.837	1.939	-5.6	163
43	T	C545	3-Nitroaniline	0.457	0.485	-6.0	171
44	MPC	C550	Acenaphthene	1.092	1.150	-5.3	163
45	T	C555	2,4-Dinitrophenol	0.293	0.311	-6.1	175
46	M	C560	4-Nitrophenol	0.166	0.178	-7.4	177
47	TPC	C565	Dibenzofuran	1.416	1.565	-10.5	168
48	MPC	C570	2,4-Dinitrotoluene	0.459	0.540	-17.9	180
49	TPC	C575	2,6-Dinitrotoluene	0.374	0.414	-10.8	174
50	T	C580	Diethylphthalate	1.417	1.598	-12.8	178
51	TPC	C585	4-Chlorophenyl phenyleth	0.567	0.642	-13.2	178
52	TPC	C590	Fluorene	1.162	1.281	-10.3	165
53	T	C595	4-Nitroaniline	0.472	0.503	-6.6	173
54	S	CS55	2,4,6-Tribromophenol	0.207	0.251	-21.6	214
55	I	CI60	d10-Phenanthrene	1.000	1.000	0.0	173
56	T	C610	4,6-Dinitro-2-methylphen	0.221	0.233	-5.4	17[illegible]
57	T	C615	N-Nitrosodiphenylamine	0.505	0.539	-6.7	1[illegible]
58	TPC	C625	4-Bromophenyl phenylethe	0.213	0.230	-8.4	18[illegible]
59	TPC	C630	Hexachlorobenzene	0.249	0.279	-11.9	199
60	MPC	C635	Pentachlorophenol	0.178	0.210	-18.0	206
61	TPC	C640	Phenanthrene	1.094	1.154	-5.4	169
62	TPC	C645	Anthracene	1.072	1.157	-7.9	169
63	T	C647	Carbazole	1.118	1.193	-6.7	168
64	T	C650	Di-n-butyl phthalate	1.606	1.759	-9.5	172
65	TPC	C655	Fluoranthene	1.077	1.217	-13.0	174
66	I	CI70	d12-Chrysene	1.000	1.000	0.0	151
67	MPC	C715	Pyrene	1.598	1.750	-9.5	169
68	SPC	CS30	Terphenyl-d14	1.071	1.202	-12.2	176
69	T	C720	Butylbenzylphthalate	0.969	1.053	-8.7	161
70	T	C725	3,3'-Dichlorobenzidine	0.381	0.378	0.9	139
71	TPC	C730	Benz[a]anthracene	1.110	1.156	-4.1	148
72	T	C735	bis(2-Ethylhexyl)phthala	1.324	1.419	-7.1	153
73	TPC	C740	Chrysene	1.122	1.172	-4.5	148
74	I	CI75	d12-Perylene	1.000	1.000	0.0	132
75	T	C760	Di-n-octyl phthalate	4.211	4.296	-2.0	144
76	TPC	C765	Benzo[b]fluoranthene	1.766	1.803	-2.1	137
77	TPC	C770	Benzo[k]fluoranthene	1.728	1.738	-0.6	133
78	TPC	C775	Benzo[a]pyrene	1.466	1.498	-2.2	132
79	TPC	C780	Indeno[1,2,3-cd]pyrene	0.891	0.842	5.5	117
80	TPC	C785	Dibenz[ah]anthracene	0.710	0.808	-13.8	1[illegible]
81	TPC	C790	Benzo[ghi]perylene	0.658	0.734	-11.6	1[illegible]

(#) = Out of Range SPCC's out = 0 CCC's out = 0

U.S. CORPS OF ENGINEERS

(for billing please refer 95-34 and Cal #109)

LOCATOR Code: J2 Report# 951460

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Koppers Co Inc. SF Site, Newport, DE

SAMPLERS: (Signature) OTHERS

ENV # STA. NO.	DATE 1995	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TCL VOC, VSETA CLP	TCL/TAL VOC, VSETA CLP	POSTPLB CLP	PCB/PEST CLP	PH/ALKALINITY	TOTAL TAL METALS VSETA CLP	DISSOLVED TAL METALS VSETA CLP	EA ACCESSION#
32684	9-11	1520			95-KNDMW17A-TB	2	2							9513301
32685	9-11	1520			95-KNDMW17A-QA	14	3	4	2	2	1	1	1	9513302
32686	9-11	1650			95-KNDMW17B-QA	14	3	4	2	2	1	1	1	9513303
32687	9-12	1000			95-KNDMW15A-QA	10	3	4			1	1	1	9513304
32702	9-13	1042			95-KNDMW4B-TB	2	2							9513305
32703	9-13	1042			95-KNDMW4B-QA	10	3	4			1	1	1	9513306
32704	9-14	1445			95-KNDMW10A-TB	2	2							9513307
32705	9-14	1445			95-KNDMW10A-QA	10	3	4			1	1	1	9513308

☆ USE ENV# (LEFT COLUMN) FOR FIELD ID #

REMARKS: EA STD 4D + USACE DATA SUMM. DUE 10/8/95 CAMEJOD

L7843

NOTE: EXTRA BLA SAMPLE PROVIDED IN ORDER TO ACHIEVE 1-2 PAB; IT IS EXPECTED THAT THIS WOULD IS INCLUDED PRICE (SEE ATTACHED SHEET). IF NOT, PLEASE CONTACT D. CUBIANDER (508-928-4238)

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	9-15-95 1500	UPS NEXT DAY AIR 0280 9168 745 0698-9132 55E 0698 9133 000			
Relinquished by: (Signature)	Date / Time	Received by: (Signature) 0698 037	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) J. McCloud	Date / Time 9-18-95 1000	Remarks: (1) Shipped to E31 (2) Shipped in (4) coolers (3) Pices arranged by grate.	

Distribution: Original Accompanies Shipment; Copy 1 to Sample Custodian; Copy 2 to Coordinator Field Files

AR310192

2097

EA Laboratories
ANALYTICAL NARRATIVE

Client: **USACE**
Site:**Koppers Co SF Site, Newport DE**
Project number:**70001.01**

Laboratory Project Manager: **John O'Donnell**
EA Laboratories Report: **951460**
Date: **16 October 1995**

This report contains the results of the analysis of eight water samples collected on 11 through 14 September 1995 in support of the referenced project.

SAMPLE RECEIPT

The samples arrived by United Postal Service at EA Laboratories on 18 September 1995. Upon receipt, the samples were inspected and compared with the chain-of-custody record. The samples were then logged into the laboratory computer system with assigned laboratory accession numbers and released for analysis.

Client Sample Designation	EA Lab Number
32684 95-KNDMW7A-7B	9513301
32685 95-KNDMW7A-QA	9513302
32686 95-KNDMW7B-QA	9513303
32687 95-KNDMW5A-QA	9513304
32702 95-KNDMW4B-7B	9513305
32703 95-KNDMW4B-QA	9513306
32704 95-KNDMW10A-7B	9513307
32705 95-KNDMW10A-QA	9513308

Following this narrative section are table of analytical methods used (Table 1), glossaries of data qualifiers used in this report (Tables 2 and 3) and the chain-of-custody record. Analytical results and quality control information are summarized in the appended data package which has been formatted to be consistent with the deliverable requirements of this project.

QUALITY CONTROL

The following sections are ordered as the data appears in this report. They contain observations made during sample analysis, summarize the results of quality control measurements, and address the impact on data usability based upon project Data Quality Objectives. For each fractional analysis the narrative includes:

- Sample chronology: This section summarizes the sample history by fraction including the sample preparation method and date, analytical method, and analysis date. Anything unusual about the samples, digestates, or extracts is identified. Holding time compliance is evaluated in this section.

EA Laboratories
ANALYTICAL NARRATIVE

Client: **USACE**
Site:**Koppers Co SF Site, Newport DE**
Project number:**70001.01**

Laboratory Project Manager: **John O'Donnell**
EA Laboratories Report: **951460**
Date: **16 October 1995**

- Laboratory method performance: All quality control criteria for method performance must be met for all target analytes for data to be reported. These criteria generally apply to instrument tune, calibration, method blanks, and Laboratory Control Samples (LCS). In some instances where method criteria fail, useable data can be obtained and are reported with client approval. The narrative will then include a thorough discussion of the impact on data quality.

- Sample performance: Quality control field samples are analyzed to determine any measurement bias due to the sample matrix based on evaluation of matrix spikes (MS), matrix spike duplicates (MSD), and laboratory duplicates (D). If acceptance criteria are not met, matrix interferences are confirmed either by reanalysis or by inspection of the LCS results to verify that laboratory method performance is in control. Data are reported with appropriate qualifiers or discussion.

VOLATILES BY GC/MS - WATER (EA9513301 - EA9513308)

Sample Chronology: Eight samples were analyzed on 26 September 1995 for the Target Compound List plus library searches by USEPA CLP OLM01.9. All specified holding times were met.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: The matrix spike and matrix spike duplicate analyzed on sample 32685, had the recoveries for toluene (137% and 131% respectively) above the method QC limit of 125%. Additionally, the matrix spike the had recoveries for trichloroethene (124%) and chlorobenzene (135%) above the method QC limits of 120% and 130%, respectively. These recoveries may indicate a positive bias for certain target compounds. However, because no target analytes were detected in these samples, data usability should not be affected.

Sample 32685 had the internal standard area for 1,4-difluorobenzene below the method QC limit of -50% of the daily calibration standard. This internal standard area was not so low as to impact the laboratory's ability to detect target analytes at the required reporting limits and because no target analytes were quantitated using this low internal standard, data usability should not be impacted.

All other quality control criteria were met for the reported samples.

EA Laboratories
ANALYTICAL NARRATIVE

Client: **USACE**
Site:**Koppers Co SF Site, Newport DE**
Project number:**70001.01**

Laboratory Project Manager: **John O'Donnell**
EA Laboratories Report: **951460**
Date: **16 October 1995**

GC/MS SEMIVOLATILES - WATER (EA9513302 - EA9513304, EA9513306, EA9513308)

Sample Chronology: Five samples were extracted by USEPA Contract Laboratory Program Statement of Work OLM01.8 (CLP 3/90) on 23 September 1995. The extracts and associated quality control samples were analyzed by CLP 3/90 on 28 September and 29 September 1995 for the method analyte list plus library searches for up to twenty tentatively identified compounds. The samples were extracted within the method specific holding times of 5 days from VTSR; however, the extraction was performed outside of the technical holding time of 7 days from the date of collection by 2-5 days.

Laboratory Method Performance: The laboratory control sample (LCS) had a spike recovery for phenol (90%) above the upper laboratory quality control limit of 85%. This recovery is not indicative of a bias. This LCS also had a spike recovery for 1,4-dichlorobenzene (32%) below the lower laboratory quality control limit of 44%. This recovery may indicate a slight negative bias for this analyte. However, because this compound was not detected in any of the reported samples and because recoveries for this analyte in the matrix spike and matrix spike duplicate were within method quality control limits, data usability should not be affected.

All other laboratory method performance criteria were met for the reported samples.

Sample Performance: Matrix spike/matrix spike duplicate recoveries for 4-nitrophenol (108% / 98%) were above the method quality control limit of 80%. Additionally the matrix spike recovery for 2,4-dinitrotoluene (101%) was above the upper method quality control limit of 96%. These recoveries are not indicative of a bias and data usability should not be affected.

(32687)
Field sample 95-KNDMW5A-QA had an internal standard area for perylene-d12 below the lower method acceptance limit and field sample 95-KNDMW4B-QA (32701) had internal standard areas for chrysene-d12 and perylene-d12 below the lower method quality control limit of -50% of the daily calibration standard. Per the method, these samples were reanalyzed. The reanalysis of 95-KNDMW5A-QA had internal standard areas for chrysene-d12 and perylene-d12 below the lower method quality control limit and the reanalysis of 95-KNDMW4B-QA had an internal standard area for perylene-d12 below the lower method acceptance limit. These internal standard areas were not so low as to impact the laboratory's ability to detect target analytes at the required reporting limits and no target analytes which may have been quantitated using these low internal standards were detected in these samples; therefore, data usability should not be impacted.

All other quality control criteria were met for the reported samples.

CHLORINATED PESTICIDES/PCBs - WATER (EA9513302, EA9513303)

Sample Chronology: Two samples were extracted following the procedures outlined in the CLP Statement of Work OLM01.9 on 23 September 1995. The sample extracts were analyzed for the Target Compound List (TCL) Pesticides/PCBs on 01 October 1995 following the procedures outlined in the CLP Statement of Work OLM01.9. These samples were extracted within the method specified holding time (5 days from VTSR) but were extracted outside the technical holding time (7 days from collection) by 5 days.

No matrix spike or matrix spike duplicate were extracted with this extraction batch due to insufficient sample volume. However, a duplicate laboratory control sample was extracted and analyzed with these samples.

Laboratory Method Performance: The recoveries of two matrix spike compounds, heptachlor (9%) and aldrin (20%), in the laboratory control sample were below the QC limits 18% and 36% respectively. The recoveries of all spiked compounds in the laboratory control sample duplicate were within QC limits. These recoveries may indicate a negative bias. No target analytes were detected in these samples.

All other laboratory method performance criteria were met for the reported samples.

Sample Performance: The recoveries of the surrogate tetrachloro-m-xylene (TCX) in all extracts were below the lower advisory QC limit of 60% with recoveries ranging from 42% to 56%. These low recoveries may indicate a slight negative bias.

All other quality control criteria were met for the reported sample.

METALS - WATER (EA9513302-9513304,EA9513306,EA9513308)

Sample Chronology: Five samples were prepared on 29 September - 9 October 1995 and analyzed for total and dissolved TAL metals (EPA CLP methods 200.7/206.2/239.2/270.2/279.2) on 29

EA Laboratories
ANALYTICAL NARRATIVE

Client: **USACE**
Site:**Koppers Co SF Site, Newport DE**
Project number:**70001.01**

Laboratory Project Manager: **John O'Donnell**
EA Laboratories Report: **951460**
Date: **16 October 1995**

September - 10 October 1995.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All quality control criteria were met for the reported samples.

GENERAL CHEMISTRY- WATER (EA9513302-EA9513304,EA9513306,EA9513308)

Sample Chronology: Five samples were analyzed for alkalinity (USEPA Method 310.1) on 22 September 1995. All holding times were met for the reported samples.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: Insufficient sample volume was available to perform matrix spike or duplicate analyses. All quality control criteria were met for the reported samples.

CERTIFICATION OF RESULTS

The Laboratory certifies that this report meets the project requirements for analytical data as stated in the Analytical Task Order (ATO) and the chain-of-custody. In addition, the Laboratory certifies that the data as reported meet the Data Quality Objectives for precision, accuracy, and completeness specified for this project or as stated in EA Laboratories Quality Assurance program for other than the conditions detailed above. Release of the data contained in this report has been authorized by the appropriate Laboratory Managers as verified by the following signatures.

16 October 1995
Phyllis A. Christopher, Inorganics Division Manager

16 October 1995
Walter E. Miller, Organics Division Manager

TABLE 1. ANALYTICAL METHODS

Parameter	Method	Method Number	Matrix	Reference
SAMPLE PREPARATION				
Organics Extraction	Continuous Extraction	CLP	W	(3)
Total Metals Digestion (FAA/ICP)	Nitric Acid - Hydrochloric Acid	CLP	W	(2)
Total Metals Digestion (GFAA)	Nitric Acid - Hydrogen Peroxide	CLP	W	(2)
ORGANICS				
Acid Extractable Organic Compounds	Gas Chromatography/Mass Spectrometry	CLP	W	(3)
Base-Neutral Extractable Organic Compounds	Gas Chromatography/Mass Spectrometry	CLP	W	(3)
Halogenated Hydrocarbon Pesticides	Gas Chromatography - ECD	CLP	W	(3)
Polychlorinated Biphenyls	Gas Chromatography - ECD	CLP	W	(3)
Volatile Organic Compounds	Gas Chromatography/Mass Spectrometry	CLP	W	(3)
METALS				
Aluminum	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Antimony	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Arsenic	Atomic Absorption - Furnace	206.2 CLP-M	W	(2)
Barium	Atomic Emission - ICP	200.7 CLP-M	W	(2)

AR310198

TABLE 1. ANALYTICAL METHODS

Parameter	Method	Method Number	Matrix	Reference
Beryllium	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Cadmium	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Calcium	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Chromium, Total	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Cobalt	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Copper	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Iron	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Lead	Atomic Absorption - Furnace	239.2 CLP-M	W	(2)
Magnesium	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Manganese	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Mercury	Atomic Absorption - Cold Vapor	245.1 CLP-M	W	(2)
Nickel	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Potassium	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Selenium	Atomic Absorption - Furnace	270.2 CLP-M	W	(2)
Silver	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Sodium	Atomic Emission - ICP	200.7 CLP-M	W	(2)

AR310199

TABLE 1. ANALYTICAL METHODS

Parameter	Method	Method Number	Matrix	Reference
Thallium	Atomic Absorption - Furnace	279.2 CLP-M	W	(2)
Vanadium	Atomic Emission - ICP	200.7 CLP-M	W	(2)
Zinc	Atomic Emission - ICP	200.7 CLP-M	W	(2)
INORGANIC NONMETALS				
Alkalinity	Titrimetric (pH 4.5)	310.1	W	(1)

Matrix codes:

W - Estuarine water, ground water, leachates, ocean water, surface water, and wastewater

References:

1. United States Environmental Protection Agency. 1979. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020. U.S. EPA, Cincinnati, Ohio.

2. United States Environmental Protection Agency. March 1990. U.S. EPA Contract Laboratory Program. Statement of Work for Inorganics Analysis. U.S. EPA, Washington, D.C.

3. United States Environmental Protection Agency. August 1991. U.S. EPA Contract Laboratory Program. Statement of Work for Organics Analysis. OLMO1.8. U.S. EPA, Washington, D.C.

AR310200

LCS RECOVERY REPORT

LAB NAME: EA LABORATORIES

DATA FILE: VH8A6682

INSTRUMENT:

DATE: 09/26/95

SAMPLE ID: V3303

MATRIX: WATER

ANALYST: CHS

SPIKE COMPOUND	SPIKE ADDED	SAMPLE CONC.	%REC.
1,1-Dichloroethene	50.00	51.75	104
Benzene	50.00	54.94	110
Trichloroethene	50.00	57.09	114
Toluene	50.00	61.53	123
Chlorobenzene	50.00	60.63	121

CURRENT VOLATILE LCS LIMITS

	WATER	SOIL
1,1-Dichloroethene	75 - 123	74 - 124
Benzene	75 - 122	81 - 118
Trichloroethene	72 - 126	76 - 117
Toluene	77 - 127	75 - 127
Chlorobenzene	76 - 128	73 - 128

If LCS is outside limits, a non-conformance form is required.

The LCS has been checked and is within/outside current limits.

Paul H Simmons 10/10/95

ANALYST DATE

N/A

Non-conformance form #

AR310201

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No: _____ SDG No.:

Lab File ID (Standard): VH8A6680 Date Analyzed: 09/26/95

Instrument ID: VH8 Time Analyzed: 05:14

GC Column: RTX502.2 ID: .53 (mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA #	RT #	IS2(DBF) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	1537159	11.48	5057637	13.86	4012340	20.49
	UPPER LIMIT	3074318	11.98	10115274	14.36	8024680	20.99
	LOWER LIMIT	768580	10.98	2528819	13.36	2006170	19.99
	EPA SAMPLE NO.						
1	VBLK1	1477903	11.50	4633463	13.88	3712154	20.49
2	LCS#V3303	1400174	11.49	4618141	13.87	3736834	20.49
3	32684	1151109	11.49	3639333	13.87	3005940	20.48
4	32702	948426	11.50	2910412	13.87	2449342	20.48
5	32704	1124166	11.49	3658370	13.87	3091268	20.48
6	32685	803577	11.49	2484924*	13.86	2078299	20.48
7	32685MS	1089328	11.49	3430461	13.86	2808602	20.48
8	32685MSD	1043663	11.48	3310042	13.87	2711602	20.49
9	32686	1008197	11.48	3203717	13.87	2695510	20.48
10	32687	1103641	11.50	3415145	13.88	2828817	20.49
11	32703	1079032	11.49	3366986	13.87	2782028	20.49
12	32705	1103157	11.51	3486984	13.88	2911034	20.48

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = -0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No.: SAS No.: _____ SDG No.:

Matrix Spike - EPA Sample No.: 32685

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0.00	54.96	110	61-145
Trichloroethene	50	0.00	61.94	124*	71-120
Benzene	50	0.00	62.74	125	76-127
Toluene	50	0.00	68.66	137*	76-125
Chlorobenzene	50	0.00	67.71	135*	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
1,1-Dichloroethene	50	52.88	106	4	14	61-145
Trichloroethene	50	59.34	119	4	14	71-120
Benzene	50	61.03	122	3	11	76-127
Toluene	50	65.37	131*	5	13	76-
Chlorobenzene	50	64.67	129	5	13	75-

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 4 out of 10 outside limits

Comments: _____

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No.: SAS No.: _____ SDG No.:

Matrix Spike - EPA Sample No.: MW10AQA

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	75	0.00	72.43	97	12-110
2-Chlorophenol	75	0.00	59.02	79	27-123
1,4-Dichlorobenzene	50	0.00	30.97	62	36- 97
N-Nitroso-Di-n-Prop.(1)	50	0.00	46.06	92	41-116
1,2,4-Trichlorobenzene	50	0.00	32.87	66	39- 98
4-Chloro-3-Methylphenol	75	0.00	61.11	81	23- 97
Acenaphthene	50	14.25	47.40	66	46-118
4-Nitrophenol	75	0.00	81.16	108*	10- 80
2,4-Dinitrotoluene	50	0.00	50.70	101*	24- 96
Pentachlorophenol	75	0.00	59.38	79	9-103
Pyrene	50	7.59	47.28	79	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	69.14	92	5	42	12-110
2-Chlorophenol	75	56.42	75	5	40	27-123
1,4-Dichlorobenzene	50	30.42	61	2	28	36- 97
N-Nitroso-Di-n-Prop.(1)	50	43.17	86	6	38	41-116
1,2,4-Trichlorobenzene	50	33.10	66	1	28	39- 98
4-Chloro-3-Methylphenol	75	58.91	79	4	42	23- 97
Acenaphthene	50	47.76	67	1	31	46-118
4-Nitrophenol	75	73.83	98*	9	50	10- 80
2,4-Dinitrotoluene	50	47.23	94	7	38	24- 96
Pentachlorophenol	75	56.97	76	4	50	9-103
Pyrene	50	53.28	91	12	31	26-127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 11 outside limits
Spike Recovery: 3 out of 22 outside limits

Comments: _____

LCS RECOVERY REPORT

LAB NAME: EA LABORATORIES

DATA FILE: SC3A6943

INSTRUMENT:

DATE: 09/28/95

SAMPLE ID: SLCS3302

MATRIX: WATER

ANALYST: RHS

SPIKE COMPOUND	SPIKE ADDED	SAMPLE CONC.	%REC.
4-Chloro-3-methylphenol	75.00	55.03	73
2-Chlorophenol	75.00	53.28	71
4-Nitrophenol	75.00	68.73	92
Pentachlorophenol	75.00	55.86	74
Phenol	75.00	67.13	90
Acenaphthene	50.00	33.27	67
1,4-Dichlorobenzene	50.00	15.84	32
2,4-Dinitrotoluene	50.00	47.57	95
N-Nitroso-di-n-propylamine	50.00	45.27	91
Pyrene	50.00	40.01	80
1,2,4-Trichlorobenzene	50.00	18.35	37

CURRENT SEMIVOLATILE LCS LIMITS

	WATER	SOIL
4-Chloro-3-methylphenol	50 - 88	40 - 103
2-Chlorophenol	50 - 84	42 - 102
4-Nitrophenol	59 - 110	33 - 130
Pentachlorophenol	55 - 103	27 - 130
Phenol	41 - 85	33 - 105
Acenaphthene	48 - 92	52 - 106
1,4-Dichlorobenzene	44 - 84	51 - 106
2,4-Dinitrotoluene	65 - 105	56 - 114
N-Nitroso-di-n-propylamine	57 - 96	50 - 111
Pyrene	53 - 113	48 - 111
1,2,4-Trichlorobenzene	34 - 85	49 - 108

If LCS is outside limits, a non-conformance form is required.

The LCS has been checked and is within/outside current limits.

[signature] 10/2/95 3-1147

ANALYST DATE Non-conformance form #

AR310205

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No: _____ SDG No.:

Lab File ID (Standard): SC3A6941 Date Analyzed: 09/28/95

Instrument ID: SC3 Time Analyzed: 16:25

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	2680200	15.56	1852836	20.90	964657	23.55
	UPPER LIMIT	5360400	16.06	3705672	21.40	1929314	24.05
	LOWER LIMIT	1340100	15.06	926418	20.40	482329	23.05
	EPA SAMPLE NO.						
1	SBLK3302	2792395	15.55	2173781	20.89	1596895	23.55
2	SLCS3302	2603536	15.56	1842396	20.89	1336203	23.55
3	MW7AQA	2663301	15.56	1895815	20.89	739738	23.55
4	MW7BQA	2747953	15.56	2039887	20.89	1378227	23.55
5	MW5AQA	2493250	15.56	1031486	20.89	389464*	23.55
6	MW4BQA	2063440	15.55	886606*	20.89	343954*	23.55
7	MW10AQA	2169805	15.55	1435394	20.89	843955	23.55
8	MW10AQAMS	2248289	15.56	1520064	20.89	908466	23.55
9	MW10AQAMSD	2216226	15.56	1162836	20.89	609044	23.54

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = -0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT
Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No: _____ SDG No.:

Lab File ID (Standard): SC3A6961 Date Analyzed: 09/29/95

Instrument ID: SC3 Time Analyzed: 14:10

		IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
	12 HOUR STD	2584947	15.46	1832192	20.80	985988	23.45
	UPPER LIMIT	5169894	15.96	3664384	21.30	1971976	23.95
	LOWER LIMIT	1292474	14.96	916096	20.30	492994	22.95
	EPA SAMPLE NO.						
1	MW5AQARE	2120262	15.46	833095*	20.78	365035*	23.44
2	MW4BQARE	2286927	15.46	1006556	20.79	412324*	23.44

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = -0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT
Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: EA LABS Contract: _____

Lab Code: EAENG Case No.: _____ SAS No. _____ SDG No.:

GC Column(1): RTX-5 ID:0.53(mm) GC Column(2): RTX-35 ID:0.53 (mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
1	PBLK06	56*	53*	91	95			2
2	PLCS06A	44*	42*	84	87			2
3	PLCS06B	52*	50*	98	103			2
4	95-KNDMW7A-Q	47*	41*	93	99			2
5	95-KNDMW7B-Q	42*	41*	90	95			2

	ADVISORY QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogates diluted out

LCS RECOVERY REPORT

LAB NAME: EA LABORATORIES

DATA FILE: 643FADSM

INSTRUMENT: SM3

DATE: 10/01/95

SAMPLE ID: PLCS3302

MATRIX: WATER

ANALYST: TMP

SPIKE I.D.: S5659

SPIKE COMPOUND	SPIKE ADDED	SAMPLE CONC.	%REC.
Aldrin	0.500	0.044	9.0 *
gamma-BHC	0.500	0.47	95
Dieldrin	1.000	0.94	94
4,4'-DDT	1.000	0.87	87
Endrin	1.000	1.0	102
Heptachlor	0.500	0.10	20 *

CURRENT PESTICIDE LIMITS

	WATER	SOIL
Aldrin	18 - 129	21 - 142
gamma-BHC	32 - 168	0 - 177
Dieldrin	55 - 120	31 - 143
4,4'-DDT	20 - 146	0 - 189
Endrin	56 - 126	26 - 160
Heptachlor	36 - 118	16 - 150

If LCS is outside limits, a non-conformance form is required.

The LCS has been checked and is within/outside current limits.

TMP — ANALYST

10/03/95 — DATE

3-1253 — Non-conformance form #

AR310209

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32685MS

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513302MS

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6692

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene		
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
540-59-0	1,2 Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene		
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene		
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene		
108-90-7	Chlorobenzene		
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

AR310210

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32685MS

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513302MS

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6692

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

AR310211

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

32685MSD

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513302MSD

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6693

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene		
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
540-59-0	1,2 Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene		
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene		
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene		
108-90-7	Chlorobenzene		
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

32685MSD

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513302MSD

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6693

Level: (low/med) LOW Date Received: 09/18/95

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

LCS#V3303

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: V3303

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6682

Level: (low/med) LOW Date Received: / /

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	52	
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2 Dichloroethene	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	57	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	55	
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	62	
108-90-7	Chlorobenzene	61	
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

AR310214

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

LCS#V3303

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: V3303

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6682

Level: (low/med) LOW Date Received: / /

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW10AQAMS/32705

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308MS

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6949

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol		
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol		
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene		
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine		
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene		
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol		
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene		
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol		
132-64-9	Dibenzofuran	14	

AR310216

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW10AQAMS/327

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308MS

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6949

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
121-14-2	2,4-Dinitrotoluene		
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	13	
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol		
85-01-8	Phenanthrene	16	
120-12-7	Anthracene	3	J
86-74-8	Carbazole	4	J
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	13	
129-00-0	Pyrene		
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

MW10AQAMS/32705

b Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308MS

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6949

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

Number TICS found: 0

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW10AQAMSD/32

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308MSD

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6950

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
108-95-2	Phenol		
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol		
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene		
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine		
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene		
91-20-3	Naphthalene	2	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol		
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene		
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol		
132-64-9	Dibenzofuran	19	

AR310219

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

MW10AQAMSD/32705

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308MSD

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6950

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
121-14-2	2,4-Dinitrotoluene		
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	18	
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol		
85-01-8	Phenanthrene	32	
120-12-7	Anthracene	5	J
86-74-8	Carbazole	5	J
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	13	
129-00-0	Pyrene		
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

MW10AQAMSD

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: 9513308MSD

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6950

Level: (low/med) LOW Date Received: 9/18/95

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

Number TICS found: 0

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AR310221

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

SLCS3302

b Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: SLCS3302

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6943

Level: (low/med) LOW Date Received:

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	67	
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	53	
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	16	
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	45	
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	18	
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	55	
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	33	
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	69	
132-64-9	Dibenzofuran	10	U

AR310222

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

SLCS3302

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: SLCS3302

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6943

Level: (low/med) LOW Date Received:

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
121-14-2	2,4-Dinitrotoluene	48	
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	56	
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	40	
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

SLCS3302

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: SLCS3302

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6943

Level: (low/med) LOW Date Received:

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICS found: 0

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1D

PESTICIDE COMPOUNDS ORGANICS ANALYSIS SHEET

EPA SAMPLE NO.

PLCS06A

Lab Name: EA LABS Contract: _____

Lab Code: EAENG Case No: _____ SAS No: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: PLCS3302A

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 643FADSM

% Moisture: _____ decanted: (Y/N): N Date Received: / /

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 09/23/95

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/01/95

Injection Volume: 1.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC	0.47	
76-44-8	Heptachlor	0.10	
309-00-2	Aldrin	0.044	J
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.94	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	1.0	
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.87	
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-36-3	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	2.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

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1D

PESTICIDE COMPOUNDS ORGANICS ANALYSIS SHEET

EPA SAMPLE NO.

PLCS06B

Lab Name: EA LABS Contract: _____

Lab Code: EAENG Case No: _____ SAS No: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: PLCS3302B

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 644FADSM

% Moisture: _____ decanted: (Y/N): N Date Received: / /

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 09/23/95

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/01/95

Injection Volume: 1.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC	0.49	
76-44-8	Heptachlor	0.32	
309-00-2	Aldrin	0.22	
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	1.0	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	1.1	
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	1.0	
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-36-3	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	2.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

VBLK1

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: VH8A6681

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6681

Level: (low/med) LOW Date Received: / /

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2 Dichloroethene	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

VBLK1

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: VH8A6681

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8A6681

Level: (low/med) LOW Date Received: / /

% Moisture: not dec. _____ Date Analyzed: 09/26/95

GC Column: RTX502.2 ID: .53 (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

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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

SBLK3302

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: SBLK3302

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6942

Level: (low/med) LOW Date Received:

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N)N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethlyphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO:

SBLK3302

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: SBLK3302

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6942

Level: (low/med) LOW Date Received:

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butyl phthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benz[a]anthracene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octyl phthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[ah]anthracene	10	U
191-24-2	Benzo[ghi]perylene	10	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO:

SBLK3302

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No.: _____ SDG No:

Matrix: (soil/water) WATER Lab Sample ID: SBLK3302

Sample wt/vol: 1000 (g/mL) ML Lab File ID: SC3A6942

Level: (low/med) LOW Date Received:

% Moisture: _____ decanted: (Y/N) N Date Extracted: 09/23/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 09/28/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

Number TICS found: 2

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.111-76-2----	Ethanol, 2-butoxy-	5.13	3	JN
2.111-77-3----	Ethanol, 2-(2-methoxyethoxy)	5.56	3	JN

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1D

EPA SAMPLE NO.

PESTICIDE COMPOUNDS ORGANICS ANALYSIS SHEET

PBLK06

Lab Name: EA LABS Contract:

Lab Code: EAENG Case No: SAS No: SDG No:

Matrix: (soil/water) WATER Lab Sample ID: PBLK3302

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: 642FADSM

% Moisture: decanted: (Y/N): N Date Received: / /

Extraction: (SepF/Cont/Sonc) CONT Date Extracted: 09/23/95

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/01/95

Injection Volume: 1.0 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) ug/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-36-3	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor 1016	1.0	U
11104-28-2	Aroclor 1221	2.0	U
11141-16-5	Aroclor 1232	1.0	U
53469-21-9	Aroclor 1242	1.0	U
12672-29-6	Aroclor 1248	1.0	U
11097-69-1	Aroclor 1254	1.0	U
11096-82-5	Aroclor 1260	1.0	U

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DEC 0 6 1995

Lockheed

Environmental Services Assistance Teams
Region 3
1419 Forest Drive, Suite 104
Annapolis, Maryland 21403

Phone: (410) 268-7705
Fax: (410) 268-8472

DATE: NOVEMBER 29, 1995

SUBJECT: INORGANIC DATA VALIDATION (IM2 LEVEL)
OF EA LABORATORY NON-CLP CASE 951460
SITE: KOPPERS COUNTY FACTORY PLANT

FROM: HARI PRASAD HP — DATA REVIEWER
MAHBOOBEH MECANIC MM — SENIOR OVERSIGHT CHEMIST

TO: CYNTHIA E. CAPORALE
ESAT REGIONAL PROJECT OFFICER

THROUGH: DALE S. BOSHART DSB
ESAT TEAM MANAGER

OVERVIEW

Case 951460 consisted of five (5) unfiltered aqueous samples and their field filtered aliquots analyzed for metals by EA Laboratories (EAENG) as a non-Contract Laboratory Program (non-CLP) project. The metals analyses for these samples were performed according to Methods for Chemical Analysis of Water and Wastes (MCAWW) 200.7, 206.2, 239.2, 270.2 and 279.2. Also, the alkalinity was determined for the unfiltered samples in this case according to MCAWW 310.1.

SUMMARY

All samples were successfully analyzed for the metals and alkalinity according to the specified methods. Areas of concern with respect to data usability are listed below, according to the seriousness of the problem.

MINOR PROBLEMS

- The preparation blank had reported results greater than the Instrument Detection Limits (IDLs) for the iron (Fe), nickel (Ni) and zinc (Zn) analytes. The reported results for these analytes which are less than five times (< 5x) the blank concentrations may be biased high and have been qualified "B".

- The CRDL standard recoveries were high for the chromium (Cr), cobalt (Co), copper (Cu) and Zn analytes. The reported results for these analytes which are less than 2x CRDL may be biased high and have been qualified "K", unless superseded by the "B" qualifier.

- The analytical spike recoveries were low for the lead (Pb), selenium (Se) and thallium (Tl) analytes in several samples. The reported results and quantitation limits for these analytes in the affected samples may be biased low and have been qualified "L" and "UL", respectively.

NOTES

- In the data package for the metals, the laboratory replaced the prefix "95" in Sample Numbers with the letters "T" (total) and "D" (dissolved). Also, in the data package for the metals, the Sample Delivery Group (SDG) Number has been reported as T13302 instead of 9513302.

- The laboratory digested both the unfiltered and field filtered samples in one batch, along with one unfiltered preparation blank. The result for this blank was used for qualifying the field filtered samples also.

- The laboratory performed the matrix spike, laboratory duplicate and ICP serial dilution analyses only for the unfiltered samples. No action was taken.

- Due to insufficient sample volume, the laboratory did not perform matrix spike/matrix spike duplicate analyses during the determination of alkalinity. The other QC results for this parameter were within the control limits. See the case narrative and raw data in Appendix B.

- The Fe analyte values for samples T13308 and T13308L were reported from the diluted analyses. The laboratory incorrectly marked all analytes from the initial and diluted analyses on Form 14 with an "X". A correction has been made on the Form 14 during the data validation. See raw data in Appendix B.

- On the Form Is for several samples, the quantitation limits for the Pb analyte were flagged with a "W" due to high analytical spike recovery. Since high recovery does not affect quantitation limit, no action was taken.

- On the Form I for sample D13308, the Tl analyte was flagged with a "W" to denote low analytical spike recovery (84.8%). Since this value is within the QC limit (85%) when rounded, no action was taken.

- The concentration of the analytes in the filtered samples were less than or equal to those in the corresponding unfiltered samples.

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All data for this non-CLP case (Project 951460) were reviewed in accordance with the National Functional Guidelines for Evaluating Inorganic Analyses with modification for use within Region III. The text of the report addresses only those problems affecting usability.

INFORMATION REGARDING REPORT CONTENT

Table 1A is a summary of qualifiers added to the results from the laboratory during the validation.

ATTACHMENTS

TABLE 1A SUMMARY OF QUALIFIERS ON DATA SUMMARY AFTER DATA VALIDATION

TABLE 1B CODES USED IN COMMENTS COLUMN

TABLE 2 GLOSSARY OF DATA QUALIFIER CODES

TABLE 3 DATA SUMMARY FORMS

APPENDIX A RESULTS REPORTED BY LABORATORY FORM Is

APPENDIX B SUPPORT DOCUMENTATION

DCN:HP511A07.KOP

TABLE 1A

SUMMARY OF QUALIFIERS ON DATA SUMMARY FORM AFTER DATA VALIDATION

ANALYTE	SAMPLES AFFECTED	POSITIVE VALUES	NON-DETECTED VALUES	BIAS	COMMENTS*
Cr	T13304	K		High	CRH (114%)
Co	T13308	K		High	CRH (111%,114%)
Cu	T13308	K		High	CRH (112%,115%)
Fe	D13303	B		High	PB (18.7 µg/L)
Pb	T13304	L		Low	ANL (80.6%)
Ni	T13304,T13308, D13308	B		High	PB (23.3 µg/L)
Se	All samples except D13304		UL	Low	ANL (59.0%-84.0%)
Tl	T13302,D13302, D13303,T13308	L	UL	Low	ANL (72.3%-83.6%)
Zn	All samples except T13308	B		High	PB (11.2 µg/L) CRH (117%,116%)
	T13308	B		High	PB (11.2 µg/L)

* See explanation of Comments on Table 1B.

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TABLE 1B

CODES USED IN COMMENTS COLUMN

CRH = The CRDL standard recovery was high (> 110%) [% recovery is in parenthesis]. The reported results which are < 2x CRDL may be biased high.

PB = The preparation blank had a reported result > IDL (blank result is in parenthesis). The results which are < 5x the blank concentration may be biased high.

ANL = The analytical spike recovery was low (< 85%) [% recovery is in parenthesis]. The reported results and quantitation limits may be biased low.

TABLE 2

GLOSSARY OF DATA QUALIFIER CODES (INORGANIC)

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 = Unusable 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.

DEC 0 5

Tab

DATA SUMMARY FORM: INORGANICS

DETERMINATION OF METALS IN UNFILTERED AND FIELD FILTERED AQUEOUS SAMPLES

(ug/L)

Site: Koppers County Factory Plant

Case 951460 SDG T13302

Sampling Date(s): 9/11-14/95

CRDL	ANALYTE																				
	+Sample No.	T13302		D13302		T13303		D13303		T13304		D13304		T13306		D13306		T13308		D13308	
	Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
	Location	95-KNDMW7A-GA Unfiltered of D13302		95-KNDMW7A-GA Filtered of T13302		95-KNDMW7B-GA Unfiltered of D13303		95-KNDMW7B-GA Filtered of T13303		95-KNDMW5A-GA Unfiltered of D13304		95-KNDMW5A-GA Filtered of T13304		95-KNDMW4B-GA Unfiltered of D13306		95-KNDMW4B-GA Filtered of T13306		95-KNDMW10A-GA Unfiltered of D13308		95-KNDMW10A-GA Filtered of T13308	
200	Aluminum	553				[119]				2460		[81.2]						9910		[76.0]	
60	Antimony	[1.2]		[1.2]				[3.2]		[1.1]		[5.7]				[2.4]				[2.3]	
10	*Arsenic																				
200	Barium	[32.2]		[27.0]		[22.5]		[21.1]		[64.8]		[50.5]		[29.6]		[27.8]		[107]		[47.8]	
5	Beryllium																				
5	*Cadmium																				
5000	Calcium	9880		10000		8470		7790		10800		10300		[4300]		[4270]		10700		11200	
10	*Chromium									[9.3]	K							55.5			
50	Cobalt																	[10.8]	K		
25	Copper																	[14.4]	K		
100	Iron	1460		171		577		[19.7]	B	10200		444		21500		19900		56300		14700	
3	*Lead									[1.1]	L							5.9			
5000	Magnesium	8450		8510		7680		7120		[4030]		[3560]		[1600]		[1700]		7040		6030	
15	Manganese	903		885						253		225		112		108		1080		1270	
0.2	Mercury																				
40	*Nickel									[11.9]	B							[16.4]	B	[11.6]	B
5000	Potassium	7780		8040		7090		6630		[3800]		[3370]		[1450]		[1550]		6640		5510	
5	Selenium		UL		UL		UL		UL		UL		UL		UL		UL		UL		UL
10	Silver																				
5000	Sodium	11800		12500		9710		9410		[2260]		[2100]		[3540]		[3450]		6570		6510	
10	Thallium		UL		UL				UL									[2.0]	L		
50	Vanadium									[15.4]								72.1			
20	Zinc	[19.7]	B	[14.5]	B	24.3	B	[13.4]	B	26.3	B	20.5	B	[14.6]	B	24.4	B	40.1	B	23.6	B

+Sample prefix "95" replaced by "T" (total) and "D" (dissolved). CRDL = Contract Required Detection Limit *Action Level Exists SEE NARRATIVE FOR CODE DEFINITIONS

revised 07/90

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Table 3

DATA SUMMARY FORM: I N O R G A N I C S

DETERMINATION OF ALKALINITY IN UNFILTERED AQUEOUS SAMPLES

(mg CaCO3/L)

Site: Koppers County Factory Plant

Case 951460 SDG 9513302

Sampling Date(s): 9/11-14/95

+Due to dilution, sample quantitation limit is affected.
See dilution table for specifics.

	Sample No.	9513302	9513303	9513304	9513306	9513308					
	Dilution Factor	1.0	1.0	1.0	1.0	1.0					
	Location	95-KNDMW7A-QA	95-KNDMW7B-QA	95-KNDMW5A-QA	95-KNDMW4B-QA	95-KNDMW10A-QA					
MDL	PARAMETER										
1	Alkalinity	35.3	9.8	6.5	35.8	57.5					

MDL = Method Detection Limit

SEE NARRATIVE FOR CODE DEFINITIONS

revised 07/90

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APPENDIX A

RESULTS REPORTED BY LABORATORY

FORM Is

METALS

ENVIROFORMS/INORGANIC CLP

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T13302

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32685

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	553			P
7440-36-0	Antimony	1.2	B		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	32.2	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	9880			P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	1460			P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	8450			P
7439-96-5	Manganese	903			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.0	U		P
7440-09-7	Potassium	7780			P
7782-49-2	Selenium	1.0	U	W	F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	11800			P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	19.7	B		P

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ENVIROFORMS/INORGANIC CLP

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D13302

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32685DISS

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	71.0	U		P
7440-36-0	Antimony	1.2	B		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	27.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	10000			P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	171			P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	8510			P
7439-96-5	Manganese	885			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.0	U		P
7440-09-7	Potassium	8040			P
7782-49-2	Selenium	1.0	U	W	F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	12500			P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	14.5	B		P

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Comments:
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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T13303

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32686

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	119	B		P
7440-36-0	Antimony	1.0	U		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	22.5	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	8470			P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	577			P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	7680			P
7439-96-5	Manganese	4.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.0	U		P
7440-09-7	Potassium	7090			P
7782-49-2	Selenium	1.0	U	W	F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	9710			P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	24.3			P

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ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D13303

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32696DISS

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	71.0	U		P
7440-36-0	Antimony	3.2	B		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	21.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	7790			P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	19.7	B		P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	7120			P
7439-96-5	Manganese	4.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.0	U		P
7440-09-7	Potassium	6630			P
7782-49-2	Selenium	1.0	U	W	F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	9410			P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	13.4	B		P

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ENVIROFORMS/INORGANIC CLP

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T13304

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32687

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2460			P
7440-36-0	Antimony	1.1	B		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	64.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	10800			P
7440-47-3	Chromium	9.3	B		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	10200			P
7439-92-1	Lead	1.1	B	W	F
7439-95-4	Magnesium	4030	B		P
7439-96-5	Manganese	253			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.9	B		P
7440-09-7	Potassium	3800	B		P
7782-49-2	Selenium	1.0	U	W	F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	2260	B		P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	15.4	B		P
7440-66-6	Zinc	26.3			P

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ENVIROFORMS/INORGANIC CLP

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D13304

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32687DISS

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	81.2	B		P
7440-36-0	Antimony	5.7	B		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	50.5	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	10300			P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	444			P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	3560	B		P
7439-96-5	Manganese	225			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.0	U		P
7440-09-7	Potassium	3370	B		P
7782-49-2	Selenium	1.0	U		F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	2100	B		P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	20.5			P

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ENVIROFORMS/INORGANIC CLP

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T13306

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32703

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	71.0	U		P
7440-36-0	Antimony	1.0	U		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	29.6	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	4300	B		P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	21500			P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	1600	B		P
7439-96-5	Manganese	112			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.0	U		P
7440-09-7	Potassium	1450	B		P
7782-49-2	Selenium	1.0	U	W	F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	3540	B		P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	14.6	B		P

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ENVIROFORMS/INORGANIC CLP

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D13306

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32703DISS

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	71.0	U		P
7440-36-0	Antimony	2.4	B		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	27.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	4270	B		P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	19900			P
7439-92-1	Lead	1.0	U	W	F
7439-95-4	Magnesium	1700	B		P
7439-96-5	Manganese	108			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.0	U		P
7440-09-7	Potassium	1550	B		P
7782-49-2	Selenium	1.0	U	W	F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	3450	B		P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	24.4			P

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Comments:
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ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

T13308

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32705

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9910			P
7440-36-0	Antimony	1.0	U		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	107	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	10700			P
7440-47-3	Chromium	55.5			P
7440-48-4	Cobalt	10.8	B		P
7440-50-8	Copper	14.4	B		P
7439-89-6	Iron	56300			P
7439-92-1	Lead	5.9			F
7439-95-4	Magnesium	7040			P
7439-96-5	Manganese	1080			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	16.4	B		P
7440-09-7	Potassium	6640			P
7782-49-2	Selenium	1.0	U	W	F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	6570			P
7440-28-0	Thallium	2.0	B	W	F
7440-62-2	Vanadium	72.1			P
7440-66-6	Zinc	40.1			P

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ENVIROFORMS/INORGANIC CLP

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

D13308

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Lab Sample ID: 32705DISS

Level (low/med): LOW Date Received: 09/18/95

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	76.0	B		P
7440-36-0	Antimony	2.3	B		P
7440-38-2	Arsenic	1.0	U		F
7440-39-3	Barium	47.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	11200			P
7440-47-3	Chromium	7.0	U		P
7440-48-4	Cobalt	10.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron	14700			P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	6030			P
7439-96-5	Manganese	1270			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	11.6	B		P
7440-09-7	Potassium	5510			P
7782-49-2	Selenium	1.0	U	W	F
7440-22-4	Silver	8.0	U		P
7440-23-5	Sodium	6510			P
7440-28-0	Thallium	1.0	U	W	F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	23.6			P

Color Before: Clarity Before: Texture:

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Comments:
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ALKALINITY

FORM I
SAMPLE ANALYSIS RESULTS

Name: EA Laboratories
Case No.: KOPPERS
EPA Sample No.: 32685
Sample matrix: WATER
Total Solids: %

Contract: KOPPERSCO
SDG No.: 9513302
Lab Sample ID No.: 9513302
Date Received: 09/18/95

Lab ID	Parameter	Sample Conc.	Concentration Units	Analyzed Date
9513302	ALKALINITY	35.3	mg/L	09/22/95

FORM I
SAMPLE ANALYSIS RESULTS

Lab Name: EA Laboratories
SAS Case No.: KOPPERS
EPA Sample No.: 32686
Sample matrix: WATER
Total Solids: %

Contract: KOPPERSCO
SDG No.: 9513302
Lab Sample ID No.: 9513303
Date Received: 09/18/95

Lab ID	Parameter	Sample Conc.	Concentration Units	Analyzed Date
9513303	ALKALINITY	9.8	mg/L	09/22/95

FORM I
SAMPLE ANALYSIS RESULTS

Name: EA Laboratories
Case No.: KOPPERS
EPA Sample No.: 32687
Sample matrix: WATER
Total Solids: %

Contract: KOPPERSCO
SDG No.: 9513302
Lab Sample ID No.: 9513304
Date Received: 09/18/95

Lab ID	Parameter	Sample Conc.	Concentration Units	Analyzed Date
9513304	ALKALINITY	6.5	mg/L	09/22/95

FORM I
SAMPLE ANALYSIS RESULTS

Lab Name: EA Laboratories
SAS Case No.: KOPPERS
EPA Sample No.: 32703
Sample matrix: WATER
Total Solids: %

Contract: KOPPERSCO
SDG No.: 9513302
Lab Sample ID No.: 9513306
Date Received: 09/18/95

Lab ID	Parameter	Sample Conc.	Concentration Units	Analyzed Date
9513306	ALKALINITY	35.8	mg/L	09/22/95

FORM I
SAMPLE ANALYSIS RESULTS

Name: EA Laboratories
Case No.: KOPPERS
EPA Sample No.: 32705
Sample matrix: WATER
Total Solids: %

Contract: KOPPERSCO
SDG No.: 9513302
Lab Sample ID No.: 9513308
Date Received: 09/18/95

Lab ID	Parameter	Sample Conc.	Concentration Units	Analyzed Date
9513308	ALKALINITY	57.5	mg/L	09/22/95

APPENDIX B

SUPPORT DOCUMENTATION

EA Laboratories
ANALYTICAL NARRATIVE

Client: **USACE**
Site:**Koppers Co SF Site, Newport DE**
Project number:**70001.01**

Laboratory Project Manager: **John O'Donnell**
EA Laboratories Report: **951460**
Date: **16 October 1995**

This report contains the results of the analysis of eight water samples collected on 11 through 14 September 1995 in support of the referenced project.

SAMPLE RECEIPT

The samples arrived by United Postal Service at EA Laboratories on 18 September 1995. Upon receipt, the samples were inspected and compared with the chain-of-custody record. The samples were then logged into the laboratory computer system with assigned laboratory accession numbers and released for analysis.

Client Sample Designation	EA Lab Number
32684 95-KNDMW7A-7B	9513301
32685 95-KNDMW7A-QA	9513302
32686 95-KNDMW7B-QA	9513303
32687 95-KNDMW5A-QA	9513304
32702 95-KNDMW4B-7B	9513305
32703 95-KNDMW4B-QA	9513306
32704 95-KNDMW10A-7B	9513307
32705 95-KNDMW10A-QA	9513308

Following this narrative section are table of analytical methods used (Table 1), glossaries of data qualifiers used in this report (Tables 2 and 3) and the chain-of-custody record. Analytical results and quality control information are summarized in the appended data package which has been formatted to be consistent with the deliverable requirements of this project.

QUALITY CONTROL

The following sections are ordered as the data appears in this report. They contain observations made during sample analysis, summarize the results of quality control measurements, and address the impact on data usability based upon project Data Quality Objectives. For each fractional analysis the narrative includes:

- Sample chronology: This section summarizes the sample history by fraction including the sample preparation method and date, analytical method, and analysis date. Anything unusual about the samples, digestates, or extracts is identified. Holding time compliance is evaluated in this section.

EA Laboratories
ANALYTICAL NARRATIVE

Client: **USACE**
Site:**Koppers Co SF Site, Newport DE**
Project number:**70001.01**

Laboratory Project Manager: **John O'Donnell**
EA Laboratories Report: **951460**
Date: **16 October 1995**

- Laboratory method performance: All quality control criteria for method performance must be met for all target analytes for data to be reported. These criteria generally apply to instrument tune, calibration, method blanks, and Laboratory Control Samples (LCS). In some instances where method criteria fail, useable data can be obtained and are reported with client approval. The narrative will then include a thorough discussion of the impact on data quality.

- Sample performance: Quality control field samples are analyzed to determine any measurement bias due to the sample matrix based on evaluation of matrix spikes (MS), matrix spike duplicates (MSD), and laboratory duplicates (D). If acceptance criteria are not met, matrix interferences are confirmed either by reanalysis or by inspection of the LCS results to verify that laboratory method performance is in control. Data are reported with appropriate qualifiers or discussion.

VOLATILES BY GC/MS - WATER (EA9513301 - EA9513308)

Sample Chronology: Eight samples were analyzed on 26 September 1995 for the Target Compound List plus library searches by USEPA CLP OLM01.9. All specified holding times were met.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: The matrix spike and matrix spike duplicate analyzed on sample 32685, had the recoveries for toluene (137% and 131% respectively) above the method QC limit of 125%. Additionally, the matrix spike the had recoveries for trichloroethene (124%) and chlorobenzene (135%) above the method QC limits of 120% and 130%, respectively. These recoveries may indicate a positive bias for certain target compounds. However, because no target analytes were detected in these samples, data usability should not be affected.

Sample 32685 had the internal standard area for 1,4-difluorobenzene below the method QC limit of -50% of the daily calibration standard. This internal standard area was not so low as to impact the laboratory's ability to detect target analytes at the required reporting limits and because no target analytes were quantitated using this low internal standard, data usability should not be impacted.

All other quality control criteria were met for the reported samples.

EA Laboratories
ANALYTICAL NARRATIVE

Client: **USACE**
Site:**Koppers Co SF Site, Newport DE**
Project number:**70001.01**

Laboratory Project Manager: **John O'Donnell**
EA Laboratories Report: **951460**
Date: **16 October 1995**

GC/MS SEMIVOLATILES - WATER (EA9513302 - EA9513304, EA9513306, EA9513308)

Sample Chronology: Five samples were extracted by USEPA Contract Laboratory Program Statement of Work OLM01.8 (CLP 3/90) on 23 September 1995. The extracts and associated quality control samples were analyzed by CLP 3/90 on 28 September and 29 September 1995 for the method analyte list plus library searches for up to twenty tentatively identified compounds. The samples were extracted within the method specific holding times of 5 days from VTSR; however, the extraction was performed outside of the technical holding time of 7 days from the date of collection by 2-5 days.

Laboratory Method Performance: The laboratory control sample (LCS) had a spike recovery for phenol (90%) above the upper laboratory quality control limit of 85%. This recovery is not indicative of a bias. This LCS also had a spike recovery for 1,4-dichlorobenzene (32%) below the lower laboratory quality control limit of 44%. This recovery may indicate a slight negative bias for this analyte. However, because this compound was not detected in any of the reported samples and because recoveries for this analyte in the matrix spike and matrix spike duplicate were within method quality control limits, data usability should not be affected.

All other laboratory method performance criteria were met for the reported samples.

Sample Performance: Matrix spike/matrix spike duplicate recoveries for 4-nitrophenol (108% / 98%) were above the method quality control limit of 80%. Additionally the matrix spike recovery for 2,4-dinitrotoluene (101%) was above the upper method quality control limit of 96%. These recoveries are not indicative of a bias and data usability should not be affected.

Field sample 95-KNDMW5A-QA had an internal standard area for perylene-d12 below the lower method acceptance limit and field sample 95-KNDMW4B-QA had internal standard areas for chrysene-d12 and perylene-d12 below the lower method quality control limit of -50% of the daily calibration standard. Per the method, these samples were reanalyzed. The reanalysis of 95-KNDMW5A-QA had internal standard areas for chrysene-d12 and perylene-d12 below the lower method quality control limit and the reanalysis of 95-KNDMW4B-QA had an internal standard area for perylene-d12 below the lower method acceptance limit. These internal standard areas were not so low as to impact the laboratory's ability to detect target analytes at the required reporting limits and no target analytes which may have been quantitated using these low internal standards were detected in these samples; therefore, data usability should not be impacted.

All other quality control criteria were met for the reported samples.

CHLORINATED PESTICIDES/PCBs - WATER (EA9513302, EA9513303)

Sample Chronology: Two samples were extracted following the procedures outlined in the CLP Statement of Work OLM01.9 on 23 September 1995. The sample extracts were analyzed for the Target Compound List (TCL) Pesticides/PCBs on 01 October 1995 following the procedures outlined in the CLP Statement of Work OLM01.9. These samples were extracted within the method specified holding time (5 days from VTSR) but were extracted outside the technical holding time (7 days from collection) by 5 days.

No matrix spike or matrix spike duplicate were extracted with this extraction batch due to insufficient sample volume. However, a duplicate laboratory control sample was extracted and analyzed with these samples.

Laboratory Method Performance: The recoveries of two matrix spike compounds, heptachlor (9%) and aldrin (20%), in the laboratory control sample were below the QC limits 18% and 36% respectively. The recoveries of all spiked compounds in the laboratory control sample duplicate were within QC limits. These recoveries may indicate a negative bias. No target analytes were detected in these samples.

All other laboratory method performance criteria were met for the reported samples.

Sample Performance: The recoveries of the surrogate tetrachloro-m-xylene (TCX) in all extracts were below the lower advisory QC limit of 60% with recoveries ranging from 42% to 56%. These low recoveries may indicate a slight negative bias.

All other quality control criteria were met for the reported sample.

METALS - WATER (EA9513302-9513304,EA9513306,EA9513308)

Sample Chronology: Five samples were prepared on 29 September - 9 October 1995 and analyzed for total and dissolved TAL metals (EPA CLP methods 200.7/206.2/239.2/270.2/279.2) on 29

EA Laboratories
ANALYTICAL NARRATIVE

Client: **USACE**
Site:**Koppers Co SF Site, Newport DE**
Project number:**70001.01**

Laboratory Project Manager: **John O'Donnell**
EA Laboratories Report: **951460**
Date: **16 October 1995**

September - 10 October 1995.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: All quality control criteria were met for the reported samples.

GENERAL CHEMISTRY- WATER (EA9513302-EA9513304,EA9513306,EA9513308)

Sample Chronology: Five samples were analyzed for alkalinity (USEPA Method 310.1) on 22 September 1995. All holding times were met for the reported samples.

Laboratory Method Performance: All laboratory method performance criteria were met for the reported samples.

Sample Performance: Insufficient sample volume was available to perform matrix spike or duplicate analyses. All quality control criteria were met for the reported samples.

CERTIFICATION OF RESULTS

The Laboratory certifies that this report meets the project requirements for analytical data as stated in the Analytical Task Order (ATO) and the chain-of-custody. In addition, the Laboratory certifies that the data as reported meet the Data Quality Objectives for precision, accuracy, and completeness specified for this project or as stated in EA Laboratories Quality Assurance program for other than the conditions detailed above. Release of the data contained in this report has been authorized by the appropriate Laboratory Managers as verified by the following signatures.

16 October 1995
Phyllis A. Christopher, Inorganics Division Manager

16 October 1995
Walter E. Miller, Organics Division Manager

U.S. ARMY CORPS OF ENGINEERS

LOCATOR Code: J2 Report # 951460 CHAIN OF CUSTODY RECORD 95-34 and Cal #10

PROJ. NO.	PROJECT NAME: Koppers Co Inc. SF Site, Newport DE
SAMPLERS: (Signature)	OTHERS

EPA Sta. No.	DATE 1995	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TCL VOC; USEPA CLP	TCL/BNA USEPA CLP	POSIPLEX CLP	PCDD/PCDF	PAH/ALKYLATED PAH USEPA CLP	TOTAL METALS USEPA CLP	DISSOLVED TAL METALS USEPA CLP	EPA Accession # (USE ENV# (LEFT COLUMN) FOR FIELD ID #) REMARKS: EA SOD 4D + USACE DATA SUMM. DUE 10/8/95 CPM=JOD
32684	9-11	1520			95-LNDMW7A-TB	2	2							9513301 / KOPPERS-WATER
32685	9-11	1520			95-LNDMW7A-QA	14	3	4	2	2	1	1	1	9513302
32686	9-11	1650			95-LNDMW7B-QA	14	3	4	2	2	1	1	1	9513303
32687	9-12	1000			95-LNDMW5A-QA	10	3	4			1	1	1	9513304
32702	9-13	1042			95-LNDMW4B-TB	2	2							9513305
32703	9-13	1042			95-LNDMW4B-QA	10	3	4			1	1	1	9513306
32704	9-14	1445			95-LNDMW10A-TB	2	2							9513307
32705	9-14	1445			95-LNDMW10A-QA	10	3	4			1	1	1	9513308

L7843

NOTE: EXTRA BNA SAMPLE PROVIDED IN ACCOUNT. TO ACHIEVE 1-2 PAB, IT IS EXPECTED THAT THIS LINER IS INCLUDED HERE (SEE ATTACHED SHEET). IF NOT, PLEASE CONTACT D. LUBIANEZ (508-728-9238)

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	9-15-95 1520	UPS NEXT DAY AIR 0250 9168 745 0698-9132 556 0698 9133 000			
Relinquished by: (Signature)	Date / Time	Received by: (Signature) 0698 9133 037	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) J. McCloud	Date / Time 9-18-95 1000	Remarks: (2) Shipped @ E31 (3) Shipped in (4) coolers (3) Pices arranged by group.	

Distribution: Original Accompanies Shipment; Copy 1 to Sample Custodian; Copy 2 to Coordinator Field Files

Cooler Temp 4°C. pH: <2

Cultrell Cook - Vac. IDC Home by

AR310265

METALS

ENVIROFORMS/INORGANIC CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

SOW No.: ILM02.0 Koppers Co SF Site

Sample No.	Lab Sample ID.
D13302	32685DISS
D13303	32686DISS
D13304	32687DISS
D13306	32703DISS
D13308	32705DISS
T13302	32685
T13302D	32685D
T13302S	32685S
T13303	32686
T13304	32687
T13306	32703
T13308	32705

Were ICP interelement corrections applied? Yes/No NO

Were ICP background corrections applied? Yes/No YES
If yes, were raw data generated before application of background corrections? Yes/No NO

Comments:

T= total
D= Dissolved

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 floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Phyllis Christopher Name: Phyllis Christopher

Date: 10/12/95 Title: INORGANIC MANAGER

COVER PAGE - IN

AR310267

ENVIROFORMS/INORGANIC CLP

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

AA CRDL Standard Source: MALL

ICP CRDL Standard Source: IV

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum					0.07		11.58	
Antimony				12.0	12.64	105.3	12.95	107.9
Arsenic	10.0	10.77	107.7					
Barium					0.51		1.45	
Beryllium				10.0	10.23	102.3	10.22	102.2
Cadmium				10.0	9.74	97.4	9.78	[illegible]
Calcium					2.96		6.89	
Chromium				20.0	19.24	96.2	22.70	113.5
Cobalt				100.0	110.74	110.7	114.21	114.2
Copper				50.0	56.20	112.4	57.43	114.9
Iron					-3.76		-1.61	
Lead	3.0	2.80	93.3		6.00		5.65	
Magnesium					4.60		30.07	
Manganese				30.0	33.17	110.6	33.77	112.6
Mercury	0.2	0.17	85.0					
Nickel				80.0	88.72	110.9	85.22	106.5
Potassium								
Selenium	5.0	5.70	114.0					
Silver				20.0	21.72	108.6	24.76	123.8
Sodium								
Thallium	10.0	9.96	99.6					
Vanadium				100.0	101.77	101.8	103.90	103.9
Zinc				40.0	46.73	116.8	46.24	115.6

FORM II (PART 2) - IN

AR310268

ENVIROFORMS/INORGANIC CLP

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

AA CRDL Standard Source: MALL

ICP CRDL Standard Source: IV

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel							84.10	105.1
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

AR310269

ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	71.0	U	71.0	U	71.0	U	71.0	U	71.000	U	P
Antimony	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Arsenic	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	F
Barium	11.0	U	11.0	U	11.0	U	11.0	U	11.000	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Cadmium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	
Calcium	51.0	U	51.0	U	51.0	U	51.0	U	51.000	U	
Chromium	7.0	U	7.0	U	7.0	U	7.0	U	7.000	U	P
Cobalt	10.0	U	10.0	U	10.0	U	10.0	U	10.000	U	P
Copper	9.0	U	9.0	U	9.0	U	9.0	U	9.000	U	P
Iron	11.0	U	11.0	U	11.0	U	11.0	U	18.742	B	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	F
Magnesium	84.0	U	84.0	U	84.0	U	84.0	U	84.000	U	P
Manganese	4.0	U	4.0	U	4.0	U	4.0	U	4.000	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	CV
Nickel	11.0	U	11.0	U	11.0	U	11.0	U	23.339	B	P
Potassium	133.0	U	133.0	U	133.0	U	133.0	U	133.000	U	P
Selenium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	F
Silver	8.0	U	8.0	U	8.0	U	8.0	U	8.000	U	P
Sodium	44.0	U	44.0	U	44.0	U	44.0	U	44.000	U	P
Thallium	1.0	U	1.0	U	1.4	B			1.000	U	F
Vanadium	9.0	U	9.0	U	9.0	U	9.0	U	9.000	U	P
Zinc	7.0	U	7.0	U	7.0	U	7.0	U	11.160	B	P

AR310270

ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic			1.0	U							F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron			11.0	U							P
Lead			1.0	U	1.0	U	1.0	U			F
Magnesium											
Manganese											
Mercury											
Nickel			11.0	U	11.0	U	11.0	U			P
Potassium											
Selenium			1.0	U	1.0	U					F
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											

FORM III - IN

AR310271

ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			1.0	U	1.0	U					F
Magnesium											
Manganese											
Mercury											
Nickel			11.0	U	11.0	U	11.0	U			P
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											

FORM III - IN

AR310272

ENVIROFORMS/INORGANIC CLP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13502

ICP ID Number: 4P,5P,7P ICS Source: IV

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum	500000	500000	482350	488870.0	97.8	491200	493580.0	98.7
Antimony	0	500	6	483.1	96.6	5	491.8	98.4
Arsenic								
Barium	0	500	11	494.4	98.9	9	490.9	98.2
Beryllium	0	500	0	456.7	91.3	0	456.5	91.3
Cadmium	0	500	11	421.0	84.2	11	426.5	85.3
Calcium	500000	500000	456040	469890.0	94.0	467600	470830.0	94.2
Chromium	0	500	4	463.9	92.8	5	462.6	92.5
Cobalt	0	500	7	449.0	89.8	5	445.8	89.2
Copper	0	500	-9	460.7	92.1	-11	463.9	92.8
Iron	200000	200000	176120	180280.0	90.1	179680	180700.0	90.4
Lead	0	500	12	471.6	94.3	11	478.1	95.6
Magnesium	500000	500000	485940	497120.0	99.4	497820	500470.0	100.1
Manganese	0	500	30	500.5	100.1	31	501.3	100.3
Mercury								
Nickel	0	1000	2	823.4	82.3	3	837.2	83.7
Potassium								
Selenium								
Silver	0	1000	-16	956.3	95.6	-17	963.9	96.4
Sodium								
Thallium								
Vanadium	0	500	-3	467.6	93.5	-4	467.4	93.5
Zinc	0	1000	21	930.7	93.1	21	901.3	90.1

ENVIROFORMS/INORGANIC CLP

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

T13302S

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Level (low/med): LOW
% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2614.1000		553.0100		2000.00	103.1		P
Antimony	75-125	487.4803		1.1720	B	500.00	97.3		P
Arsenic	75-125	36.3200		1.0000	U	40.00	90.8		F
Barium	75-125	2129.9000		32.1720	B	2000.00	104.9		P
Beryllium	75-125	50.3330		1.0000	U	50.00	100.7		P
Cadmium	75-125	46.7869		1.0000	U	50.00	93.6		P
Calcium									NR
Chromium	75-125	205.1600		7.0000	U	200.00	102.6		P
Cobalt	75-125	523.7900		10.0000	U	500.00	104.8		
Copper	75-125	258.1400		9.0000	U	250.00	103.3		
Iron	75-125	2550.5000		1457.2000		1000.00	109.3		
Lead	75-125	21.4900		1.0000	U	20.00	107.4		F
Magnesium									NR
Manganese	75-125	1405.8000		903.0300		500.00	100.6		P
Mercury	75-125	1.0300		0.2000	U	1.00	103.0		CV
Nickel	75-125	519.7300		11.0000	U	500.00	103.9		P
Potassium									NR
Selenium	75-125	8.3000		1.0000	U	10.00	83.0		F
Silver	75-125	49.8100		8.0000	U	50.00	99.6		P
Sodium									NR
Thallium	75-125	39.1900		1.0000	U	50.00	78.4		F
Vanadium	75-125	501.6900		9.0000	U	500.00	100.3		P
Zinc	75-125	464.2600		19.7240	B	500.00	88.9		P

Comments:

AR310274

ENVIROFORMS/INORGANIC CLP

6
DUPLICATES

SAMPLE NO.

T13302D

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum	200.0	553.0100		543.0600		1.8		P
Antimony		1.1720	B	1.0000	U	200.0		P
Arsenic		1.0000	U	1.0000	U			F
Barium		32.1720	B	30.6030	B	5.0		P
Beryllium		1.0000	U	1.0000	U			P
Cadmium		1.0000	U	1.0000	U			P
Calcium	5000.0	9875.4010		9562.5990		3.2		P
Chromium		7.0000	U	7.0000	U			P
Cobalt		10.0000	U	10.0000	U			P
Copper		9.0000	U	9.0000	U			P
Iron		1457.2000		1473.9000		1.1		P
Lead		1.0000	U	1.0000	U			F
Magnesium	5000.0	8451.9010		8210.7000		2.9		P
Manganese		903.0300		878.9200		2.7		P
Mercury	0.2	0.2000	U	0.2000	U			CV
Nickel		11.0000	U	11.0000	U			P
Potassium	5000.0	7775.9000		7679.9000		1.2		P
Selenium		1.0000	U	1.0000	U			F
Silver		8.0000	U	8.0000	U			P
Sodium	5000.0	11783.0000		11743.0000		0.3		P
Thallium		1.0000	U	1.2700	B	200.0		F
Vanadium		9.0000	U	9.0000	U			P
Zinc		19.7240	B	13.1680	B	39.9		P

FORM VI - IN

ENVIROFORMS/INORGANIC CLP

9

ICP SERIAL DILUTIONS

SAMPLE NO.

T13308L

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	9906.50		9900.50		0.1		P
Antimony	1.00	U	5.00	U			P
Arsenic							
Barium	106.55	B	104.44	B	2.0		P
Beryllium	1.00	U	5.00	U			P
Cadmium	1.00	U	5.00	U			P
Calcium	10744.00		10770.00	B	0.2		P
Chromium	55.48		57.76		4.1		P
Cobalt	10.83	B	50.00	U	100.0		P
Copper	14.36	B	45.00	U	100.0		P
Iron	5625.60		5503.00		2.2		P
Lead					0.0		
Magnesium	7038.20		7139.50	B	1.4		P
Manganese	1076.90		1082.40		0.5		P
Mercury							
Nickel	16.37	B	55.00	U	100.0		P
Potassium	6637.00		6632.50	B	0.1		P
Selenium							
Silver	8.00	U	40.00	U			P
Sodium	6571.10		6415.50	B	2.4		P
Thallium					0.0		
Vanadium	72.15		65.82	B	8.8		P
Zinc	40.08		64.24	B	60.3		P

FORM IX - IN

ENVIROFORMS/INORGANIC CLP

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

ICP ID Number: Date: 09/28/95

Flame AA ID Number:

Furnace AA ID Number: 2F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony	217.60	BZ	60.0	1.0	F
Arsenic	193.70	BZ	10.0		F
Barium			200.0		
Beryllium			5.0		
Cadmium	228.80	BZ	5.0	2.0	F
Calcium			5000.0		
Chromium	267.72	BZ	10.0	1.0	F
Cobalt			50.0		
Copper	324.75	BZ	25.0	1.0	F
Iron			100.0		
Lead	283.30	BZ	3.0	1.0	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BZ	5.0	1.0	F
Silver	196.00	BZ	10.0	1.0	F
Sodium			5000.0		
Thallium	276.80	BZ	10.0		F
Vanadium			50.0		
Zinc			20.0		

Comments:

ENVIROFORMS/INORGANIC CLP

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

ICP ID Number: Date: 09/28/95

Flame AA ID Number:

Furnace AA ID Number: 4F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium	357.90	BZ	10.0	1.0	F
Cobalt			50.0		
Copper	324.75	BZ	25.0	1.0	F
Iron			100.0		
Lead	283.30	BZ	3.0	1.0	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel	232.00	BZ	40.0	1.0	F
Potassium			5000.0		
Selenium			5.0		
Silver	328.10	BZ	10.0	1.0	F
Sodium			5000.0		
Thallium	276.80	BZ	10.0	1.0	F
Vanadium			50.0		
Zinc			20.0		

Comments:

ENVIROFORMS/INORGANIC CLP

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

ICP ID Number: Date: 09/28/95

Flame AA ID Number:

Furnace AA ID Number: 5F

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony	217.60	BZ	60.0	2.0	F
Arsenic	193.70	BZ	10.0	1.0	F
Barium			200.0		
Beryllium			5.0		
Cadmium	228.80	BZ	5.0	1.0	F
Calcium			5000.0		
Chromium	357.90	BZ	10.0	1.0	F
Cobalt			50.0		
Copper	324.75	BZ	25.0	1.0	F
Iron			100.0		
Lead	283.30	BZ	3.0	1.0	F
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00	BZ	5.0	1.0	F
Silver	328.10	BZ	10.0	1.0	F
Sodium			5000.0		
Thallium	276.80	BZ	10.0		F
Vanadium			50.0		
Zinc			20.0		

Comments:

ENVIROFORMS/INORGANIC CLP

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

ICP ID Number: 4P Date: 09/28/95

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200.0	29.0	P
Antimony	206.83		60.0		P
Arsenic	188.98		10.0	31.0	P
Barium	455.40		200.0	5.0	P
Beryllium	313.04		5.0	1.0	P
Cadmium	214.44		5.0		P
Calcium	317.93		5000.0	9.0	P
Chromium	267.72		10.0	3.0	P
Cobalt	228.62		50.0	2.0	P
Copper	324.75		25.0	3.0	P
Iron	259.94		100.0	4.0	P
Lead	220.35		3.0	25.0	P
Magnesium	279.55		5000.0	12.0	P
Manganese	257.61		15.0	1.0	P
Mercury			0.2		
Nickel	231.60		40.0	5.0	P
Potassium	766.49		5000.0	133.0	P
Selenium	196.00		5.0	31.0	P
Silver	328.07		10.0	7.0	P
Sodium	589.00		5000.0	44.0	P
Thallium	190.80		10.0	55.0	P
Vanadium	292.40		50.0	5.0	P
Zinc	213.86		20.0	7.0	P

Comments:

AR310280

ENVIROFORMS/INORGANIC CLP

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

ICP ID Number: Date: 09/28/95

Flame AA ID Number:

Furnace AA ID Number: 3CV

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony			60.0		
Arsenic			10.0		
Barium			200.0		
Beryllium			5.0		
Cadmium			5.0		
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead			3.0		
Magnesium			5000.0		
Manganese			15.0		
Mercury	253.70		0.2	0.2	CV
Nickel			40.0		
Potassium			5000.0		
Selenium			5.0		
Silver			10.0		
Sodium			5000.0		
Thallium			10.0		
Vanadium			50.0		
Zinc			20.0		

Comments:

ENVIROFORMS/INORGANIC CLP

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

ICP ID Number: 5P Date: 09/28/95

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	396.15		200.0	71.0	P
Antimony	206.83		60.0		P
Arsenic	193.96		10.0		
Barium	233.53		200.0	11.0	P
Beryllium	313.04		5.0	1.0	P
Cadmium	226.50		5.0		
Calcium	317.93		5000.0	51.0	P
Chromium	267.72		10.0	7.0	P
Cobalt	228.62		50.0	10.0	P
Copper	324.75		25.0	9.0	P
Iron	259.94		100.0	11.0	P
Lead	220.35		3.0	84.0	P
Magnesium	279.08		5000.0	84.0	P
Manganese	257.61		15.0	4.0	P
Mercury			0.2		
Nickel	231.60		40.0	11.0	P
Potassium			5000.0		
Selenium	196.00		5.0		
Silver	328.07		10.0	8.0	P
Sodium	588.59		5000.0		P
Thallium	190.80		10.0		
Vanadium	190.80		50.0	9.0	P
Zinc	213.86		20.0		P

Comments:

AR310282

ENVIROFORMS/INORGANIC CLP

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: EA LABORATORIES Contract:

Lab Code: EAENG Case No.: SAS No.: SDG No.: T13302

ICP ID Number: 7P Date: 09/28/95

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		
Antimony	206.80		60.0	1.0	P
Arsenic	189.00		10.0	3.0	P
Barium			200.0		
Beryllium			5.0		
Cadmium	226.50		5.0	1.0	P
Calcium			5000.0		
Chromium			10.0		
Cobalt			50.0		
Copper			25.0		
Iron			100.0		
Lead	220.35		3.0	2.0	P
Magnesium			5000.0		
Manganese			15.0		
Mercury			0.2		
Nickel			40.0		
Potassium			5000.0		
Selenium	196.00		5.0	2.0	P
Silver			10.0		
Sodium			5000.0		
Thallium	190.80		10.0	3.0	P
Vanadium			50.0		
Zinc			20.0		

Comments:

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 5P
Start Date: 10/ 6/95

Contract:
SAS No.: SDG No.: T13302
Method: P
End Date: 10/ 6/95

Sample No.	D/F	Time	%R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ICV	1.00	1836		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
ICB	1.00	1840		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CRII	1.00	1844		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
ICSAI	1.00	1848		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
ICSABI	1.00	1852		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CCV1	1.00	1856		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CCB1	1.00	1901		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
PBW	1.00	1905		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
LCSW	1.00	1909		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13302	1.00	1913		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13302D	1.00	1917		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13302S	1.00	1921		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13303	1.00	1925		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13304	1.00	1929		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13306	1.00	1933		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13308	1.00	1937		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13308L	5.00	1942		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CCV2	1.00	1946		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CCB2	1.00	1950		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
D13302	1.00	1954		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
D13303	1.00	1958		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
D13304	1.00	2002		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
D13306	1.00	2006		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
D13308	1.00	2010		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CRIF	1.00	2014		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
ICSAF	1.00	2018		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
ICSABF	1.00	2022		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CCV3	1.00	2026		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CCB3	1.00	2031		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13308	10.00	2036	WP 11/29/95	X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
T13308L	50.00	2039	CDY	X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
ICSAF2	1.00	2041		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-

FORM XIV - IN

AR310284

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 5P
Start Date: 10/ 6/95

Contract:
SAS No.: SDG No.: T13302
Method: P
End Date: 10/ 6/95

Sample No.	D/F	Time	%R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ICSABF2	1.00	2044		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CCV4	1.00	2046		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-
CCB4	1.00	2048		X	-	-	X	X	-	X	X	X	X	X	-	X	X	-	-	-	-	X	-	-	X	-	-

FORM XIV - IN

AR310285

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 5P
Start Date: 10/ 8/95

Contract:
SAS No.: SDG No.: T13302
Method: P
End Date: 10/ 8/95

Sample No.	D/F	Time	%R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ICV	1.00	1024																	X								
ICB	1.00	1029																	X								
CRII	1.00	1033																	X								
ICSAI	1.00	1037																	X								
ICSABI	1.00	1042																	X								
CCV1	1.00	1046																	X								
CCB1	1.00	1051																	X								
ZZZZZZ	1.00	1055																									
ZZZZZZ	1.00	1100																									
ZZZZZZ	1.00	1104																									
ZZZZZZ	1.00	1109																									
ZZZZZZ	1.00	1113																									
ZZZZZZ	1.00	1118																									
ZZZZZZ	1.00	1122																									
ZZZZZZ	1.00	1127																									
ZZZZZZ	1.00	1131																									
ZZZZZZ	1.00	1136																									
CCV2	1.00	1140																	X								
CCB2	1.00	1144																	X								
ZZZZZZ	1.00	1149																									
ZZZZZZ	1.00	1153																									
ZZZZZZ	1.00	1158																									
ZZZZZZ	1.00	1202																									
ZZZZZZ	1.00	1207																									
ZZZZZZ	1.00	1211																									
ZZZZZZ	1.00	1216																									
ZZZZZZ	1.00	1220																									
ZZZZZZ	1.00	1224																									
ZZZZZZ	1.00	1229																									
CCV3	1.00	1233																	X								
CCB3	1.00	1238																	X								
ZZZZZZ	1.00	1242																									

FORM XIV - IN

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 5P
Start Date: 10/ 8/95

Contract:
SAS No.: SDG No.: T13302
Method: P
End Date: 10/ 8/95

Sample No.	D/F	Time	%R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1247		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1251		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1256		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1300		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1305		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1309		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1313		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1318		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1322		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CCV4	1.00	1327		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCB4	1.00	1331		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1336		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1340		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1345		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1349		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1353		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1358		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1407		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CCV5	1.00	1411		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCB5	1.00	1416		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CRIF	1.00	1420		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
ICSAF	1.00	1425		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
ICSABF	1.00	1429		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCV6	1.00	1434		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCB6	1.00	1438		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCV7	1.00	1521		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCB7	1.00	1524		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCV8	1.00	1551		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCB8	1.00	1555		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
PBW	1.00	1558		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
LCSW	1.00	1601		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-

FORM XIV - IN

AR310287

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 5P
Start Date: 10/ 8/95

Contract:
SAS No.: SDG No.: T13302
Method: P
End Date: 10/ 8/95

Sample No.	D/F	Time	%R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
T13302	1.00	1604		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
T13302D	1.00	1606		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
T13302S	1.00	1609		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
T13303	1.00	1612		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
T13304	1.00	1615		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
T13306	1.00	1618		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
T13308	1.00	1621		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
D13302	1.00	1624		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCV9	1.00	1626		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCB9	1.00	1630		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
D13303	1.00	1633		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
D13304	1.00	1636		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
D13306	1.00	1639		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
D13308	1.00	1641		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
T13308L	5.00	1645		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CRIF2	1.00	1648		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
ICSAF2	1.00	1651		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
ICSABF2	1.00	1654		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCV10	1.00	1657		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
CCB10	1.00	1701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-
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FORM XIV -

AR310288

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 4F
Start Date: 10/08/95

Contract:
SAS No.: SDG No.: T13302
Method: F
End Date: 10/08/95

Sample No.	D/F	Time	%R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1112		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S10	1.00	1117		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S20	1.00	1123		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S40	1.00	1128		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S70	1.00	1134		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S100	1.00	1140		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICV	1.00	1145		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICB	1.00	1151		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICBA	1.00	1157	103.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCV1	1.00	1202		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB1	1.00	1208		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB1A	1.00	1213	105.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CRA	1.00	1219		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
[illegible]AA	1.00	1224		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
[illegible]W	1.00	1230		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
PBWA	1.00	1235	100.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
LCSW	1.00	1241		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
LCSWA	1.00	1246	93.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13302	1.00	1252		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13302A	1.00	1257	72.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13302D	1.00	1303		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13302DA	1.00	1308	61.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCV2	1.00	1314		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB2	1.00	1319		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB2A	1.00	1325	87.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ZZZZZZ	1.00	1330		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1336		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1342		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1347		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1353		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1358		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1404		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FORM XIV - IV

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 4F
Start Date: 10/08/95

Contract:
SAS No.: SDG No.: T13302
Method: F
End Date: 10/08/95

Sample No.	D/F	Time	%R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1409		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1415		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1421		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1426		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S0	1.00	1432		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S10	1.00	1437		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S20	1.00	1443		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S40	1.00	1449		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S70	1.00	1454		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S100	1.00	1500		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICVB	1.00	1505		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICBB	1.00	1511		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICBBA	1.00	1517	99.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13302S	1.00	1522		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ZZZZZZ	1.00	1528		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T13303	1.00	1533		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13303A	1.00	1539	87.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13304	1.00	1544		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13304A	1.00	1550	86.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13306	1.00	1556		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13306A	1.00	1601	93.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13308	1.00	1607		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
T13308A	1.00	1612	81.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCV1B	1.00	1618		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB1B	1.00	1624		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB1BA	1.00	1629	106.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ZZZZZZ	1.00	1635		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1641		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1646		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1652		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1658		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1703		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FORM XIV - IN

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 4F
Start Date: 10/08/95

Contract:
SAS No.: SDG No.: T13302
Method: F
End Date: 10/08/95

Sample No.	D/F	Time	%R	AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
				Analytes																							
ZZZZZZ	1.00	1709		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1715		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1720		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1726		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1732		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S0	1.00	1737		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S10	1.00	1743		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S20	1.00	1748		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S40	1.00	1754		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S70	1.00	1800		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
S100	1.00	1805		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICVC	1.00	1811		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
ICBC	1.00	1817		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
BCA	1.00	1822	100.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
13302	1.00	1828		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
D13302A	1.00	1834	75.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
D13303	1.00	1839		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
D13303A	1.00	1845	83.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
D13304	1.00	1851		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
D13304A	1.00	1856	91.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
D13306	1.00	1902		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
D13306A	1.00	1908	90.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
D13308	1.00	1913		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
D13308A	1.00	1919	84.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCV1C	1.00	1925		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB1C	1.00	1930		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
CCB1CA	1.00	1936	100.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FORM XIV - IN

AR310291

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 4F
Start Date: 10/06/95

Contract:
SAS No.: SDG No.: T13302
Method: F
End Date: 10/06/95

Sample No.	D/F	Time	%R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCB5A	1.00	1706	101.6	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
T13303	1.00	1712		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
T13303A	1.00	1717	106.2	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
T13304	1.00	1723		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
T13304A	1.00	1729	80.6	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
T13306	1.00	1735		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
T13306A	1.00	1741	103.5	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
T13308	1.00	1747		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
T13308A	1.00	1753	98.0	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13302	1.00	1759		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13302A	1.00	1805	100.3	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCV6	1.00	1811		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCV6A	1.00	1817	89.6	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCB6	1.00	1823		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCB6A	1.00	1829	99.8	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCV7	1.00	1951		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCB7	1.00	1957		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCB7A	1.00	2003	117.6	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13303	1.00	2008		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13303A	1.00	2014	121.9	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13304	1.00	2020		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13304A	1.00	2026	124.3	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13306	1.00	2032		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13306A	1.00	2037	119.0	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13308	1.00	2043		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
D13308A	1.00	2049	110.8	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	2055		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	2101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CCV8	1.00	2107		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCB8	1.00	2112		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCB8A	1.00	2118	120.7	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-

FORM XIV - IN

AR310292

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 2F
Start Date: 10/07/95

Contract:
SAS No.: SDG No.: T13302
Method: F
End Date: 10/07/95

Sample No.	D/F	Time	%R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
S0	1.00	1122		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S5	1.00	1128		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S10	1.00	1134		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S20	1.00	1140		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S50	1.00	1146		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
S100	1.00	1152		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ICV	1.00	1158		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ICB	1.00	1204		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ICBA	1.00	1210	103.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CRA	1.00	1216		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CRAA	1.00	1222		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ZZZZZZ	1.00	1228		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	5.00	1234		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CV1	1.00	1240		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CB1	1.00	1246		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB1A	1.00	1252	99.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ZZZZZZ	5.00	1258		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ZZZZZZ	1.00	1304		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PBW	1.00	1310		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
PBWA	1.00	1316	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ZZZZZZ	-1.00	1322		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CCV2	1.00	1328		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB2	1.00	1334		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB2A	1.00	1340	95.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13302	1.00	1346		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13302A	1.00	1352	78.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13302D	1.00	1358		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13302DA	1.00	1404	79.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13302S	1.00	1410		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ZZZZZZ	1.00	1416		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T13303	1.00	1422		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13303A	1.00	1428	69.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-

FORM XIV - IN

AR310293

ENVIROFORMS/INORGANIC CLP

14

Analysis Run Log

Lab Name: EA LABORATORIES
Lab Code: EAENG Case No.:
Instrument ID Number: 2F
Start Date: 10/07/95

Contract:
SAS No.: SDG No.: T13302
Method: F
End Date: 10/07/95

Sample No.	D/F	Time	%R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
T13304	1.00	1434		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13304A	1.00	1440	76.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV3	1.00	1446		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB3	1.00	1452		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB3A	1.00	1458	103.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13306	1.00	1504		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13306A	1.00	1510	67.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13308	1.00	1516		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
T13308A	1.00	1522	56.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13302	1.00	1528		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13302A	1.00	1534	84.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13303	1.00	1540		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13303A	1.00	1546	82.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13304	1.00	1552		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13304A	1.00	1558	85.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV4	1.00	1604		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB4	1.00	1610		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB4A	1.00	1616	93.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13306	1.00	1622		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13306A	1.00	1628	74.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13308	1.00	1634		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
D13308A	1.00	1640	59.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
ZZZZZZ	1.00	1646		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LCSW	1.00	1652		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
LCSWA	1.00	1658	106.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV5	1.00	1704		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCV5A	1.00	1710	92.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB5	1.00	1716		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
CCB5A	1.00	1722	94.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FORM XIV - IN

AR310294

		15.096	15.017	0.0000	0.07900	10.165	PPB
$Ni	231.604	48.386	42.110	0.0000	6.2760	19.712	PPB
		47.748	42.276	0.0000	5.4720	14.089	PPB
$Ba	[illegible]33.527	8.6800	0.0000	4.3130	4.3670	106.12	PPB
		8.6720	0.0000	4.2690	4.4030	106.98	PPB
$Mn	257.610	936.28	0.0000	25.902	910.37	1075.6	PPB
		938.35	0.0000	25.794	912.56	1078.1	PPB
[illegible]	[illegible]59.940	1225.4	4.9730	0.0000	1220.4	54457	PPB
		1228.5	5.0170	0.0000	1223.5	54596	PPB
$Cr	267.716	56.171	43.101	43.535	12.853	56.169	PPB
		55.933	42.949	43.816	12.550	54.784	PPB
$Mg	279.079	127.22	29.083	0.0000	98.140	7021.6	PPB
		128.09	29.488	0.0000	98.606	7054.7	PPB
$V	[illegible]92.402	88.486	63.365	0.0000	25.121	71.170	PPB
		88.744	62.954	0.0000	25.790	73.124	PPB
$B[illegible]	[illegible].042	18.129	10.964	0.0000	7.1650	0.62023	PPB
		17.861	11.034	0.0000	6.8270	0.38173	PPB
$Ca	317.933	77.792	3.8530	0.0000	73.939	10735	PPB
		77.925	3.8550	0.0000	74.070	10754	PPB
$Cu	324.754	43.727	0.0000	38.175	5.5520	14.383	PPB
		43.519	0.0000	37.978	5.5410	14.335	PPB
$Ag	328.068	81.041	89.568	83.222	-5.3540	-8.3707	PPB
		80.445	89.440	83.524	-6.0370	-10.206	PPB
$Al	396.152	74.718	8.1940	0.0000	66.524	9862.9	PPB
		75.358	8.2460	0.0000	67.112	9950.2	PPB

----- 19:37:57 10/ 6/95 ----- Method: TAL WITHOUT RATIO

Sample T13308- - 1 #MEAS.= 3 for Seq., #MEAS.= 2 for Simul.

	CONC/	sigma	EL	CONC/	sigma	EL	CONC/	sigma	EL	CONC/	sigma
$Zn	61.337/	1.5%	$Co	10.831/	8.7%	$Ni	16.901/	24%	$Ba	106.55/	0.57%
$Mn	[illegible]9/	0.17%	$Fe	54527/	0.18%	$Cr	55.476/	1.8%	$Mg	7038.2/	0.33%
$V	72.147/	1.9%	$Be	0.50098/	34%	$Ca	10744/	0.13%	$Cu	14.359/	0.24%
$Ag	-9.2882/	14%	$Al	9906.5/	0.62%						

Measurements for T13308L- - 1

Elements of SIMULTANEOUS

$Zn	[illegible]13.856	16.197	0.0000	8.3420	7.8550	17.574	PPB
		15.958	0.0000	8.1910	7.7670	17.136	PPB
$C[illegible]	[illegible]8.616	14.098	14.636	0.0000	-0.53800	3.1936	PPB
		14.054	14.764	0.0000	-0.71000	1.2503	PPB
$Ni	231.604	45.062	40.903	0.0000	4.1590	4.9054	PPB
		44.259	40.773	0.0000	3.4860	0.19817	PPB
$Ba	233.527	4.8860	0.0000	4.1210	0.76500	20.473	PPB
		4.8470	0.0000	4.0470	0.80000	21.305	PPB
$Mn	257.610	207.14	0.0000	20.863	186.28	217.39	PPB
		205.46	0.0000	20.716	184.74	215.57	PPB
[illegible]	[illegible]940	249.64	3.2740	0.0000	246.37	10977	PPB
		247.75	3.2590	0.0000	244.49	10893	PPB
$C[illegible]	267.716	45.861	42.594	42.413	3.3575	12.690	PPB
		45.197	42.235	42.439	2.8600	10.412	PPB
$Mg	279.079	45.695	26.324	0.0000	19.371	1426.9	PPB
		45.590	26.191	0.0000	19.399	1428.9	PPB
$V	[illegible]2.402	66.147	60.969	0.0000	5.1780	12.901	PPB

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$Be	313.042	17.133	10.961	0.0000	[illegible]	[illegible]	
		17.023	10.900	0.0000	6.1230	-0.11501	PPB
$Ca	317.933	18.423	3.3780	0.0000	15.045	2164.3	PPB
		18.216	3.3130	0.0000	14.903	2143.6	PPB
$Cu	[illegible] 54	39.647	0.0000	37.112	2.5350	1.0694	PPB
		39.449	0.0000	36.926	2.5230	1.0165	PPB
$Ag	328.068	80.217	84.533	82.713	-3.4060	-3.1371	PPB
		79.962	83.852	82.334	-3.1310	-2.3983	PPB
$Al	396.152	21.027	7.5690	0.0000	13.458	1982.6	PPB
		20.927	7.5030	0.0000	13.424	1977.6	PPB

- 19:42:02 10/ 6/95 ----- Method: TAL WITHOUT RATIO

Sample T13308L- - 1 #MEAS.= 3 for Seq., #MEAS.= 2 for im[illegible]

EL	CONC/	sigma	EL	CONC/	sigma	EL	CONC/	sigma	EL	CONC/	sigma
$Zn	17.355/	1.8%	$Co	2.2220/	62%	$Ni	2.5518/	130%	$Ba	20.889/	2.8%
$Mn	16.48/	0.59%	$Fe	10935/	0.54%	$Cr	11.551/	14%	$Mg	1427.9/	0.10%
$V	13.163/	2.8%	$Be	-0.09773/	25%	$Ca	2154.0/	0.68%	$Cu	1.0429/	3.6%
$Ag	7677/	19%	$Al	1980.1/	0.18%						

Measurements for CCV2- - 1

Elements of SIMULTANEOUS

$Zn	[illegible]	[illegible]	0.0000	9.6400	527.32	2601.0	PPB
		534.59	0.0000	9.8340	524.75	2588.3	PPB
$Co	[illegible].616	246.13	15.357	0.0000	230.78	2616.7	PPB
		245.48	15.607	0.0000	229.87	2606.4	PPB
$Ni	231.604	422.21	44.522	0.0000	377.69	2617.5	PPB
		419.30	42.802	0.0000	376.50	2609.2	PPB
$Be	233.527	443.49	0.0000	6.5760	436.91	10391	PPB
		441.33	0.0000	6.7320	434.59	10336	PPB
$Mn	257.610	2230.2	0.0000	23.189	2207.0	2612.3	PPB
		2224.4	0.0000	23.290	2201.1	2605.3	PPB
$Fe	259.940	118.62	3.7470	0.0000	114.87	5107.1	PPB
		118.32	3.7350	0.0000	114.59	5094.2	PPB
$Cr	[illegible] 716	269.56	43.474	47.070	224.29	1024.3	PPB
		269.68	43.610	47.947	223.90	1022.5	PPB
$Mg	279.079	408.37	38.923	0.0000	369.45	26292	PPB
		407.06	39.056	0.0000	368.01	26190	PPB
$V	292.402	957.94	74.251	0.0000	883.68	2579.7	PPB
		957.39	74.185	0.0000	883.20	2578.3	PPB
$Be	313.042	381.71	11.865	0.0000	369.84	256.53	PPB
		380.78	11.536	0.0000	369.24	256.10	PPB
$Ca	317.933	181.98	4.7910	0.0000	177.19	25760	PPB
		181.34	4.7100	0.0000	176.63	25679	PPB
$Cu	324.754	332.77	0.0000	37.579	295.19	1292.5	PPB
		332.52	0.0000	37.662	294.86	1291.1	PPB
$Ag	[illegible]	[illegible]	.228	91.558	481.51	1299.7	PPB
		569.08	84.973	93.281	479.95	1295.5	PPB
$Al	396.152	78.846	9.0920	0.0000	69.754	10343	PPB
		78.697	8.8480	0.0000	69.849	10357	PPB

----- 19:46:07 10/ 6/95 ----- Method: TAL WITHOU[illegible]

AR310296

Sample CCV2- - 1 #MEAS.= 3 [illegible] AS.= 2 for

		42.742	42.418	42.571	0.24750	-1.5499	PPB
$Mg	279.079	24.795	25.517	0.0000	-0.72200	-0.26043	PPB
		24.925	25.411	0.0000	-0.48600	16.502	PPB
$V	292.402	60.825	60.327	0.0000	0.49800	-0.77231	PPB
		60.722	60.018	0.0000	0.70400	-0.17043	PPB
[illegible]		5.912	10.941	0.0000	5.9710	-0.22226	PPB
		16.956	10.944	0.0000	6.0120	-0.19334	PPB
[illegible]	317.933	3.3790	3.2130	0.0000	0.16600	-0.97016	PPB
		3.3970	3.1900	0.0000	0.20700	4.9963	PPB
$Cu		[illegible]7	0.0000	36.744	2.0430	-1.1018	PPB
		38.821	0.0000	37.003	1.8180	-2.0947	PPB
$Ag	328.068	80.268	82.961	82.617	-2.5210	-0.75943	PPB
		80.563	83.065	82.484	-2.2115	0.07209	PPB
$Al	396.152	7.5070	7.3900	0.0000	0.11700	1.4850	PPB
		7.5220	7.3910	0.0000	0.13100	3.5640	PPB

- 20:31:02 10/ 6/95 ----- Method: TAL WITHOUT RATIO

Sample CCB3- - 1 #MEAS.= 3 for Seq., #MEAS.= 2 for Simu
l.

EL	CONC/	sigma	EL	CONC/	sigma	EL	CONC/	sigma	EL	CONC/	sigma
$Zn	14.913/	2.4%	$Co	-0.07721/	+o***%	$Ni	-2.7639/	0.18%	$Ba	-0.35668/	190%
$Mn	-0.23664/	35%	$Fe	-1.3467/	40%	$Cr	-0.93065/	94%	$Mg	8.1208/	150%
$V	-0.47137/	90%	$Be	-0.20780/	9.8%	$Ca	2.0131/	210%	$Cu	-1.5982/	44%
$Ag	-0.34367/	170%	$Al	2.5245/	58%						

Measurements for T13308-10X- 1

- ---

Elements of SIMULTANEOUS

$Fe	259.940	129.12	3.1130	0.0000	126.01	5604.1	PPB
		130.10	3.1280	0.0000	126.97	5647.1	PPB

- 20:36:55 10/ 6/95 ----- Method: TAL WITHOUT RATIO

Sample T13308-10X- 1 #MEAS.= 3 for Seq., #MEAS.= 2 for Simul.

El	CONC/	sigma
$Fe	5625.6/	0.54%

Measurements for T13308L-10X- 1

Elements of SIMULTANEOUS

	259.940	28.039	2.9150	0.0000	25.124	1100.6	PPB
		28.042	2.9170	0.0000	25.125	1100.6	PPB

----- 20:39:17 10/ 6/95 ----- Method: TAL WITHOUT RATIO

Sample T13308L-10X- 1 #MEAS.= 3 for Seq. [illegible] Simul.

AR310297

EL CONC/ sigma

ALKALINITY

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name: EA Laboratories
SAS Case No.:KOPPERS

Contract: KOPPERSCO
SDG No.: 9513302

Lab Sample ID.	EPA Sample No.
	LCS/ICV
9513302	32685
9513303	32686
9513304	32687
9513306	32703
9513308	32705

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 has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Joe Dembowski

Name: Joe Dembowski

Date: 10/4/95

Title: General Chemistry Supervisor

General Chemistry Quality Control Review

Analysis: Alkalinity Method: 310.1 Book#: 3
Analyst: CAC Date: 9/22/95 File #:
Analysis Holding Time: 14 days Preservation (Book#): A

Project	EA Sample #	Matrix	Date Sampled	Date Dig./Dig.	Comments
Eglin	13250-13251	H_2O			
Koppers	13302-04,06,08	↓			

1. Were all holding times met for distillation/digestion and analysis?
Yes ✓ No ___
2. Did the calibration meet the appropriate criteria?
Yes ✓ No ___
3. Were method blanks less than the reporting limit?
Yes ✓ No ___ N/A ___ (The method reporting limit = 10)
4. Was a method blank prepared every 20 samples?
Yes ✓ No ___
5. Was LCS prepared every 20 samples and within QC limits?
Yes ✓ No ___
6. Were CCVs and CCBs run after every 10 analyses and within QC limits?
Yes ✓ No ___
7. Did the MS (and MSD where applicable) meet appropriate criteria?
Yes ✓ No ___ N/A ___
8. Did the analytical spike meet appropriate criteria?
Yes ___ No ___ N/A ✓
9. Were solid matrix sample concentrations converted to mg/kg (dry)?
Yes ___ No ___ N/A ✓
10. IF YOU ANSWERED NO TO ANY OF THE ABOVE QUESTIONS, EXPLAIN. Also comment on any unusual aspects of analysis or samples and indicate any deviations from the method, along with the reason for deviation.

Analyst Initials: CAC Date: 9/22/95
Supervisor Initials: PGK Date: 9/27/95

AR310300

ALK-60

EA Laboratories
Alkalinity - Titrimetric

Lab: PSK Date: 9/22/95

Analyst: CAC Date: 9/22/95 Method No.: 310.1
Catalog No.: File No.: Units:
Electrode: Corning PH-2 Meter ID: Corning 345
Buret Capacity: 10 ml Buret Increments: 0.05 ml
LCS Source ID: 0250 prep. 5ml to 50ml Matrix Spike Prep: Same
LCS Target Conc.: 119 Matrix Spike Target Conc.: "

Calibration:

pH Buffer:	4	7	10		Electrode Slope: 97
pH Reading:	4.00	7.00	10.01		Temperature (C): 22.5

Acid Standardization: C = A / (0.1211) B

A			B	C	C	
Mass of TRIS (g)	Buret Reading (mL)		Net Volume of Acid Titrant (mL)	Concentration of Acid Titrant (mL)	Mean Conc. of Acid Titrant (mL)	Relative Standard Deviation (%)
	Initial	Final at pH 4.7				
					0.0217	
	Standardized 9/19/95 CAC					

Sample Data:

Project	Sample Number	Sample Volume (mL)	Initial Sample pH	Buret Reading (mL)			Net Volume of Titrant (mL)	Sample Alkalinity (mgCaCO3/L)	
				Initial	Final at pH ___	Final at pH 4.5		Total Alkalinity	Phenolphthal Alkalinity
	Blk 71	200	6.41	0.00	4.50 0.15	4.65 0.20	0.10	0.54	<1.0
	LCS 71	50	9.82	0.00		5.58	5.58	121.1	(101.8%)
GSLE	13250	50	6.53	0.00		2.55	2.55	55.3	
	13251	50	7.32	0.00		2.62	2.62	56.9	
	13251D	50	7.35	0.00		2.63	2.63	57.1	
	13251MS	50	7.56	0.00		7.70	7.70	167.1	MW-110:2 92.6%
	13251MSD	50	7.60	0.00		7.72	7.72	167.5	MW-110:6 92.9%
Koppers	13302	100	5.93	0.00		3.25	3.25	35.3	
	13303	50	~~5.34~~ 5.47	0.00		0.45	0.45	9.77	Small amount of sample
	13304	50	5.40	0.00		0.30	0.30	6.51	"
	13306	50	6.09	0.00		1.65	1.65	35.8	"
	13308	50	6.24	0.00		2.65	2.65	57.5	
	CCV1	50	9.97	0.00		5.45	5.45	118.3	(99.4%)
	CCB1	200	6.66	0.00	4.65 0.29	4.30 0.40	0.18	0.98	<1.0

(0200-1) 910 OHI

AR310301