1152340 - R8 SDMS

ARCS

Remedial Planning Activities
At Selected Uncontrolled
Hazardous Substance Disposal Sites
In The Zone of Regions VI, VII and VIII

Environmental Protection Agency

Contract No. 68-W9-0053

ANALYTICAL RESULTS REPORT for SCREENING SITE INSPECTION

APPENDIX D

YANKTON LIGHTING and HEATING COMPANY #1
YANKTON, SOUTH DAKOTA

Work Assignment No. 19-8JZZ

DECEMBER 11, 1995

URS
CONSULTANTS, INC.

Brown and Caldwell
Harza Environmental Services, Inc.
Shannon & Wilson, Inc.
Western Research Institute

Yankton #1
SQLS FOR INORGANIC SOIL SAMPLES. SQL = IDL X (FINAL VOLUME /(SAMPLE WEIGHT X % SOLIDS)) X DILUTION FACTOR

Yankton #1 :FILE NAME

Yankton #1
SQLS FOR INORGANIC SOIL SAMPLES. SQL = IDL X (FINAL VOLUME /(SAMPLE WEIGHT X % SOLIDS)) X DILUTION FACTOR

1

URS # and EPA # =	YTG-SE-03 MHCK24	
MATRIX=	SOIL	
ANALYTES=	Copper	
INSTRUMENT DETECTION LIMIT (IDL)	25	UG/L
FINAL VOLUME=	200	ML
SAMPLE WEIGHT=	1.00	GRAMS
% SOLIDS=	0.86	(Convert to decimal)
DILUTION FACTOR=	1	
SQL=	5.81	UG/G (PPM)

2

URS # and EPA # =	YTG-SE-03 MHCK24	
MATRIX=	SOIL	
ANALYTES=	Mannesium	
INSTRUMENT DETECTION LIMIT (IDL)	8	UG/L
FINAL VOLUME=	200	ML
SAMPLE WEIGHT=	1.00	GRAMS
% SOLIDS=	0.86	(Convert to decimal)
DILUTION FACTOR=	1	
SQL=	1.86	UG/G (PPM)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

SEP 20 1995

URS/ARCS

Date: September 14, 1995

Ref: 8ES-MEB

MEMORANDUM

TO: Bob Heise
8HWM-SM

FROM: Kenneth Wang
Data Validation Chemist
Environmental Services Division, Multi-Media Enforcement Branch, Analytical Operations Section (ESD, MEB, AOS)

SUBJECT: Data Validation for Yankton Lighting, Case #23716, SDG #HQ847

The Environmental Services Assistance Team (ESAT) has completed its review of data from the analysis of seven water samples for volatiles and semivolatiles and one additional water sample for volatiles under the Contract Laboratory Program (CLP) Routine Analytical Services (RAS) for **Yankton Lighting, case #23716**, Sample Delivery Group (SDG) **#HQ847**. ESD has evaluated the ESAT's Data Validation and agrees with ESAT's review of the data package. Data in the enclosed package are acceptable with the qualifiers added to the data reports. Please refer to the attached ICF Kaiser data validation report including the narrative summary and comments for a full explanation of the data review findings.

If you have any questions, or if I can be of further assistance, please contact me at 294-1055.

Attachments

Printed on Recycled Paper

REGION VIII
SUMMARY OF CLP DATA QUALITY ASSURANCE REVIEW
ORGANICS - VOA, BNA

CASE/SAS NO.	SITE NAME		SITE ID/OPERABLE UNIT
23716	Yankton Lighting		8ZZ/00
RPM NAME	ESAT TID: 08-9504-503		
Bob Heise	ESAT WUD: 77		
CONTRACTOR LABORATORY	CONTRACT NO.	SDG NO.	LABORATORY TPO/REGION
CompuChem	68-D5-0009	HQ847	Tom B. Bennett Jr/IV

Data Reviewer Kristy K. Grove
Review Completion Date 08/23/95

SAMPLE ID	SAMPLE LOCATION	MATRIX	DATE SAMPLED	ANALYSIS
HQ847	YTG-SW-1	Water	06/27/95	CLP RAS volatile and semivolatile organic
HQ848	YTG-SW-2	Water	06/27/95	
HQ849	YTG-SW-3	Water	06/27/95	
HQ850	YTG-SW-4	Water	06/27/95	
HQ851	YTG-SW-5	Water	06/27/95	
HQ856	YTG-SW-10	Water	06/27/95	
HQ857^	YTG-SW-11	Water	06/27/95	
HQ858^^	YTG-SW-12	Water	06/27/95	CLP RAS volatile organic

^ Field Rinsate Blank
^^ Trip Blank

DATA QUALITY STATEMENT*
( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes ___ No X

TPO Attention Required? Yes ___ No X If yes, list the items that require attention: _____

*** Please see Data Qualifier Definitions, attached to the end of this report.**

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," February 1994.

Case 23716, SDG HQ847, consisted of seven water samples for CLP RAS volatile and semivolatile organic analyses with one additional water sample for CLP RAS volatile organic analysis.

The laboratory performed the required library search on all non-target sample components. All tentatively identified compounds (TICs) were qualified "NJ" - tentatively identified at an estimated concentration.

The following tables list all data qualifiers added to the data.

SAMPLE NUMBER	VOLATILE COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	REVIEW SECTION
HQ847, HQ848, HQ849, HQ850, HQ851, HQ856, HQ857, HQ858	2-butanone	UJ	Initial Calibration	IV
HQ848	acetone, carbon disulfide, 2-butanone, 2-hexanone	UJ	Continuing Calibration	IV

SAMPLE NUMBER	SEMIVOLATILE COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	REVIEW SECTION
HQ847, HQ848, HQ849, HQ850, HQ851, HQ856, HQ857	hexachlorobutadiene, 2-nitroaniline, 4-nitrophenol, 4-nitroaniline, 3,3'-dichlorobenzidine, benzo(k)fluoranthene	UJ	Continuing Calibration	IV
HQ848, HQ849, HQ850, HQ851, HQ856	bis(2-ethylhexyl)phthalate	10 U	Rinsate Blank Results	VIII

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

SOW Number OLM03.0
Revision OLM03.1 **RAS ORGANIC DATA COMPLETENESS CHECKLIST**
VOA

Quality Control Summary Package
- P Surrogate Recovery Summary (Form II)
- P MS/MSD Summary (Form III)
- P Method Blank Summary (Form IV)
- P GC/MS Tuning and Mass Calibration (Form V)

Sample Data Package
- P Holding Times (SMO Sample Traffic Reports)
- P Organic Analysis Data Sheets (Form I)
- P Reconstructed Ion Chromatogram(s) (RIC)
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Mass Spectral Library Search for TICs

Standards Data Package
- NR Current List of Laboratory/Instrument Detection Limits
- P Initial Calibration Data (Form VI) for each instrument
- P Continuing Calibration Data (Form VII) for each instrument
- P Internal Standard Area Summary (Form VIII)
- P VOA Standards RICs
- P VOA Standards Quantitation Reports

Raw QC Package
- P BFB mass spectra and mass listings

Reagent Blank data
- P Organic Analysis Data Sheets (Form I)
- P RIC or Total Ion Chromatogram
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Library Search for TICs

Matrix Spike/Matrix Spike Duplicate Data
- P Organic Analysis Data Sheets
- P RIC
- P Quantitation Reports
- NR Mass Spectral Data
- NR EPA/NIH Library search for TICs

KEY:

P = Provided in original data package, as required by the SOW
R = Provided as Resubmission
NP = Not provided in original data package or as resubmission
NR = Not required under the SOW
NA = Not applicable to this data package or analysis

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

I. **DELIVERABLES**

All deliverables were present as specified in the statement of work.

VOA: Yes _X_ No ___

Comments: None.

II. **HOLDING TIMES**

All **CLP-SOW** holding times were met.

VOA: Yes _X_ No ___

Comments: None.

All **technical** holding times were met.

VOA: Yes _X_ No ___

Comments: None.

III. **BFB PERFORMANCE RESULTS**

The BFB performance results were within the specified control limits. All appropriate BFB results were included.

VOA: Yes _X_ No ___

Comments: None.

IV. **INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS**

Initial instrument calibrations were performed according to SOW requirements and met the specified control limits listed in the functional guidelines.

VOA: Yes ___ No _X_

Comments: The laboratory met all the SOW requirements. However, one compound was outside control limits of less than 30% relative standard deviation (%RSD) for the initial calibration. The following table lists the compound, %RSD, associated samples, and qualifiers added to the data.

COMPOUND	%RSD	ASSOCIATED SAMPLES	QUALIFIERS
2-butanone	39.8	HQ847, HQ848, HQ849, HQ850, HQ851, HQ856, HQ857, HQ858	UJ

Continuing instrument calibration was performed according to SOW requirements and met specified control limits listed in the functional guidelines.

VOA: Yes ___ No _X_

Comments: The laboratory met all the SOW requirements. However, when compared to the initial calibration, four compounds were outside control limits of less than 25 percent difference (%D) for the continuing calibration. Listed below are the compounds, %D, associated samples, and qualifiers added to the data.

COMPOUND	%DIFFERENCE	ASSOCIATED SAMPLES	QUALIFIERS
acetone	32.6	HQ848	UJ
carbon disulfide	27.7		
2-butanone*	37.4		
2-hexanone	45.5		

* No additional qualifiers were added to compounds previously qualified for initial calibration results.

V. SURROGATE COMPOUND RECOVERY

Surrogate compound recovery analysis was performed according to SOW requirements and results met specified control limits.

VOA: Yes _X_ No ___

Comments: None.

VI. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate analysis was performed according to SOW requirements and results met recommended recovery and precision limits.

VOA: Yes _X_ No ___

Comments: None.

VII. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to SOW requirements and results met specified control limits.

VOA: Yes _X_ No ___

Comments: None.

VIII. **LABORATORY BLANK ANALYSIS RESULTS**

The laboratory blank analysis was performed according to SOW requirements and met specified control limits.

VOA: Yes ___ No _X_

Comments: Acetone was detected in one of the volatile method blanks. Acetone was not reported in any of the associated samples; therefore, no qualifiers were added to the data.

Comments: Methylene chloride was detected in the volatile holding blank. Methylene chloride was not reported in any of the associated samples; therefore, no qualifiers were added to the data.

Comments: Chloroform was detected in the volatile trip blank (HQ858) and the volatile rinsate blank (HQ857). Chloroform was not reported in any of the associated samples; therefore, no qualifiers were added to the data.

IX. **SAMPLE RESULTS**

The sample results were reviewed and all compound identifications were acceptable and met SOW requirements.

VOA: Yes _X_ No ___

Comments: Carbon dioxide was reported as a tentatively identified compound (TIC) in samples HQ847, HQ848, HQ849, HQ850, HQ851, and HQ856. Since carbon dioxide is a common laboratory contaminant, the TIC was qualified "R" - rejected in the listed samples.

X. **Additional Comments or Problems/Resolutions not addressed above.**

VOA: None.

ORGANIC RAS SEMIVOLATILE QUALITY ASSURANCE REVIEW

SOW Number OLM03.0
Revision OLM03.1 **RAS ORGANIC DATA COMPLETENESS CHECKLIST**
BNA

Quality Control Summary Package
- P Surrogate Recovery Summary (Form II)
- P MS/MSD Summary (Form III)
- P Method Blank Summary (Form IV)
- P GC/MS Tuning and Mass Calibration (Form V)

Sample Data Package
- P Holding Times (SMO Sample Traffic Reports)
- P Organic Analysis Data Sheets (Form I)
- P Reconstructed Ion Chromatogram(s) (RIC)
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Mass Spectral Library Search for TICs

Standards Data Package
- NR Current List of Laboratory/Instrument Detection Limits
- P Initial Calibration Data (Form VI) for each instrument
- P Continuing Calibration Data (Form VII) for each instrument
- P Internal Standard Area Summary (Form VIII)
- P BNA Standards RICs
- P BNA Standards Quantitation Reports

Raw QC Package
- P DFTPP mass spectra and mass listings

Reagent Blank data
- P Organic Analysis Data Sheets (Form I)
- P RIC or Total Ion Chromatogram
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Library Search for TICs

Matrix Spike/Matrix Spike Duplicate Data
- P Organic Analysis Data Sheets
- P RIC
- P Quantitation Reports
- NR Mass Spectral Data
- NR EPA/NIH Library search for TICs

KEY: P = Provided in original data package, as required by the SOW
R = Provided as Resubmission
NP = Not provided in original data package or as resubmission
NR = Not required under the SOW
NA = Not applicable to this data package or analysis

ORGANIC RAS SEMIVOLATILE QUALITY ASSURANCE REVIEW

I. **DELIVERABLES**

All deliverables were present as specified in the statement of work.

BNA: Yes _X_ No ___

Comments: None.

II. **HOLDING TIMES**

All **CLP-SOW** holding times were met.

BNA: Yes _X_ No ___

Comments: None.

All **technical** holding times were met.

BNA: Yes _X_ No ___

Comments: None.

III. **DFTPP PERFORMANCE RESULTS**

The DFTPP performance results were within the specified control limits. All appropriate DFTPP results were included.

BNA: Yes _X_ No ___

Comments: None.

IV. **INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS**

Initial instrument calibrations were performed according to SOW requirements and met the specified control limits listed in the functional guidelines.

BNA: Yes _X_ No ___

Comments: None.

Continuing instrument calibration was performed according to SOW requirements and met specified control limits listed in the functional guidelines.

BNA: Yes ___ No X

Comments: The laboratory met the SOW requirements. However, when compared to the initial calibration, six compounds were outside control limits of less than 25 percent difference (%D) for the continuing calibration. Listed below are the compounds, %D, associated samples, and qualifiers added to the data.

COMPOUND	%DIFFERENCE	ASSOCIATED SAMPLES	QUALIFIERS
hexachlorobutadiene	33.3	HQ847, HQ848, HQ849, HQ850, HQ851, HQ856, HQ857	UJ
2-nitroaniline	28.9		
4-nitrophenol	27.0		
4-nitroaniline	25.1		
3,3'-dichlorobenzidine	32.8		
benzo(k)fluoranthene	31.2		

V. **SURROGATE COMPOUND RECOVERY**

Surrogate compound recovery analysis was performed according to SOW requirements and results met specified control limits.

BNA: Yes X No ___

Comments: None.

VI. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

Matrix Spike/Matrix Spike Duplicate analysis was performed according to SOW requirements and results met recommended recovery and precision limits.

BNA: Yes X No ___

Comments: None.

VII. **INTERNAL STANDARD AREA**

Internal standard area analysis was performed according to SOW requirements and results met specified control limits.

BNA: Yes X No ___

Comments: None.

VIII. LABORATORY BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to SOW requirements and met specified control limits.

BNA: Yes ___ No _X_

Comments: Bis(2-ethylhexyl)phthalate was detected in the field rinsate blank (HQ857) as summarized in the following table. Quantitation limits in the associated samples were raised in accordance with the rules set forth in the EPA document "National Functional Guidelines for Organic Data Review," February 1994.

BLANK ID	DATE SAMPLED	CONTAMINANT	CONCENTRATION FOUND IN BLANK	SAMPLE CRQL	ASSOCIATED SAMPLES	CONCENTRATION FOUND IN SAMPLE	QUALIFIER/ ADJUSTMENT
HQ857 rinsate blank	06/27/95	bis (2-ethylhexyl)phthalate	2 µg/L	10	HQ848	1 µg/L	10 U
					HQ849	2 µg/L	10 U
					HQ850	1 µg/L	10 U
					HQ851	2 µg/L	10 U
					HQ856	2 µg/L	10 U

IX. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met SOW requirements.

BNA: Yes _X_ No ___

Comments: None.

X. Additional Comments or Problems/Resolutions not addressed above.

BNA: None.

REGION VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use ORGANIC DATA

R - Reported value is "rejected". Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

J - The associated numerical value is an estimated quantity because the Quality Control criteria were not met.

U J - The reported quantitation limit is estimated because Quality Control criteria were not met. Compound was not detected.

N J - Estimated value of a tentatively identified compound.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ847

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736598

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CR036598A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
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
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
10061-02-6	trans-1,3-Dichloropropene	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	Xylene (Total)	10	U

FORM I VOA OLM03.0

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ847

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736598

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CR036598A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	1.47	244	J
2.				
3.				
4.				
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ848

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736603

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036603B03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/02/95

GC Column:DB624 ID: 0.53 (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	u5
75-15-0	Carbon Disulfide	10	U	u5
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	
67-66-3	Chloroform	10	U	
107-06-2	1,2-Dichloroethane	10	U	
78-93-3	2-Butanone	10	U	u5
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	
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	
10061-02-6	trans-1,3-Dichloropropene	10	U	
75-25-2	Bromoform	10	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	u5
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	Xylene (Total)	10	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ848

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736603

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036603B03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/02/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	1.49	264	J
2.				
3.				
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30.				

FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ849

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736604

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036604C03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
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
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
10061-02-6	trans-1,3-Dichloropropene	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	Xylene (Total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ849

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736604

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036604C03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	1.49	252	J
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ850

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736605

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036605C03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
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
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
10061-02-6	trans-1,3-Dichloropropene	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	Xylene (Total)	10	U

FORM I VOA OLM03.0

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ850

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736605

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036605C03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	1.49	188	J
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ851

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736606

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036606C03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
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
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
10061-02-6	trans-1,3-Dichloropropene	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	Xylene (Total)	10	U

FORM I VOA OLM03.0

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ851

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736606

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036606C03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	1.49	106	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ856

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736607

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036607A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
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
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
10061-02-6	trans-1,3-Dichloropropene	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	Xylene (Total)	10	U

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ856

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736607

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036607A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	1.51	240	J
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FORM I VOA-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CR036608A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
67-66-3	Chloroform	19	
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
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
10061-02-6	trans-1,3-Dichloropropene	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	Xylene (Total)	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CR036608A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ858

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736609

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036609A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
67-66-3	Chloroform	25	
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
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
10061-02-6	trans-1,3-Dichloropropene	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	Xylene (Total)	10	U

FORM I VOA OLM03.0

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ858

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736609

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036609A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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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FORM I VOA-TIC OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ847

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736598

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036598A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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-Dimethylphenol	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	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ847

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736598

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036598A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-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	UJ
534-52-1	4,6-Dinitro-2-methylphenol	25	U	
86-30-6	N-nitrosodiphenylamine (1)	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-butylphthalate	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	UJ
56-55-3	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	10	U	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo(b)fluoranthene	10	U	
207-08-9	Benzo(k)fluoranthene	10	U	UJ
50-32-8	Benzo(a)pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)pyrene	10	U	
53-70-3	Dibenzo(a,h)anthracene	10	U	
191-24-2	Benzo(g,h,i)perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ847

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736598

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036598A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ848

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736603

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036603A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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-Dimethylphenol	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	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ848

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736603

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036603A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-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 (1)	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-butylphthalate	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	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	1	J	
117-84-0	Di-n-octylphthalate	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	Dibenzo(a,h)anthracene	10	U	
191-24-2	Benzo(g,h,i)perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ848

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736603

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036603A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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.	UNKNOWN	3.45	4	J
2.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ849

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736604

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036604A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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-Dimethylphenol	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	uJ
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	uJ
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ849

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736604

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036604A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	UJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-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	UJ
534-52-1	4,6-Dinitro-2-methylphenol	25	U	
86-30-6	N-nitrosodiphenylamine (1)	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-butylphthalate	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	UJ
56-55-3	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	0.2	J	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo(b)fluoranthene	10	U	
207-08-9	Benzo(k)fluoranthene	10	U	UJ
50-32-8	Benzo(a)pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)pyrene	10	U	
53-70-3	Dibenzo(a,h)anthracene	10	U	
191-24-2	Benzo(g,h,i)perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ849

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736604

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036604A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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.	UNKNOWN	3.93	3	J
2.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ850

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736605

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036605A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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-Dimethylphenol	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	UJ
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	UJ
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ850

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736605

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036605A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	uJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-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	uJ
534-52-1	4,6-Dinitro-2-methylphenol	25	U	
86-30-6	N-nitrosodiphenylamine (1)	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-butylphthalate	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	uJ
56-55-3	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	1	J	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo(b)fluoranthene	10	U	
207-08-9	Benzo(k)fluoranthene	10	U	uJ
50-32-8	Benzo(a)pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)pyrene	10	U	
53-70-3	Dibenzo(a,h)anthracene	10	U	
191-24-2	Benzo(g,h,i)perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ850

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736605

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036605A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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
1.				
2.				
3.				
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FORM I SV-TIC OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ851

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736606

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036606A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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-Dimethylphenol	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	uJ
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	uJ
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

FORM I SV-1 OLM03.0

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ851

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736606

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036606A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	uJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-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	uJ
534-52-1	4,6-Dinitro-2-methylphenol	25	U	
86-30-6	N-nitrosodiphenylamine (1)	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-butylphthalate	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	uJ
56-55-3	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	10.2	J	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo(b)fluoranthene	10	U	
207-08-9	Benzo(k)fluoranthene	10	U	uJ
50-32-8	Benzo(a)pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)pyrene	10	U	
53-70-3	Dibenzo(a,h)anthracene	10	U	
191-24-2	Benzo(g,h,i)perylene	10	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03.0

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ851

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736606

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036606A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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.		UNKNOWN	16.31	2	J
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FORM I SV-TIC OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ856

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736607

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036607A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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-Dimethylphenol	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	UJ
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	UJ
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ856

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736607

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036607A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	uJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-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	uJ
534-52-1	4,6-Dinitro-2-methylphenol	25	U	
86-30-6	N-nitrosodiphenylamine (1)	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-butylphthalate	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	uJ
56-55-3	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	21	J	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo(b)fluoranthene	10	U	
207-08-9	Benzo(k)fluoranthene	10	U	uJ
50-32-8	Benzo(a)pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)pyrene	10	U	
53-70-3	Dibenzo(a,h)anthracene	10	U	
191-24-2	Benzo(g,h,i)perylene	10	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03.0

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ856

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736607

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036607A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/06/95

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
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FORM I SV-TIC OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036608A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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-Dimethylphenol	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	uJ
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	uJ
131-11-3	Dimethylphthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	
99-09-2	3-Nitroaniline	25	U	
83-32-9	Acenaphthene	10	U	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036608A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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	
51-28-5	2,4-Dinitrophenol	25	U	
100-02-7	4-Nitrophenol	25	U	uJ
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-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	uJ
534-52-1	4,6-Dinitro-2-methylphenol	25	U	
86-30-6	N-nitrosodiphenylamine (1)	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-butylphthalate	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	uJ
56-55-3	Benzo(a)anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)phthalate	2	J	
117-84-0	Di-n-octylphthalate	10	U	
205-99-2	Benzo(b)fluoranthene	10	U	
207-08-9	Benzo(k)fluoranthene	10	U	uJ
50-32-8	Benzo(a)pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)pyrene	10	U	
53-70-3	Dibenzo(a,h)anthracene	10	U	
191-24-2	Benzo(g,h,i)perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036608A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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
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FORM I SV-TIC OLM03.0

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

Date: September 11, 1995

Ref: 8ES-MEB

RECEIVED
SEP 13 1995
URS/ARCS

MEMORANDUM

TO: Bob Heise
8HWM-SM

FROM: Kenneth Wang
Data Validation Chemist
Environmental Services Division, Multi-Media Enforcement Branch, Analytical Operations Section (ESD, MEB, AOS)

SUBJECT: Data Validation for **Yankton Lighting & Heating**, Case #23716, SDG #MHCK17

The Environmental Services Assistance Team (ESAT) has completed its review of data from the analysis of seven water samples for total metals and cyanide under the Contract Laboratory Program (CLP) Routine Analytical Services (RAS) for **Yankton Lighting & Heating, case #23716**, Sample Delivery Group (SDG) **#MHCK17**. ESD has evaluated the ESAT's Data Validation and agrees with ESAT's review of the data package. Data in the enclosed package are acceptable with the qualifiers added to the data reports. ESD does not agree with ESAT's comment of the cyanide analysis. The laboratory did provide all cyanide raw data, therefore all of the "UJ" qualifiers on cyanide results were removed by me. Please refer to the attached ICF Kaiser Inc. data validation report including the narrative summary and comments for a full explanation of the data review findings.

If you have any questions, or if I can be of further assistance, please contact me at 294-1055.

Attachments

Printed on Recycled Paper

REGION VIII
RAS INORGANIC - SUMMARY OF CLP DATA QUALITY ASSURANCE REVIEW

CASE/SAS/LGN NO.	SITE NAME	SITE ID/OPERABLE UNIT
23716	Yankton Lighting & Heating	8ZZ/00

RPM NAME	ESAT TID - 08-9504-503
Bob Heise	ESAT WUD - 76

LABORATORY	CONTRACT NO.	SDG	LABORATORY TPO/REGION
ChemTech Consulting Group, Inc.	68-D3-0038	MHCK17	Pat Sheridan / II

DATA REVIEWER Leslie K. Gergurich REVIEW COMPLETION DATE 08/16/95

SAMPLE ID	SAMPLE LOCATION	MATRIX	DATE COLLECTED
MHCK17	YTG-SW-1	Water	06/27/95
MHCK18	YTG-SW-2	Water	06/27/95
MHCK19	YTG-SW-3	Water	06/27/95
MHCK20	YTG-SW-4	Water	06/27/95
MHCK21	YTG-SW-5	Water	06/27/95
MHCK26	YTG-SW-10	Water	06/27/95
MHCK27	YTG-SW-11	Water	06/27/95

DATA QUALITY STATEMENT*

( ) Data are ACCEPTABLE according to the Functional Guidelines with no qualifiers (flags) by the reviewer
(X) Data are acceptable with QUALIFICATIONS noted in review
( ) Data are UNACCEPTABLE according to the Functional Guidelines

Telephone/Communication Logs Enclosed? Yes ___ No X

TPO Attention Required? Yes X No ___
If yes, list the items that require attention: Raw data was not provided for the cyanide analysis. Therefore, ESAT could not confirm reported results and all cyanide results have been qualified "UJ".

* Please see Data Qualifier Definitions, attached to the end of this report.

INORGANIC DATA QUALITY ASSURANCE REVIEW

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," February 1994. The data package, Case 23716, SDG MHCK17 consisted of seven water samples for CLP RAS total metals and cyanide analyses.

Sample MHCK27 was identified as a field rinsate blank by EPA. The sample was used to qualify sample results for blank contamination.

The following table lists the data qualifiers added to sample analyses.

SAMPLE ID	ELEMENTS - QUALIFIERS	PROBLEM	REVIEW SECTION
MHCK27	Calcium - UJ	Blank Contamination	FORM 3
MHCK17, MHCK18, MHCK19, MHCK20, MHCK21, MHCK26	Zinc - UJ	Blank Contamination	FORM 3
All Samples	Sodium - J	Serial Dilution	FORM 9
All Samples	Cyanide - UJ	No cyanide raw data	Completeness Checklist

INORGANIC DATA QUALITY ASSURANCE REVIEW

SOW ILM03.0

RAS INORGANIC DELIVERABLES COMPLETENESS CHECKLIST

P Inorganic Cover Page
P Inorganic Analysis Data Sheets (Form I)
P Initial Calibration and Calibration Verification Results (Form II)
P Continuing Calibration Verification Results (Form II)
P CRDL Standard for ICP & AA (Form II, Part 2)
P Blank Analysis Results (Form III)
P ICP Interference Check Sample Results (Form IV)
P Spiked Sample Results (Form V)
P Post-digest Spiked Sample Analysis (Form V, Part 2)
P Duplicate Sample Results (Form VI)
P Instrument Detection Limits (Form X - Quarterly)
P Laboratory Control Sample results (Form VII)
P Standard Addition Results (Form VIII)
P ICP Serial Dilution Results (Form IX)
P ICP Interelement Correction Factors (Form XII - Quarterly, or Form XI - Annually)
P ICP Linear Ranges (Form XII - Quarterly)
P Raw Data
  P Samples P Calibration Standards P Blanks P Spikes
  P Duplicates P ICP QC (ICS and Serial Dilution) P LCS
  NA Furnace AA P Mercury Analysis * NP Cyanide Analysis
P Percent Solids Calculations - Solids Only
P Sample Prep/Digestion Logs (Form XIII)
P Analysis Run Log (Form XIV)
P Traffic Report(s)
P Chain of Custody
P Sample Description
P Case Narrative
P Method References

KEY: P = Provided in original data package, as required by contract
R = Provided as Resubmission
NP = Not provided in original data package or as resubmission
NR = Not required under contract
NA = Not applicable to this data package

* **Comments:** Raw data was not provided for the cyanide analysis. Therefore, ESAT could not confirm reported results. All cyanide results have been qualified "UJ".

INORGANIC DATA QUALITY ASSURANCE REVIEW

HOLDING TIMES

All CLP-SOW holding times were met.

Yes _X_ No __

All technical holding times were met.

Yes _X_ No __

Comments: None

INSTRUMENT CALIBRATION: STANDARDS AND BLANKS

Initial instrument calibrations were performed according to contract requirements.

Yes _X_ No ___

Comments: None

The instruments were calibrated daily and each time an analysis run was performed.

Yes _X_ No ___

Comments: None

The instruments were calibrated using one blank and the appropriate number of standards.

Yes _X_ No ___

Comments: None

FORM 1 - SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on the Form I's.

Yes _X_ No ___

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met contract requirements.

Yes _X_ No ___

Comments: None

The calibration verification results were within 90-110% recovery for metals, 80-120% for mercury, and 85-115% for cyanide.

Yes _X_ No ___

Comments: None

The continuing calibration standards were run at 10% frequency.

Yes _X_ No ___

Comments: None

FORM 2B - CRDL STANDARD FOR ICP AND AA

ICP Analysis: Standards (CRI) at 2X the CRDL, the CRDL or the IDL whichever were greater, were analyzed at the beginning and the end of each sample run, or at a minimum of twice per eight hour shift, whichever was more frequent.

Yes _X_ No ___

Comments: None

GFAA Analysis: Standards (CRA) at the CRDL were analyzed at the beginning of each sample run.

Yes ___ No ___ N/A _X_

Comments: None

The CRI and/or the CRA were analyzed after the ICV.

Yes _X_ No ___ N/A __

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

FORM 3 - BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) met contract requirements.

Yes _X_ No ___

Comments: None

The continuing calibration blanks were run at 10% frequency.

Yes _X_ No ___

Comments: None

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes _X_ No ___

Comments: None

All analyzed blanks were free of contamination.

Yes ___ No _X_

Comments: The following table lists the blanks with contamination, elements present, affected samples, and data qualifiers:

TYPE OF BLANK	ELEMENTS PRESENT; CONCENTRATION	SAMPLES AFFECTED - DATA QUALIFIERS
CCB2	Calcium; 16.0 ug/L	MHCK27 - UJ
MHCK27 (Field Rinsate)	Zinc; 24.0 ug/L	MHCK17, MHCK18, MHCK19, MHCK20, MHCK21, MHCK26 - UJ

FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICP interference check sample (ICS) was run twice per eight hour shift and/or at the beginning and end of each sample set analysis sequence (whichever is more frequent).

Yes _X_ No ___

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

Percent recovery of the analytes in solution ICSAB were within the range of 80-120%.

Yes _X_ No ___

Comments: None

The ICSA and ICSAB contained no false positive or false negative results greater than the IDL.

Yes ___ No _X_

Comments: Minor amounts of antimony, barium, cadmium, chromium, cobalt, copper, sodium, and vanadium were present in the ICSA and ICSAB check samples. Sample results were low in concentration of potential interferences. No results were qualified.

FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes _X_ No ___

Comments: None

Spike recoveries were within the range of 75 - 125% (an exception is granted where the sample concentration is 4 times the spike concentration).

Yes _X_ No ___

Comments: None

FORM 5B - POST DIGEST SPIKE RECOVERY

A post-digest spike was performed for those elements that did not meet the specified criteria (exception: Ag, Hg).

Yes ___ No ___ N/A _X_

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

FORM 6 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes _X_ No ___

Comments: None

The RPDs were calculated correctly.

Yes _X_ No ___

Comments: None

For sample concentrations >5 times the CRDL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes _X_ No ___ N/A ___

Comments: None

For sample concentrations <5 times the CRDL, duplicate analysis results were within the control window of ± CRDL (2X CRDL for soils).

Yes _X_ No ___

Comments: None

GFAA QC

GFAA analyses were not performed with this SDG.

FORM 7 - LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent). An aqueous LCS is not required for mercury.

Yes _X_ No ___

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

All results were within the control limits.

Yes _X_ No ___

Comments: None

FORM 8 - STANDARD ADDITION RESULTS

Results from graphite furnace standard additions were correctly entered on Form I and Form VIII.

Yes ___ No ___ N/A _X_

Comments: None

FORM 9 - ICP QC

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes _X_ No ___

Comments: None

The serial dilution was without interference problems as defined by the functional guidelines.

Yes ___ No _X_

Comments: The following table lists the serial dilution with a percent difference result outside the 10% control limit, the actual percent difference, samples affected, and data qualifiers:

ELEMENT	PERCENT DIFFERENCE	SAMPLES AFFECTED - QUALIFIERS
Sodium	11.1%	All Samples - J

FORM 10 - QUARTERLY INSTRUMENT DETECTION LIMITS (IDL)

IDL's were provided for all elements on the target analyte list.

Yes _X_ No ___

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

Reported IDL's met contract requirements.

Yes _X_ No ___

Comments: None

CYANIDE INSTRUMENT DETECTION LIMITS (IDL)

An IDL for cyanide was provided in the raw data.

Yes ___ No _X_ N/A ___

Comments: Raw data was not provided for the cyanide analysis. A value of 10 ug/L was used to calculate the soil IDLs.

The reported cyanide IDL met contract requirements.

Yes _X_ No ___ N/A ___

Comments: None

FORM 11 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported and met contract requirements.

Yes _X_ No ___

Comments: None

FORM 12 - ICP LINEAR RANGES

ICP linear ranges were reported and met contract requirements.

Yes _X_ No ___

Comments: None

FORM 13 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form XIII.

Yes _X_ No ___

Comment: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

FORM 14 - ANALYSIS RUN LOG

A Form XIV with the required information was filled out for each analysis run in the data package.

Yes _X_ No ___

Comments: None

Additional Comments or Problems/Resolutions (not addressed above): None

REGION VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with INORGANIC DATA

R - Reported value is "rejected". Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

J - The associated numerical value is an estimated quantity because the Quality Control criteria were not met.

UJ - The reported amount is estimated because Quality Control criteria were not met. Element was not detected.

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MHCK17

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK17

Matrix (soil/water): WATER Lab Sample ID: 43727S

Level (low/med): LOW Date Received: 06/29/95

% 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	59.2	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	8.0	U		P
7440-39-3	Barium	46.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	260000			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	2.0	U		P
7440-50-8	Copper	3.0	U		P
7439-89-6	Iron	30.0	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	98100			P
7439-96-5	Manganese	782			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	14500			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	47900		E	P
7440-28-0	Thallium	8.0	U		P
7440-62-2	Vanadium	2.4	B		P
7440-66-6	Zinc	23.0			P
7440-66-6	Cyanide	10.0	U		C

KW 9/21/95

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MHCK18

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK17

Matrix (soil/water): WATER Lab Sample ID: 43728S

Level (low/med): LOW Date Received: 06/29/95

% 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	57.0	B		P	
7440-36-0	Antimony	3.0	U		P	
7440-38-2	Arsenic	8.0	U		P	
7440-39-3	Barium	46.5	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	2.0	U		P	
7440-70-2	Calcium	256000			P	
7440-47-3	Chromium	5.0	U		P	
7440-48-4	Cobalt	2.0	U		P	
7440-50-8	Copper	3.0	U		P	
7439-89-6	Iron	30.0	U		P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	97300			P	
7439-96-5	Manganese	764			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	14700			P	
7782-49-2	Selenium	5.0	U		P	
7440-22-4	Silver	3.0	U		P	
7440-23-5	Sodium	47900		E	P	J
7440-28-0	Thallium	8.0	U		P	
7440-62-2	Vanadium	2.1	B		P	
7440-66-6	Zinc	22.2			P	LJ
7440-66-6	Cyanide	10.0	U		C	~~LJ~~ LD 9/27/95

8/16/95

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHCK19

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK17

Matrix (soil/water): WATER Lab Sample ID: 43729S

Level (low/med): LOW Date Received: 06/29/95

% 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	79.3	B		P	
7440-36-0	Antimony	3.0	U		P	
7440-38-2	Arsenic	9.8	B		P	
7440-39-3	Barium	49.0	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	2.0	U		P	
7440-70-2	Calcium	262000			P	
7440-47-3	Chromium	5.0	U		P	
7440-48-4	Cobalt	2.0	U		P	
7440-50-8	Copper	3.0	U		P	
7439-89-6	Iron	30.0	U		P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	99900			P	
7439-96-5	Manganese	670			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	15000			P	
7782-49-2	Selenium	5.0	U		P	
7440-22-4	Silver	3.0	U		P	
7440-23-5	Sodium	48000		E	P	J
7440-28-0	Thallium	8.0	U		P	
7440-62-2	Vanadium	2.6	B		P	
7440-66-6	Zinc	28.5			P	J
7440-66-6	Cyanide	10.0	U		C	~~J~~ KW 9/19/95

8/16/95

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHCK20

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK17

Matrix (soil/water): WATER Lab Sample ID: 43732S

Level (low/med): LOW Date Received: 06/29/95

% 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	45.0	B		P
7440-36-0	Antimony	3.5	B		P
7440-38-2	Arsenic	8.0	U		P
7440-39-3	Barium	65.7	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	137000			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	2.0	U		P
7440-50-8	Copper	3.0	U		P
7439-89-6	Iron	59.7	B		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	47100			P
7439-96-5	Manganese	1210			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	11900			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	53700		E	P
7440-28-0	Thallium	8.0	U		P
7440-62-2	Vanadium	2.0	U		P
7440-66-6	Zinc	32.2			P
7440-66-6	Cyanide	10.0	U		C

KW 9/7/95

8/16/95

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHCK21

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK17

Matrix (soil/water): WATER Lab Sample ID: 43733S

Level (low/med): LOW Date Received: 06/29/95

% 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	71.4	B		P
7440-36-0	Antimony	3.5	B		P
7440-38-2	Arsenic	8.0	U		P
7440-39-3	Barium	58.9	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium	58300			P
7440-47-3	Chromium	5.0	U		P
7440-48-4	Cobalt	2.0	U		P
7440-50-8	Copper	3.0	U		P
7439-89-6	Iron	37.9	B		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	22600			P
7439-96-5	Manganese	56.5			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	7670			P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	50100		E	P
7440-28-0	Thallium	8.0	U		P
7440-62-2	Vanadium	2.4	B		P
7440-66-6	Zinc	67.5			P
7440-66-6	Cyanide	10.0	U		C

9/16/95

9/27/95

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHCK26

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK17

Matrix (soil/water): WATER Lab Sample ID: 43734S

Level (low/med): LOW Date Received: 06/29/95

% 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	71.6	B		P	
7440-36-0	Antimony	3.0	U		P	
7440-38-2	Arsenic	8.0	U		P	
7440-39-3	Barium	46.7	B		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	2.0	U		P	
7440-70-2	Calcium	251000			P	
7440-47-3	Chromium	5.0	U		P	
7440-48-4	Cobalt	2.0	U		P	
7440-50-8	Copper	3.0	U		P	
7439-89-6	Iron	30.0	U		P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	95100			P	
7439-96-5	Manganese	643			P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	14000			P	
7782-49-2	Selenium	5.0	U		P	
7440-22-4	Silver	3.0	U		P	
7440-23-5	Sodium	46400		E	P	J
7440-28-0	Thallium	8.0	U		P	
7440-62-2	Vanadium	2.1	B		P	
7440-66-6	Zinc	26.7			P	J
7440-66-6	Cyanide	10.0	U		C	~~J~~ FW 9/9/95

3/16/95

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MHCK27

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK17

Matrix (soil/water): WATER Lab Sample ID: 43735S

Level (low/med): LOW Date Received: 06/29/95

% 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	25.0	U		P	
7440-36-0	Antimony	3.0	U		P	
7440-38-2	Arsenic	8.0	U		P	
7440-39-3	Barium	1.0	U		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	2.0	U		P	
7440-70-2	Calcium	74.6	B		P	uJ
7440-47-3	Chromium	5.0	U		P	
7440-48-4	Cobalt	2.0	U		P	
7440-50-8	Copper	3.0	U		P	
7439-89-6	Iron	30.0	U		P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	15.0	U		P	
7439-96-5	Manganese	1.0	U		P	
7439-97-6	Mercury	0.20	U		CV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	200	U		P	
7782-49-2	Selenium	5.0	U		P	
7440-22-4	Silver	3.0	U		P	
7440-23-5	Sodium	215	B	E	P	J
7440-28-0	Thallium	8.0	U		P	
7440-62-2	Vanadium	2.0	U		P	
7440-66-6	Zinc	24.0			P	
7440-66-6	Cyanide	10.0	U		C	~~15~~ FW 9/7/95

8/16/95

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN ILM03.0

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

RECEIVED
SEP 20 1995
URS/ARCS

Date: September 14, 1995

Ref: 8ES-MEB

MEMORANDUM

TO: Bob Heise
8HWM-SM

FROM: Kenneth Wang KW
Data Validation Chemist
Environmental Services Division, Multi-Media Enforcement Branch, Analytical Operations Section (ESD, MEB, AOS)

SUBJECT: Data Validation for Yankton Lighting, Case #23716, SDG #HQ852

The Environmental Services Assistance Team (ESAT) has completed its review of data from the analysis of four soil samples for volatiles and semivolatiles under the Contract Laboratory Program (CLP) Routine Analytical Services (RAS) for **Yankton Lighting, case #23716**, Sample Delivery Group (SDG) **#HQ852**. ESD has evaluated the ESAT's Data Validation and agrees with ESAT's review of the data package. Data in the enclosed package are acceptable with the qualifiers added to the data reports. Please refer to the attached ICF Kaiser data validation report including the narrative summary and comments for a full explanation of the data review findings.

Sample HQ857 (rinsate blank) and HQ858 (volatile trip blank) were assigned to Case 23716, SDG HQ847. They are used to qualify sample results in this SDG for this sampling event. The Form Is for these samples are included at the end of the validation report.

If you have any questions, or if I can be of further assistance, please contact me at 294-1055.

Attachments

Printed on Recycled Paper

REGION VIII
SUMMARY OF CLP DATA QUALITY ASSURANCE REVIEW
ORGANICS - VOA, BNA

CASE/SAS NO.	SITE NAME		SITE ID/OPERABLE UNIT
23716	Yankton Lighting		8ZZ / 00
RPM NAME	ESAT TID: 08-9504-503		
Bob Heise	ESAT WUD: 81		
CONTRACTOR LABORATORY	CONTRACT NO.	SDG NO.	LABORATORY TPO/REGION
CompuChem Environmental Corp.	68-D5-0009	HQ852	Tom B. Bennett, Jr. / IV

Data Reviewer Lynn K. Lutz
Review Completion Date 08/25/95

SAMPLE ID	SAMPLE LOCATION	MATRIX	DATE SAMPLED	ANALYSIS
HQ852	YTG-SE-1	Soil	06/27/95	CLP RAS Volatile and Semivolatile Organics
HQ853	YTG-SE-2			
HQ854	YTG-SE-3			
HQ865	YTG-SE-5			

DATA QUALITY STATEMENT *
( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.
( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.
(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes ___ No X

TPO Attention Required? Yes X No ___ If yes, list the items that require attention: Different sample used for QC (MS/MSD analyses) than listed on chain-of-custody, volatiles and semivolatiles (Section VI). Semivolatile MS/MSD samples extracted outside contractual holding time (Section II).

* Please see Data Qualifier Definitions, attached to the end of this report.

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "National Functional Guidelines for Organic Data Review," February 1994.

Case 23716, SDG HQ852, consisted of four soil samples for CLP RAS volatile and semivolatile organics analyses.

Sample HQ858, a water sample, was the designated volatile trip blank, and sample HQ857, a water sample, was the designated rinsate blank for this sampling event. Samples HQ857 and HQ858 were assigned to Case 23716, SDG HQ847. They are used to qualify sample results in this SDG.

The laboratory performed the required library search on all non-target sample components. All tentatively identified compounds (TICs) were qualified "NJ" - tentatively identified at an estimated concentration. TICs detected in the samples and associated blanks were qualified "R" rejected.

The following tables list all data qualifiers added to the data.

SAMPLE NUMBER	VOLATILE COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	REVIEW SECTION
All	methylene chloride, acetone, 2-butanone	J or UJ	Initial Calibration	IV
All	methylene chloride, acetone, 1,1,1-trichloroethane		Continuing Calibration	
HQ852, HQ854, HQ855	methylene chloride	U	Blank Analysis Results	VIII
HQ853		12 U		

SAMPLE NUMBER	SEMIVOLATILE COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	REVIEW SECTION
All	2,2'-oxybis(1-chloropropane), hexachlorocyclopentadiene, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, butylbenzylphthalate, 3,3'-dichlorobenzidine	UJ	Continuing Calibration	IV
HQ852	bis(2-ethylhexyl)phthalate	440 U	Blank Analysis Results	VIII
HQ853		380 U		
HQ852	benzo(k)fluoranthene	120	Sample Results	IX
	benzo(b)fluoranthene, benzo(k)fluoranthene	NJ		

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

SOW Number OLM03.0
Revision OLM03.1 **RAS ORGANIC DATA COMPLETENESS CHECKLIST**
VOA

Quality Control Summary Package
- P Surrogate Recovery Summary (Form II)
- P MS/MSD Summary (Form III)
- P Method Blank Summary (Form IV)
- P GC/MS Tuning and Mass Calibration (Form V)

Sample Data Package
- P Holding Times (SMO Sample Traffic Reports)
- P Organic Analysis Data Sheets (Form I)
- P Reconstructed Ion Chromatogram(s) (RIC)
- P Quantitation Reports
- P Mass Spectral Data
- NA EPA/NIH Mass Spectral Library Search for TICs

Standards Data Package
- NR Current List of Laboratory/Instrument Detection Limits
- P Initial Calibration Data (Form VI) for each instrument
- P Continuing Calibration Data (Form VII) for each instrument
- P Internal Standard Area Summary (Form VIII)
- P VOA Standards RICs
- P VOA Standards Quantitation Reports

Raw QC Package
- P BFB mass spectra and mass listings

Reagent Blank data
- P Organic Analysis Data Sheets (Form I)
- P RIC or Total Ion Chromatogram
- P Quantitation Reports
- P Mass Spectral Data
- NA EPA/NIH Library Search for TICs

Matrix Spike/Matrix Spike Duplicate Data
- P Organic Analysis Data Sheets
- P RIC
- P Quantitation Reports
- NR Mass Spectral Data
- NR EPA/NIH Library search for TICs

KEY:

P = Provided in original data package, as required by the SOW
R = Provided as Resubmission
NP = Not provided in original data package or as resubmission
NR = Not required under the SOW
NA = Not applicable to this data package or analysis

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

I. **DELIVERABLES**

All deliverables were present as specified in the statement of work.

VOA: Yes _X_ No ___

Comments: None.

II. **HOLDING TIMES**

All **CLP-SOW** holding times were met.

VOA: Yes _X_ No ___

Comments: None.

All **technical** holding times were met.

VOA: Yes _X_ No ___

Comments: None.

III. **BFB PERFORMANCE RESULTS**

The BFB performance results were within the specified control limits. All appropriate BFB results were included.

VOA: Yes _X_ No ___

Comments: None.

IV. **INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS**

Initial instrument calibrations were performed according to SOW requirements and met the specified control limits listed in the functional guidelines.

VOA: Yes ___ No _X_

Comments: The laboratory met all the SOW requirements. However, three compounds were outside control limits of less than 30% relative standard deviation (%RSD) for the initial calibration. The following table lists the compounds, %RSD, associated samples, and qualifiers added to the data.

COMPOUND	%RSD	ASSOCIATED SAMPLES	QUALIFIERS
methylene chloride	31.7	All	J or UJ
acetone	78.0		
2-butanone	36.3		

Continuing instrument calibration was performed according to SOW requirements and met specified control limits listed in the functional guidelines.

VOA: Yes ___ No _X_

Comments: The laboratory met all the SOW requirements. However, when compared to the initial calibration, three compounds were outside control limits of less than 25 percent difference (%D) for the continuing calibration. Listed below are the compounds, %D, associated samples, and qualifiers added to the data.

COMPOUND	%DIFFERENCE	ASSOCIATED SAMPLES	QUALIFIERS
methylene chloride	37.3	All	J or UJ
acetone	38.5		
1,1,1-trichloroethane	25.6		

V. **SURROGATE COMPOUND RECOVERY**

Surrogate compound recovery analysis was performed according to SOW requirements and results met specified control limits.

VOA: Yes _X_ No ___

Comments: None.

VI. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

Matrix Spike/Matrix Spike Duplicate analysis was performed according to SOW requirements and results met recommended recovery and precision limits.

VOA: Yes _X_ No ___

Comments: The MS/MSD analysis of sample HQ853 met all percent recovery (%R) and relative percent difference (RPD) quality control criteria. However, several problems were noted in this analysis.

The chain-of-custody lists sample HQ854 as the QC sample, but the laboratory used HQ853. There is no explanation in the case narrative, nor is there a record of communication with EPA regarding this inconsistency.

The laboratory used 26 percent moisture for the MS/MSD analysis of sample HQ853, but the correct value is 14 percent moisture. ESAT corrected the raw data, the Form Is, and the Form III (Soil Volatile MS/MSD Recovery). All calculations of %R and RPDs performed by the laboratory were correct.

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

VII. **INTERNAL STANDARD AREA**

Internal standard area analysis was performed according to SOW requirements and results met specified control limits.

VOA: Yes _X_ No ___

Comments: None.

VIII. **BLANK ANALYSIS RESULTS**

The laboratory blank analysis was performed according to SOW requirements and met specified control limits.

VOA: Yes ___ No _X_

Comments: Methylene chloride, a common laboratory contaminant, was detected in the volatile method blank. Quantitation limits in the associated samples were raised in accordance with the rules set forth in the EPA document "National Functional Guidelines for Organic Data Review," February 1994.

BLANK ID	DATE	CONTAMINANT	CONCENTRATION FOUND IN BLANK	SAMPLE CRQL	ASSOCIATED SAMPLES	CONCENTRATION FOUND IN SAMPLE	QUALIFIER/ ADJUSTMENT
VBLKC6	07/01/95	methylene chloride	14 ug/Kg	14	HQ852	16 ug/Kg	U *
				12	HQ853	11 ug/Kg	12 U *
				11	HQ854	13 ug/Kg	U *
				12	HQ855	16 ug/Kg	U *

* Compound was previously qualified "J" due to initial and continuing calibration results. Final qualification is a "U" flag with a "UJ" qualifier.

Comments: Methylene chloride, a common laboratory contaminant, was detected in the volatile storage blank. The storage blank was analyzed immediately following field samples and MS/MSD samples, on the same instrument. Quantitation limits in the associated samples were raised in accordance with the rules set forth in the EPA document "National Functional Guidelines for Organic Data Review," February 1994.

BLANK ID	DATE	CONTAMINANT	CONCENTRATION FOUND IN BLANK	SAMPLE CRQL	ASSOCIATED SAMPLES	CONCENTRATION FOUND IN SAMPLE	QUALIFIER/ ADJUSTMENT
VHBLK18	07/01/95	methylene chloride	5 ug/Kg	14	HQ852	16 ug/Kg	U *
				12	HQ853	11 ug/Kg	12 U *
				11	HQ854	13 ug/Kg	U *
				12	HQ855	16 ug/Kg	U *

* Compound was previously qualified "J" due to initial and continuing calibration results. Final qualification is a "U" flag with a "UJ" qualifier.

Comments: Chloroform was detected in the volatile trip blank and the rinsate blank, samples HQ858 and HQ857, analyzed under Case 23716, SDG HQ847. Chloroform was not detected in any field samples from this SDG, HQ852, therefore no qualifiers were added to the data.

Comments: No tentatively identified compounds (TICs) were found in the volatile method blank, storage blank, or samples.

IX. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met SOW requirements.

VOA: Yes _X_ No ___

Comments: None.

X. Additional Comments or Problems/Resolutions not addressed above.

VOA: None.

ORGANIC RAS SEMIVOLATILE QUALITY ASSURANCE REVIEW

SOW Number OLM03.0
Revision OLM03.1 **RAS ORGANIC DATA COMPLETENESS CHECKLIST**
BNA

Quality Control Summary Package
- P Surrogate Recovery Summary (Form II)
- P MS/MSD Summary (Form III)
- P Method Blank Summary (Form IV)
- P GC/MS Tuning and Mass Calibration (Form V)

Sample Data Package
- P Holding Times (SMO Sample Traffic Reports)
- P Organic Analysis Data Sheets (Form I)
- P Reconstructed Ion Chromatogram(s) (RIC)
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Mass Spectral Library Search for TICs

Standards Data Package
- NR Current List of Laboratory/Instrument Detection Limits
- P Initial Calibration Data (Form VI) for each instrument
- P Continuing Calibration Data (Form VII) for each instrument
- P Internal Standard Area Summary (Form VIII)
- P BNA Standards RICs
- P BNA Standards Quantitation Reports

Raw QC Package
- P DFTPP mass spectra and mass listings

Reagent Blank data
- P Organic Analysis Data Sheets (Form I)
- P RIC or Total Ion Chromatogram
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Library Search for TICs

Matrix Spike/Matrix Spike Duplicate Data
- P Organic Analysis Data Sheets
- P RIC
- P Quantitation Reports
- NR Mass Spectral Data
- NR EPA/NIH Library search for TICs

KEY: P = Provided in original data package, as required by the SOW
R = Provided as Resubmission
NP = Not provided in original data package or as resubmission
NR = Not required under the SOW
NA = Not applicable to this data package or analysis

ORGANIC RAS SEMIVOLATILE QUALITY ASSURANCE REVIEW

I. **DELIVERABLES**

All deliverables were present as specified in the statement of work.

BNA: Yes _X_ No ___

Comments: None.

II. **HOLDING TIMES**

All **CLP-SOW** holding times were met.

BNA: Yes ___ No _X_

Comments: The matrix spike and matrix spike duplicate of sample HQ855 was extracted two days outside the contractual holding time. Because quality control samples are not qualified, and samples are not qualified based on contractual holding time violations, no qualifiers were added to the data.

SAMPLE NUMBER	DAYS OUTSIDE LIMITS	COMPOUNDS	QUALIFIERS
HQ855MS, HQ855MSD	2	None	None

All **technical** holding times were met.

BNA: Yes _X_ No ___

Comments: None.

III. **DFTPP PERFORMANCE RESULTS**

The DFTPP performance results were within the specified control limits. All appropriate DFTPP results were included.

BNA: Yes _X_ No ___

Comments: None.

IV. **INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS**

Initial instrument calibrations were performed according to SOW requirements and met the specified control limits listed in the functional guidelines.

BNA: Yes _X_ No ___

Comments: In the initial calibration, 2,4-dinitrophenol had a percent relative standard deviation (%RSD) of 36.6%, which is outside control limits of less than 30% for an initial calibration. If the 20 ng standard was not included in the calibration, the resulting four-point curve had a %RSD of 19.2%. No qualifiers were added to the data.

Continuing instrument calibration was performed according to SOW requirements and met specified control limits listed in the functional guidelines.

BNA: Yes ___ No _X_

Comments: The laboratory met the SOW requirements. However, when compared to the initial calibration, seven compounds were outside control limits of less than 25 percent difference (%D) for the continuing calibration. Listed below are the compounds, %D, associated samples, and qualifiers added to the data.

COMPOUND	%DIFFERENCE	ASSOCIATED SAMPLES	QUALIFIERS
2,2'-oxybis(1-chloropropane)	53.7	All	UJ
hexachlorocyclopentadiene	37.6		
2-nitroaniline	45.1		
3-nitroaniline	38.3		
4-nitroaniline	46.2		
butylbenzylphthalate	34.5		
3,3-dichlorobenzidine	26.0		

V. SURROGATE COMPOUND RECOVERY

Surrogate compound recovery analysis was performed according to SOW requirements and results met specified control limits.

BNA: Yes _X_ No ___

Comments: None.

VI. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix Spike/Matrix Spike Duplicate analysis was performed according to SOW requirements and results met recommended recovery and precision limits.

BNA: Yes _X_ No ___

Comments: The MS/MSD analysis of sample HQ855 met all percent recovery (%R) and relative percent difference (RPD) quality control criteria. However, the chain-of-custody lists sample HQ854 as the QC sample, but the laboratory used HQ855. There is no explanation in the case narrative, nor is there a record of communication with EPA regarding this inconsistency.

VII. INTERNAL STANDARD AREA

Internal standard area analysis was performed according to SOW requirements and results met specified control limits.

BNA: Yes X No ___

Comments: None.

VIII. BLANK ANALYSIS RESULTS

The laboratory blank analysis was performed according to SOW requirements and met specified control limits.

BNA: Yes ___ No X

Comments: No target analytes were detected in the semivolatile extraction blank.

Comments: Bis(2-ethylhexyl)phthalate was detected in the rinsate blank associated with this sampling event, sample HQ857 from Case 23716, SDG HQ847. Quantitation limits in the associated samples were raised in accordance with the rules set forth in the EPA document "National Functional Guidelines for Organic Data Review," February 1994.

BLANK ID	DATE SAMPLED	CONTAMINANT	CONCENTRATION FOUND IN BLANK	SAMPLE CRQL	ASSOCIATED SAMPLES	CONCENTRATION FOUND IN SAMPLE	QUALIFIER/ ADJUSTMENT
Rinsate blank (HQ857)	06/27/95	bis(2-ethylhexyl) phthalate	2 ug/L	440	HQ852	56 ug/Kg	440 U
				380	HQ853	56 ug/Kg	380 U

Comments: One tentatively identified compound (TIC) was found in the semivolatile extraction blank. All TICs in the associated samples were previously qualified "NJ" - estimated tentatively identified compounds in the Review Summary. The following table lists blank results, associated samples and qualifiers added to the data.

BLANK ID	DATE	TIC RETENTION TIME	ASSOCIATED SAMPLES	QUALIFIERS
SBLK48	07/05/95	3.70	All	R

IX. SAMPLE RESULTS

The sample results were reviewed and all compound identifications were acceptable and met SOW requirements.

BNA: Yes ___ No _X_

Comments: In sample HQ852, benzo(b)fluoranthene and benzo(k)fluoranthene co-elute with no separation between the peaks; they are quantitated as a single peak, with the same retention time for both compounds. In the associated standard analysis, the peaks were separated by 0.04 minutes. Because it is not possible to be certain that both compounds are present, these compounds were qualified "NJ", presumed present at an estimated concentration.

In quantitating the two peaks, the laboratory states that "in the ... sample, these isomers could not be chromatographically resolved. This is indicated with an "X" flag on the Form I. The maximum concentration possible for each compound has been reported by basing each calculation on the entire area of the unresolved peaks. The concentration for each isomer was calculated using the appropriate compound-specific response factor." The laboratory correctly used the same peak area for both isomers, but incorrectly calculated the concentration of benzo(k)fluoranthene. ESAT recalculated the concentration using the applicable response factor, and corrected the raw quantitation data and the Form I. As stated above, both benzo(b)fluoranthene and benzo(k)fluoranthene were qualified "NJ".

SAMPLE ID	COMPOUND	LABORATORY CALCULATED CONCENTRATION	ESAT RECALCULATED CONCENTRATION
HQ852	benzo(k)fluoranthene	61 ug/Kg	120 ug/Kg

Comments: All samples had one TIC identified as an aldol condensation product. This TIC was also present in the extraction blank. The TIC was qualified as rejected "R".

SAMPLE ID	ALDOL TIC RETENTION TIME	QUALIFIER
HQ852, HQ853	3.55	R
HQ854, HQ855	3.53	

X. Additional Comments or Problems/Resolutions not addressed above.

BNA: None.

REGION VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use ORGANIC DATA

R - Reported value is "rejected". Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

J - The associated numerical value is an estimated quantity because the Quality Control criteria were not met.

U J - The reported quantitation limit is estimated because Quality Control criteria were not met. Compound was not detected.

N J - Estimated value of a tentatively identified compound.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

VOLATILE RINSATE BLANK

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CR036608A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
67-66-3	Chloroform	19	
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
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
10061-02-6	trans-1,3-Dichloropropene	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	Xylene (Total)	10	U

VOLATILE LIQUID BLANK
SAT-LLL
7/23/95

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CR036608A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

VOLATILE TRIP BLANK

EPA SAMPLE NO.

HQ858

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736609

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036609A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
67-66-3	Chloroform	25	
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
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
10061-02-6	trans-1,3-Dichloropropene	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	Xylene (Total)	10	U

VOLATILE TRIP BLANK
LLL-ESAT 08/23/95

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ858

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736609

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN036609A03

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. _____ Date Analyzed: 07/03/95

GC Column:DB624 ID: 0.53 (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
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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27.				
28.				
29.				
30.				

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SEMIVOLATILE SPIKE BLANK
[illegible] - 08/28/95

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036608A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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-Dimethylphenol	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
606-20-2	2,6-Dinitrotoluene	10	U
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SEMIVOLATILE 2INSITE BL-VK

LCL-ESAT — 08/23/95

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036608A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-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 (1)	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-butylphthalate	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	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	2	J
117-84-0	Di-n-octylphthalate	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	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE RINSATE BLANK
LOT TEST -05/25/95

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ857

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ847

Matrix: (soil/water) WATER Lab Sample ID: 736608

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH036608A60

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 07/04/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/06/95

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
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FORM I SV-TIC OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ852

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736613

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH036613A54

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. 26 Date Analyzed: 07/01/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
74-87-3	Chloromethane	14	U	
74-83-9	Bromomethane	14	U	
75-01-4	Vinyl Chloride	14	U	
75-00-3	Chloroethane	14	U	
75-09-2	Methylene Chloride	16	~~B~~ U	UJ
67-64-1	Acetone	5	J	UJ
75-15-0	Carbon Disulfide	14	U	
75-35-4	1,1-Dichloroethene	14	U	
75-34-3	1,1-Dichloroethane	14	U	
540-59-0	1,2-Dichloroethene (total)	14	U	
67-66-3	Chloroform	14	U	
107-06-2	1,2-Dichloroethane	14	U	
78-93-3	2-Butanone	14	U	UJ
71-55-6	1,1,1-Trichloroethane	14	U	UJ
56-23-5	Carbon Tetrachloride	14	U	
75-27-4	Bromodichloromethane	14	U	
78-87-5	1,2-Dichloropropane	14	U	
10061-01-5	cis-1,3-Dichloropropene	14	U	
79-01-6	Trichloroethene	14	U	
124-48-1	Dibromochloromethane	14	U	
79-00-5	1,1,2-Trichloroethane	14	U	
71-43-2	Benzene	14	U	
10061-02-6	trans-1,3-Dichloropropene	14	U	
75-25-2	Bromoform	14	U	
108-10-1	4-Methyl-2-Pentanone	14	U	
591-78-6	2-Hexanone	14	U	
127-18-4	Tetrachloroethene	14	U	
79-34-5	1,1,2,2-Tetrachloroethane	14	U	
108-88-3	Toluene	1	J	
108-90-7	Chlorobenzene	14	U	
100-41-4	Ethylbenzene	14	U	
100-42-5	Styrene	14	U	
1330-20-7	Xylene (Total)	14	U	

FORM I VOA OLM03.0

08/23/95 [illegible]

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ852

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736613

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH036613A54

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. 26 Date Analyzed: 07/01/95

GC Column:DB624 ID: 0.53 (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/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

08/23/95

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ853

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736618

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH036618A54

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. 14 Date Analyzed: 07/01/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12 ~~11~~ ~~JB~~	UJ
67-64-1	Acetone	12	UJ
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U UJ
71-55-6	1,1,1-Trichloroethane	12	U UJ
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (Total)	12	U

FORM I VOA OLM03.0

08/23/95 im

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ853

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736618

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH036618A54

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. 14 Date Analyzed: 07/01/95

GC Column:DB624 ID: 0.53 (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/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

08/23/95 [illegible]

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ854

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736619

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH036619A54

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. 13 Date Analyzed: 07/01/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
74-87-3	Chloromethane	11	U	
74-83-9	Bromomethane	11	U	
75-01-4	Vinyl Chloride	11	U	
75-00-3	Chloroethane	11	U	
75-09-2	Methylene Chloride	13	~~B~~ U	UJ
67-64-1	Acetone	11	U	UJ
75-15-0	Carbon Disulfide	11	U	
75-35-4	1,1-Dichloroethene	11	U	
75-34-3	1,1-Dichloroethane	11	U	
540-59-0	1,2-Dichloroethene (total)	11	U	
67-66-3	Chloroform	11	U	
107-06-2	1,2-Dichloroethane	11	U	
78-93-3	2-Butanone	11	U	UJ
71-55-6	1,1,1-Trichloroethane	11	U	UJ
56-23-5	Carbon Tetrachloride	11	U	
75-27-4	Bromodichloromethane	11	U	
78-87-5	1,2-Dichloropropane	11	U	
10061-01-5	cis-1,3-Dichloropropene	11	U	
79-01-6	Trichloroethene	11	U	
124-48-1	Dibromochloromethane	11	U	
79-00-5	1,1,2-Trichloroethane	11	U	
71-43-2	Benzene	11	U	
10061-02-6	trans-1,3-Dichloropropene	11	U	
75-25-2	Bromoform	11	U	
108-10-1	4-Methyl-2-Pentanone	11	U	
591-78-6	2-Hexanone	11	U	
127-18-4	Tetrachloroethene	11	U	
79-34-5	1,1,2,2-Tetrachloroethane	11	U	
108-88-3	Toluene	3	J	
108-90-7	Chlorobenzene	11	U	
100-41-4	Ethylbenzene	11	U	
100-42-5	Styrene	11	U	
1330-20-7	Xylene (Total)	11	U	

FORM I VOA OLM03.0

08/23/95

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ854

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736619

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH036619A54

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. 13 Date Analyzed: 07/01/95

GC Column:DB624 ID: 0.53 (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/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

08/23/95

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ855

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736620

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH036620A54

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. 17 Date Analyzed: 07/01/95

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
74-87-3	Chloromethane	12	U	
74-83-9	Bromomethane	12	U	
75-01-4	Vinyl Chloride	12	U	
75-00-3	Chloroethane	12	U	
75-09-2	Methylene Chloride	16	~~B~~ U	UJ
67-64-1	Acetone	12	U	UJ
75-15-0	Carbon Disulfide	12	U	
75-35-4	1,1-Dichloroethene	12	U	
75-34-3	1,1-Dichloroethane	12	U	
540-59-0	1,2-Dichloroethene (total)	12	U	
67-66-3	Chloroform	12	U	
107-06-2	1,2-Dichloroethane	12	U	
78-93-3	2-Butanone	12	U	UJ
71-55-6	1,1,1-Trichloroethane	12	U	UJ
56-23-5	Carbon Tetrachloride	12	U	
75-27-4	Bromodichloromethane	12	U	
78-87-5	1,2-Dichloropropane	12	U	
10061-01-5	cis-1,3-Dichloropropene	12	U	
79-01-6	Trichloroethene	12	U	
124-48-1	Dibromochloromethane	12	U	
79-00-5	1,1,2-Trichloroethane	12	U	
71-43-2	Benzene	12	U	
10061-02-6	trans-1,3-Dichloropropene	12	U	
75-25-2	Bromoform	12	U	
108-10-1	4-Methyl-2-Pentanone	12	U	
591-78-6	2-Hexanone	12	U	
127-18-4	Tetrachloroethene	12	U	
79-34-5	1,1,2,2-Tetrachloroethane	12	U	
108-88-3	Toluene	12	U	
108-90-7	Chlorobenzene	12	U	
100-41-4	Ethylbenzene	12	U	
100-42-5	Styrene	12	U	
1330-20-7	Xylene (Total)	12	U	

FORM I VOA OLM03.0

08/23/95 - VR

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ855

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736620

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH036620A54

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: not dec. 17 Date Analyzed: 07/01/95

GC Column:DB624 ID: 0.53 (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/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC OLM03.0

08/23/95 JM

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ852

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736613

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036613A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 26 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/10/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
108-95-2	Phenol	440	U	
111-44-4	bis(2-Chloroethyl)ether	440	U	
95-57-8	2-Chlorophenol	440	U	
541-73-1	1,3-Dichlorobenzene	440	U	
106-46-7	1,4-Dichlorobenzene	440	U	
95-50-1	1,2-Dichlorobenzene	440	U	
95-48-7	2-Methylphenol	440	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	440	U	UJ
106-44-5	4-Methylphenol	440	U	
621-64-7	N-Nitroso-di-n-propylamine	440	U	
67-72-1	Hexachloroethane	440	U	
98-95-3	Nitrobenzene	440	U	
78-59-1	Isophorone	440	U	
88-75-5	2-Nitrophenol	440	U	
105-67-9	2,4-Dimethylphenol	440	U	
111-91-1	bis(2-Chloroethoxy)methane	440	U	
120-83-2	2,4-Dichlorophenol	440	U	
120-82-1	1,2,4-Trichlorobenzene	440	U	
91-20-3	Naphthalene	440	U	
106-47-8	4-Chloroaniline	440	U	
87-68-3	Hexachlorobutadiene	440	U	
59-50-7	4-Chloro-3-methylphenol	440	U	
91-57-6	2-Methylnaphthalene	440	U	
77-47-4	Hexachlorocyclopentadiene	440	U	UJ
88-06-2	2,4,6-Trichlorophenol	440	U	
95-95-4	2,4,5-Trichlorophenol	1100	U	
91-58-7	2-Chloronaphthalene	440	U	
88-74-4	2-Nitroaniline	1100	U	UJ
131-11-3	Dimethylphthalate	440	U	
208-96-8	Acenaphthylene	440	U	
606-20-2	2,6-Dinitrotoluene	440	U	
99-09-2	3-Nitroaniline	1100	U	UJ
83-32-9	Acenaphthene	440	U	

FORM I SV-1 OLM03.0

08/23/95 mc

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ852

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736613

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036613A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 26 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/10/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q		
51-28-5	2,4-Dinitrophenol	1100	U		
100-02-7	4-Nitrophenol	1100	U		
132-64-9	Dibenzofuran	440	U		
121-14-2	2,4-Dinitrotoluene	440	U		
84-66-2	Diethylphthalate	440	U		
7005-72-3	4-Chlorophenyl-phenylether	440	U		
86-73-7	Fluorene	440	U		
100-01-6	4-Nitroaniline	1100	U	UJ	
534-52-1	4,6-Dinitro-2-methylphenol	1100	U		
86-30-6	N-nitrosodiphenylamine (1)	440	U		
101-55-3	4-Bromophenyl-phenylether	440	U		
118-74-1	Hexachlorobenzene	440	U		
87-86-5	Pentachlorophenol	1100	U		
85-01-8	Phenanthrene	100	J		
120-12-7	Anthracene	440	U		
86-74-8	Carbazole	440	U		
84-74-2	Di-n-butylphthalate	440	U		
206-44-0	Fluoranthene	160	J		
129-00-0	Pyrene	120	J		
85-68-7	Butylbenzylphthalate	440	U	UJ	
91-94-1	3,3'-Dichlorobenzidine	440	U	UJ	
56-55-3	Benzo(a)anthracene	95	J		
218-01-9	Chrysene	73	J		
117-81-7	bis(2-Ethylhexyl)phthalate	440 ~~56~~	J		LCL
117-84-0	Di-n-octylphthalate	440	U		
205-99-2	Benzo(b)fluoranthene	120	JX	UJ	
207-08-9	Benzo(k)fluoranthene	120 ~~61~~	JX	UJ	LCL
50-32-8	Benzo(a)pyrene	88	J		
193-39-5	Indeno(1,2,3-cd)pyrene	47	J		
53-70-3	Dibenzo(a,h)anthracene	440	U		
191-24-2	Benzo(g,h,i)perylene	440	U		

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 OLM03.0

08/23/95 .m

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ852

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736613

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036613A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 26 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/10/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 11

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	ALDOL (BC)	3.55	8004	ABJ	R
2.	UNKNOWN (BC)	3.69	169	BJ	R
3.	UNKNOWN	4.34	145	J	NJ
4.	UNKNOWN	5.28	308	J	
5.	UNKNOWN	6.71	200	J	
6.	UNKNOWN AMIDE	15.71	182	J	
7.	UNKNOWN	16.38	106	J	
8.	UNKNOWN	19.05	1248	J	
9.	UNKNOWN	19.29	126	J	
10.	UNKNOWN	19.31	95	J	
11.	UNKNOWN	19.35	113	J	
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FORM I SV-TIC OLM03.0

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
ALKANE SERIES REPORT

EPA SAMPLE NO.

HQ852

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736613

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036613A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 26 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/10/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALKANE	16.29	147	J
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FORM I SV-TIC OLM03.0

08/23/95 m

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ853

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736618

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036618A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 14 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/10/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
108-95-2	Phenol	380	U	
111-44-4	bis(2-Chloroethyl)ether	380	U	
95-57-8	2-Chlorophenol	380	U	
541-73-1	1,3-Dichlorobenzene	380	U	
106-46-7	1,4-Dichlorobenzene	380	U	
95-50-1	1,2-Dichlorobenzene	380	U	
95-48-7	2-Methylphenol	380	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	380	U	UJ
106-44-5	4-Methylphenol	380	U	
621-64-7	N-Nitroso-di-n-propylamine	380	U	
67-72-1	Hexachloroethane	380	U	
98-95-3	Nitrobenzene	380	U	
78-59-1	Isophorone	380	U	
88-75-5	2-Nitrophenol	380	U	
105-67-9	2,4-Dimethylphenol	380	U	
111-91-1	bis(2-Chloroethoxy)methane	380	U	
120-83-2	2,4-Dichlorophenol	380	U	
120-82-1	1,2,4-Trichlorobenzene	380	U	
91-20-3	Naphthalene	380	U	
106-47-8	4-Chloroaniline	380	U	
87-68-3	Hexachlorobutadiene	380	U	
59-50-7	4-Chloro-3-methylphenol	380	U	
91-57-6	2-Methylnaphthalene	380	U	
77-47-4	Hexachlorocyclopentadiene	380	U	UJ
88-06-2	2,4,6-Trichlorophenol	380	U	
95-95-4	2,4,5-Trichlorophenol	960	U	
91-58-7	2-Chloronaphthalene	380	U	
88-74-4	2-Nitroaniline	960	U	UJ
131-11-3	Dimethylphthalate	380	U	
208-96-8	Acenaphthylene	380	U	
606-20-2	2,6-Dinitrotoluene	380	U	
99-09-2	3-Nitroaniline	960	U	UJ
83-32-9	Acenaphthene	380	U	

03/23/95

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ853

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736618

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036618A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 14 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/10/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
51-28-5	2,4-Dinitrophenol	960	U	
100-02-7	4-Nitrophenol	960	U	
132-64-9	Dibenzofuran	380	U	
121-14-2	2,4-Dinitrotoluene	380	U	
84-66-2	Diethylphthalate	380	U	
7005-72-3	4-Chlorophenyl-phenylether	380	U	
86-73-7	Fluorene	380	U	
100-01-6	4-Nitroaniline	960	U	UJ
534-52-1	4,6-Dinitro-2-methylphenol	960	U	
86-30-6	N-nitrosodiphenylamine (1)	380	U	
101-55-3	4-Bromophenyl-phenylether	380	U	
118-74-1	Hexachlorobenzene	380	U	
87-86-5	Pentachlorophenol	960	U	
85-01-8	Phenanthrene	380	U	
120-12-7	Anthracene	380	U	
86-74-8	Carbazole	380	U	
84-74-2	Di-n-butylphthalate	380	U	
206-44-0	Fluoranthene	380	U	
129-00-0	Pyrene	380	U	
85-68-7	Butylbenzylphthalate	380	U	UJ
91-94-1	3,3'-Dichlorobenzidine	380	U	UJ
56-55-3	Benzo(a)anthracene	380	U	
218-01-9	Chrysene	380	U	
117-81-7	bis(2-Ethylhexyl)phthalate	380 ~~56~~	~~J~~ U	
117-84-0	Di-n-octylphthalate	380	U	
205-99-2	Benzo(b)fluoranthene	380	U	
207-08-9	Benzo(k)fluoranthene	380	U	
50-32-8	Benzo(a)pyrene	380	U	
193-39-5	Indeno(1,2,3-cd)pyrene	380	U	
53-70-3	Dibenzo(a,h)anthracene	380	U	
191-24-2	Benzo(g,h,i)perylene	380	U	

(1) - Cannot be separated from Diphenylamine

08/23/95 m

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ853

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736618

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036618A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 14 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/10/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.2

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	3.55	6962	ABJ
2.	UNKNOWN (BC)	3.70	132	BJ
3.	UNKNOWN	4.36	133	J
4.	TETRACHLOROETHANE	4.42	90	J
5.	UNKNOWN	6.72	192	J
6.	UNKNOWN AMIDE	15.73	271	J
7.	UNKNOWN	16.29	94	J
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ854

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736619

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036619A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 13 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/10/95

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
108-95-2	Phenol	380	U	
111-44-4	bis(2-Chloroethyl)ether	380	U	
95-57-8	2-Chlorophenol	380	U	
541-73-1	1,3-Dichlorobenzene	380	U	
106-46-7	1,4-Dichlorobenzene	380	U	
95-50-1	1,2-Dichlorobenzene	380	U	
95-48-7	2-Methylphenol	380	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	380	U	UJ
106-44-5	4-Methylphenol	380	U	
621-64-7	N-Nitroso-di-n-propylamine	380	U	
67-72-1	Hexachloroethane	380	U	
98-95-3	Nitrobenzene	380	U	
78-59-1	Isophorone	380	U	
88-75-5	2-Nitrophenol	380	U	
105-67-9	2,4-Dimethylphenol	380	U	
111-91-1	bis(2-Chloroethoxy)methane	380	U	
120-83-2	2,4-Dichlorophenol	380	U	
120-82-1	1,2,4-Trichlorobenzene	380	U	
91-20-3	Naphthalene	380	U	
106-47-8	4-Chloroaniline	380	U	
87-68-3	Hexachlorobutadiene	380	U	
59-50-7	4-Chloro-3-methylphenol	380	U	
91-57-6	2-Methylnaphthalene	380	U	
77-47-4	Hexachlorocyclopentadiene	380	U	UJ
88-06-2	2,4,6-Trichlorophenol	380	U	
95-95-4	2,4,5-Trichlorophenol	950	U	
91-58-7	2-Chloronaphthalene	380	U	
88-74-4	2-Nitroaniline	950	U	UJ
131-11-3	Dimethylphthalate	380	U	
208-96-8	Acenaphthylene	380	U	
606-20-2	2,6-Dinitrotoluene	380	U	
99-09-2	3-Nitroaniline	950	U	UJ
83-32-9	Acenaphthene	380	U	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ854

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736619

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036619A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 13 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/10/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
51-28-5	2,4-Dinitrophenol	950	U	
100-02-7	4-Nitrophenol	950	U	
132-64-9	Dibenzofuran	380	U	
121-14-2	2,4-Dinitrotoluene	380	U	
84-66-2	Diethylphthalate	380	U	
7005-72-3	4-Chlorophenyl-phenylether	380	U	
86-73-7	Fluorene	380	U	
100-01-6	4-Nitroaniline	950	U	UJ
534-52-1	4,6-Dinitro-2-methylphenol	950	U	
86-30-6	N-nitrosodiphenylamine (1)	380	U	
101-55-3	4-Bromophenyl-phenylether	380	U	
118-74-1	Hexachlorobenzene	380	U	
87-86-5	Pentachlorophenol	950	U	
85-01-8	Phenanthrene	380	U	
120-12-7	Anthracene	380	U	
86-74-8	Carbazole	380	U	
84-74-2	Di-n-butylphthalate	380	U	
206-44-0	Fluoranthene	380	U	
129-00-0	Pyrene	380	U	
85-68-7	Butylbenzylphthalate	380	U	UJ
91-94-1	3,3'-Dichlorobenzidine	380	U	UJ
56-55-3	Benzo(a)anthracene	380	U	
218-01-9	Chrysene	380	U	
117-81-7	bis(2-Ethylhexyl)phthalate	380	U	
117-84-0	Di-n-octylphthalate	380	U	
205-99-2	Benzo(b)fluoranthene	380	U	
207-08-9	Benzo(k)fluoranthene	380	U	
50-32-8	Benzo(a)pyrene	380	U	
193-39-5	Indeno(1,2,3-cd)pyrene	380	U	
53-70-3	Dibenzo(a,h)anthracene	380	U	
191-24-2	Benzo(g,h,i)perylene	380	U	

(1) - Cannot be separated from Diphenylamine

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ854

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736619

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036619A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 13 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/10/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL (BC)	3.53	3073	ABJ
2.	UNKNOWN (BC)	3.70	130	BJ
3.	UNKNOWN	5.31	100	J
4.	UNKNOWN	6.73	90	J
5.	UNKNOWN AMIDE	15.73	104	J
6.	UNKNOWN	19.07	349	J
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FORM I SV-TIC OLM03.0

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ855

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736620

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036620A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 17 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/10/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
108-95-2	Phenol	400	U	
111-44-4	bis(2-Chloroethyl)ether	400	U	
95-57-8	2-Chlorophenol	400	U	
541-73-1	1,3-Dichlorobenzene	400	U	
106-46-7	1,4-Dichlorobenzene	400	U	
95-50-1	1,2-Dichlorobenzene	400	U	
95-48-7	2-Methylphenol	400	U	
108-60-1	2,2'-oxybis(1-Chloropropane)	400	U	UJ
106-44-5	4-Methylphenol	400	U	
621-64-7	N-Nitroso-di-n-propylamine	400	U	
67-72-1	Hexachloroethane	400	U	
98-95-3	Nitrobenzene	400	U	
78-59-1	Isophorone	400	U	
88-75-5	2-Nitrophenol	400	U	
105-67-9	2,4-Dimethylphenol	400	U	
111-91-1	bis(2-Chloroethoxy)methane	400	U	
120-83-2	2,4-Dichlorophenol	400	U	
120-82-1	1,2,4-Trichlorobenzene	400	U	
91-20-3	Naphthalene	400	U	
106-47-8	4-Chloroaniline	400	U	
87-68-3	Hexachlorobutadiene	400	U	
59-50-7	4-Chloro-3-methylphenol	400	U	
91-57-6	2-Methylnaphthalene	400	U	
77-47-4	Hexachlorocyclopentadiene	400	U	UJ
88-06-2	2,4,6-Trichlorophenol	400	U	
95-95-4	2,4,5-Trichlorophenol	1000	U	
91-58-7	2-Chloronaphthalene	400	U	
88-74-4	2-Nitroaniline	1000	U	UJ
131-11-3	Dimethylphthalate	400	U	
208-96-8	Acenaphthylene	400	U	
606-20-2	2,6-Dinitrotoluene	400	U	
99-09-2	3-Nitroaniline	1000	U	UJ
83-32-9	Acenaphthene	400	U	

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HQ855

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736620

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036620A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 17 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/10/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q	
51-28-5	2,4-Dinitrophenol	1000	U	
100-02-7	4-Nitrophenol	1000	U	
132-64-9	Dibenzofuran	400	U	
121-14-2	2,4-Dinitrotoluene	400	U	
84-66-2	Diethylphthalate	400	U	
7005-72-3	4-Chlorophenyl-phenylether	400	U	
86-73-7	Fluorene	400	U	
100-01-6	4-Nitroaniline	1000	U	UJ
534-52-1	4,6-Dinitro-2-methylphenol	1000	U	
86-30-6	N-nitrosodiphenylamine (1)	400	U	
101-55-3	4-Bromophenyl-phenylether	400	U	
118-74-1	Hexachlorobenzene	400	U	
87-86-5	Pentachlorophenol	1000	U	
85-01-8	Phenanthrene	400	U	
120-12-7	Anthracene	400	U	
86-74-8	Carbazole	400	U	
84-74-2	Di-n-butylphthalate	400	U	
206-44-0	Fluoranthene	400	U	
129-00-0	Pyrene	400	U	
85-68-7	Butylbenzylphthalate	400	U	UJ
91-94-1	3,3'-Dichlorobenzidine	400	U	UJ
56-55-3	Benzo(a)anthracene	400	U	
218-01-9	Chrysene	400	U	
117-81-7	bis(2-Ethylhexyl)phthalate	400	U	
117-84-0	Di-n-octylphthalate	400	U	
205-99-2	Benzo(b)fluoranthene	400	U	
207-08-9	Benzo(k)fluoranthene	400	U	
50-32-8	Benzo(a)pyrene	400	U	
193-39-5	Indeno(1,2,3-cd)pyrene	400	U	
53-70-3	Dibenzo(a,h)anthracene	400	U	
191-24-2	Benzo(g,h,i)perylene	400	U	

(1) - Cannot be separated from Diphenylamine

08/23/95 m

23716 HQ852 SAMPLE DATA PACKAGE

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

HQ855

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50009

Lab Code: COMPU Case No.: 23716 SAS No.: SDG No.: HQ852

Matrix: (soil/water) SOIL Lab Sample ID: 736620

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH036620A02

Level: (low/med) LOW Date Received: 06/29/95

% Moisture: 17 decanted: (Y/N) N Date Extracted: 07/05/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 07/10/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.1

Number TICs found: 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.		ALDOL (BC)	3.53	5169	ABJ	R
2.		UNKNOWN (BC)	3.69	127	BJ	R
3.		UNKNOWN	4.36	80	J	NJ
4.		UNKNOWN AMIDE	15.71	146	J	NJ
5.						
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30.						

FORM I SV-TIC OLM03.0

08/23/95 JM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

Date: September 11, 1995

Ref: 8ES-MEB

RECEIVED
SEP 13 1995
URS/ARCS

MEMORANDUM

TO: Bob Heise
8HWM-SM

FROM: Kenneth Wang
Data Validation Chemist
Environmental Services Division, Multi-Media Enforcement Branch, Analytical Operations Section (ESD, MEB, AOS)

SUBJECT: Data Validation for **Yankton Lighting & Heating**, Case #23716, SDG #MHCK22

The Environmental Services Assistance Team (ESAT) has completed its review of data from the analysis of four soil samples for total metals and cyanide under the Contract Laboratory Program (CLP) Routine Analytical Services (RAS) for **Yankton Lighting & Heating, case #23716**, Sample Delivery Group (SDG) **#MHCK22**. ESD has evaluated the ESAT's Data Validation and agrees with ESAT's review of the data package. Data in the enclosed package are acceptable with the qualifiers added to the data reports. ESD does not agree with ESAT's comment of the cyanide analysis. The laboratory did provide all cyanide raw data, therefore all of the "UJ" qualifiers on cyanide results were removed by me. Please refer to the attached ICF Kaiser Inc. data validation report including the narrative summary and comments for a full explanation of the data review findings.

If you have any questions, or if I can be of further assistance, please contact me at 294-1055.

Attachments

Printed on Recycled Paper

REGION VIII
RAS INORGANIC - SUMMARY OF CLP DATA QUALITY ASSURANCE REVIEW

CASE/SAS/LGN NO.	SITE NAME	SITE ID/OPERABLE UNIT
23716	Yankton Lighting & Heating	8ZZ/00

RPM NAME	ESAT TID - 08-9504-503
Bob Heise	ESAT WUD - 75

LABORATORY	CONTRACT NO.	SDG	LABORATORY TPO/REGION
ChemTech Consulting Group, Inc.	68-D3-0038	MHCK22	Pat Sheridan / II

DATA REVIEWER Leslie K. Gerqurich **REVIEW COMPLETION DATE** 08/16/95

SAMPLE ID	SAMPLE LOCATION	MATRIX	DATE COLLECTED
MHCK22	YTG-SE-1	Soil	06/27/95
MHCK23	YTG-SE-2	Soil	06/27/95
MHCK24	YTG-SE-3	Soil	06/27/95
MHCK25	YTG-SE-5	Soil	06/27/95

DATA QUALITY STATEMENT*
( ) Data are ACCEPTABLE according to the Functional Guidelines with no qualifiers (flags) by the reviewer
(X) Data are acceptable with QUALIFICATIONS noted in review
( ) Data are UNACCEPTABLE according to the Functional Guidelines

Telephone/Communication Logs Enclosed? Yes ___ No X

TPO Attention Required? Yes X No ___
If yes, list the items that require attention: Raw data was not provided for the cyanide analysis. Therefore, ESAT could not confirm reported results and all cyanide results have been qualified "UJ".

* Please see Data Qualifier Definitions, attached to the end of this report.

INORGANIC DATA QUALITY ASSURANCE REVIEW

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," February 1994. The data package, Case 23716, SDG MHCK22 consisted of four soil samples for CLP RAS total metals and cyanide analyses.

The following table lists the data qualifiers added to sample analyses.

SAMPLE ID	ELEMENTS - QUALIFIERS	PROBLEM	REVIEW SECTION
All Samples	Sodium - J	Serial Dilution	FORM 9
All Samples	Cyanide - UJ	No cyanide raw data	Completeness Checklist

INORGANIC DATA QUALITY ASSURANCE REVIEW

SOW ILM03.0

RAS INORGANIC DELIVERABLES COMPLETENESS CHECKLIST

P Inorganic Cover Page
P Inorganic Analysis Data Sheets (Form I)
P Initial Calibration and Calibration Verification Results (Form II)
P Continuing Calibration Verification Results (Form II)
P CRDL Standard for ICP & AA (Form II, Part 2)
P Blank Analysis Results (Form III)
P ICP Interference Check Sample Results (Form IV)
P Spiked Sample Results (Form V)
P Post-digest Spiked Sample Analysis (Form V, Part 2)
P Duplicate Sample Results (Form VI)
P Instrument Detection Limits (Form X - Quarterly)
P Laboratory Control Sample results (Form VII)
P Standard Addition Results (Form VIII)
P ICP Serial Dilution Results (Form IX)
P ICP Interelement Correction Factors (Form XII - Quarterly, or Form XI - Annually)
P ICP Linear Ranges (Form XII - Quarterly)
P Raw Data
  P Samples P Calibration Standards P Blanks P Spikes
  P Duplicates P ICP QC (ICS and Serial Dilution) P LCS
  NA Furnace AA P Mercury Analysis * NP Cyanide Analysis
P Percent Solids Calculations - Solids Only
P Sample Prep/Digestion Logs (Form XIII)
P Analysis Run Log (Form XIV)
P Traffic Report(s)
P Chain of Custody
P Sample Description
P Case Narrative
P Method References

KEY: P = Provided in original data package, as required by contract
R = Provided as Resubmission
NP = Not provided in original data package or as resubmission
NR = Not required under contract
NA = Not applicable to this data package

* **Comments:** Raw data was not provided for the cyanide analysis. Therefore, ESAT could not confirm reported results. All cyanide results have been qualified "UJ".

INORGANIC DATA QUALITY ASSURANCE REVIEW

HOLDING TIMES

All CLP-SOW holding times were met.

Yes _X_ No __

All technical holding times were met.

Yes _X_ No __

Comments: None

INSTRUMENT CALIBRATION: STANDARDS AND BLANKS

Initial instrument calibrations were performed according to contract requirements.

Yes _X_ No ___

Comments: None

The instruments were calibrated daily and each time an analysis run was performed.

Yes _X_ No ___

Comments: None

The instruments were calibrated using one blank and the appropriate number of standards.

Yes _X_ No ___

Comments: None

FORM 1 - SAMPLE ANALYSIS RESULTS

Sample analyses were entered correctly on the Form I's.

Yes _X_ No ___

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

FORM 2A - INITIAL AND CONTINUING CALIBRATION VERIFICATION

The initial and continuing calibration verification standards (ICV and CCV, respectively) met contract requirements.

Yes _X_ No ___

Comments: None

The calibration verification results were within 90-110% recovery for metals, 80-120% for mercury, and 85-115% for cyanide.

Yes _X_ No ___

Comments: None

The continuing calibration standards were run at 10% frequency.

Yes _X_ No ___

Comments: None

FORM 2B - CRDL STANDARD FOR ICP AND AA

ICP Analysis: Standards (CRI) at 2X the CRDL, the CRDL or the IDL whichever were greater, were analyzed at the beginning and the end of each sample run, or at a minimum of twice per eight hour shift, whichever was more frequent.

Yes _X_ No ___

Comments: None

GFAA Analysis: Standards (CRA) at the CRDL were analyzed at the beginning of each sample run.

Yes ___ No ___ N/A _X_

Comments: None

The CRI and/or the CRA were analyzed after the ICV.

Yes _X_ No ___ N/A __

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

FORM 3 - BLANKS

The initial and continuing calibration blanks (ICB and CCB, respectively) met contract requirements.

Yes _X_ No ___

Comments: None

The continuing calibration blanks were run at 10% frequency.

Yes _X_ No ___

Comments: None

A laboratory/preparation blank was run at the frequency of one per twenty samples, or per sample delivery group (whichever is more frequent), and for each matrix analyzed.

Yes _X_ No ___

Comments: None

All analyzed blanks were free of contamination.

Yes _X_ No ___

Comments: Minor amounts of sodium were detected in some blanks, however, all sample results were greater than 5X the amounts present in the blanks.

FORM 4 - ICP INTERFERENCE CHECK SAMPLE

The ICP interference check sample (ICS) was run twice per eight hour shift and/or at the beginning and end of each sample set analysis sequence (whichever is more frequent).

Yes _X_ No ___

Comments: None

Percent recovery of the analytes in solution ICSAB were within the range of 80-120%.

Yes _X_ No ___

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

The ICSA and ICSAB contained no false positive or false negative results greater than the IDL.

Yes ___ No _X_

Comments: Minor amounts of antimony, barium, cadmium, cobalt, copper, sodium, and vanadium were present in the ICSA and ICSAB check samples. Sample results were low in concentration of potential interferences. No results were qualified.

FORM 5A - MATRIX SPIKE SAMPLE ANALYSIS

A matrix spike sample was analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes _X_ No ___

Comments: None

Spike recoveries were within the range of 75 - 125% (an exception is granted where the sample concentration is 4 times the spike concentration).

Yes _X_ No ___

Comments: None

FORM 5B - POST DIGEST SPIKE RECOVERY

A post-digest spike was performed for those elements that did not meet the specified criteria (exception: Ag, Hg).

Yes ___ No ___ N/A _X_

Comments: None

FORM 6 - DUPLICATE SAMPLE ANALYSIS

Duplicate sample analysis was performed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent).

Yes _X_ No ___

Comments: None

The RPDs were calculated correctly.

Yes _X_ No ___

Comments: None

For sample concentrations >5 times the CRDL, RPDs were within ±20% (limits of ±35% apply for soil/sediments/tailings samples).

Yes _X_ No ___ N/A ___

Comments: None

For sample concentrations <5 times the CRDL, duplicate analysis results were within the control window of ± CRDL (2X CRDL for soils).

Yes _X_ No ___

Comments: None

GFAA QC

GFAA analyses were not performed with this SDG.

FORM 7 - LABORATORY CONTROL SAMPLE

The laboratory control sample (LCS) was prepared and analyzed with every twenty or fewer samples of a similar matrix, or one per sample delivery group (whichever is more frequent). An aqueous LCS is not required for mercury.

Yes _X_ No ___

Comments: None

All results were within the control limits.

Yes _X_ No ___

Comments: None

FORM 8 - STANDARD ADDITION RESULTS

Results from graphite furnace standard additions were correctly entered on Form I and Form VIII.

Yes ___ No ___ N/A _X_

Comments: None

INORGANIC DATA QUALITY ASSURANCE REVIEW

FORM 9 - ICP QC

A serial dilution was performed for ICP analysis with every twenty or fewer samples of a similar matrix, or one per sample delivery group, whichever is more frequent.

Yes _X_ No ___

Comments: None

The serial dilution was without interference problems as defined by the functional guidelines.

Yes ___ No _X_

Comments: The following table lists the serial dilution with a percent difference result outside the 10% control limit, the actual percent difference, samples affected, and data qualifiers:

ELEMENT	PERCENT DIFFERENCE	SAMPLES AFFECTED - QUALIFIERS
Sodium	42.0%	All Samples - J

FORM 10 - QUARTERLY INSTRUMENT DETECTION LIMITS (IDL)

IDL's were provided for all elements on the target analyte list.

Yes _X_ No ___

Comments: None

Reported IDL's met contract requirements.

Yes _X_ No ___

Comments: None

CYANIDE INSTRUMENT DETECTION LIMITS (IDL)

An IDL for cyanide was provided in the raw data.

Yes ___ No _X_ N/A ___

Comments: Raw data was not provided for the cyanide analysis. A value of 10 ug/L was used to calculate the soil IDLs.

INORGANIC DATA QUALITY ASSURANCE REVIEW

The reported cyanide IDL met contract requirements.

Yes _X_ No ___ N/A ___

Comments: None

FORM 11 - INTERELEMENT CORRECTION FACTORS FOR ICP

Interelement corrections for ICP were reported and met contract requirements.

Yes _X_ No ___

Comments: None

FORM 12 - ICP LINEAR RANGES

ICP linear ranges were reported and met contract requirements.

Yes _X_ No ___

Comments: None

FORM 13 - PREPARATION LOG

Information on the preparation of samples for analysis was reported on Form XIII.

Yes _X_ No ___

Comment: None

FORM 14 - ANALYSIS RUN LOG

A Form XIV with the required information was filled out for each analysis run in the data package.

Yes _X_ No ___

Comments: None

Additional Comments or Problems/Resolutions (not addressed above): None

INORGANIC DATA QUALITY ASSURANCE REVIEW

REGION VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality. Use of additional qualifiers should be carefully considered. Definitions for all qualifiers used should be provided with each report.

GENERAL QUALIFIERS for use with INORGANIC DATA

R - Reported value is "rejected". Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

J - The associated numerical value is an estimated quantity because the Quality Control criteria were not met.

UJ - The reported amount is estimated because Quality Control criteria were not met. Element was not detected.

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MHCK22

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK22

Matrix (soil/water): SOIL Lab Sample ID: 43737S

Level (low/med): LOW Date Received: 06/29/95

% Solids: 76.3

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9310			P
7440-36-0	Antimony	0.82	B		P
7440-38-2	Arsenic	9.5			P
7440-39-3	Barium	279			P
7440-41-7	Beryllium	0.36	B		P
7440-43-9	Cadmium	0.52	U		P
7440-70-2	Calcium	16700			P
7440-47-3	Chromium	15.4			P
7440-48-4	Cobalt	7.2	B		P
7440-50-8	Copper	16.0			P
7439-89-6	Iron	17100			P
7439-92-1	Lead	56.6			P
7439-95-4	Magnesium	5570			P
7439-96-5	Manganese	1040			P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	21.6			P
7440-09-7	Potassium	1890			P
7782-49-2	Selenium	1.3	U		P
7440-22-4	Silver	0.79	U		P
7440-23-5	Sodium	159	B	E	P
7440-28-0	Thallium	2.1	U		P
7440-62-2	Vanadium	31.0			P
7440-66-6	Zinc	101			P
7440-66-6	Cyanide	1.3	U		C

FW 9/7/95

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHCK23

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK22

Matrix (soil/water): SOIL Lab Sample ID: 43738S

Level (low/med): LOW Date Received: 06/29/95

% Solids: 92.7

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1420			P
7440-36-0	Antimony	0.65	U		P
7440-38-2	Arsenic	4.7			P
7440-39-3	Barium	31.4	B		P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	0.43	U		P
7440-70-2	Calcium	28100			P
7440-47-3	Chromium	4.9			P
7440-48-4	Cobalt	2.5	B		P
7440-50-8	Copper	3.6	B		P
7439-89-6	Iron	7270			P
7439-92-1	Lead	7.9			P
7439-95-4	Magnesium	6950			P
7439-96-5	Manganese	594			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	6.9	B		P
7440-09-7	Potassium	269	B		P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.65	U		P
7440-23-5	Sodium	84.3	B	E	P
7440-28-0	Thallium	1.7	U		P
7440-62-2	Vanadium	8.5	B		P
7440-66-6	Zinc	25.1			P
7440-66-6	Cyanide	1.1	U		C

EW 9/7/95

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MHCK24

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK22

Matrix (soil/water): SOIL Lab Sample ID: 43739S

Level (low/med): LOW Date Received: 06/29/95

% Solids: 86.0

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1980			P
7440-36-0	Antimony	1.0	B		P
7440-38-2	Arsenic	6.8			P
7440-39-3	Barium	55.1			P
7440-41-7	Beryllium	0.23	U		P
7440-43-9	Cadmium	0.47	U		P
7440-70-2	Calcium	52400			P
7440-47-3	Chromium	5.4			P
7440-48-4	Cobalt	2.2	B		P
7440-50-8	Copper	829			P
7439-89-6	Iron	10000			P
7439-92-1	Lead	17.2			P
7439-95-4	Magnesium	28000			P
7439-96-5	Manganese	1180			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	8.3	B		P
7440-09-7	Potassium	552	B		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	0.70	U		P
7440-23-5	Sodium	127	B	E	P
7440-28-0	Thallium	1.9	U		P
7440-62-2	Vanadium	10.8	B		P
7440-66-6	Zinc	37.8			P
7440-66-6	Cyanide	1.2	U		C

KW 9/7/95 9/16/95

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

MHCK25

Lab Name: CHEMTECH CONSULTING GROUP Contract: 68D30037

Lab Code: CHEM Case No.: 23716 SAS No.: SDG No.: MHCK22

Matrix (soil/water): SOIL Lab Sample ID: 43742S

Level (low/med): LOW Date Received: 06/29/95

% Solids: 88.6

Concentration Units (ug/L or mg/Kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1880			P
7440-36-0	Antimony	0.68	U		P
7440-38-2	Arsenic	1.8	U		P
7440-39-3	Barium	60.7			P
7440-41-7	Beryllium	0.23	U		P
7440-43-9	Cadmium	0.45	U		P
7440-70-2	Calcium	30600			P
7440-47-3	Chromium	5.4			P
7440-48-4	Cobalt	2.6	B		P
7440-50-8	Copper	1.4	B		P
7439-89-6	Iron	5530			P
7439-92-1	Lead	5.5			P
7439-95-4	Magnesium	6000			P
7439-96-5	Manganese	1070			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	8.7	B		P
7440-09-7	Potassium	256	B		P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	0.68	U		P
7440-23-5	Sodium	116	B	E	P
7440-28-0	Thallium	1.8	U		P
7440-62-2	Vanadium	8.0	B		P
7440-66-6	Zinc	17.3			P
7440-66-6	Cyanide	1.1	U		C

KW 9/7/95

8/16/95

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments: