IL2010150001-Winnebago Co.
Browning Ferris Industries
IDD 980604693
SF\ERS
Volume 2 of 2

CERCLA

Site Inspection Prioritization Analytical Results

Illinois Environmental Protection Agency

2200 Churchill Road
P. O. Box 19276
Springfield, IL 62794-9276

EPA Region 5 Records Ctr.
298591

Printed on Recycled Paper

SITE NAME: BROWNING FERRIS INDUSTRIES

ILD 980606693

TABLE 2.0
SAMPLE SUMMARY

SAMPLING POINT / PARAMETER	G101 (ug\l)	G102 (ug\l)	G103 (ug\l)	G104 (ug\l)	Field Blank (ug\l)	G201 (ug\l)	DUP. OF G201 (ug\l)	FIELD BLAN (ug\l)	TRIP BLANK (ug\l)	X103 (mg\kg)
VOLATILES										
Vinyl Chloride	–	–	–	28.0	–	–	–	–	–	–
Chloroethane	–	–	5.0 J	7.0 J	–	–	–	–	–	–
Methylene Chloride	–	10.0 J	–	–	2.0 J	–	–	1.0	2.0 J	35.0 B
Acetone	–	24.0	18.0	35.0	–	–	–	3.0 J	–	12.0
Carbon Disulfide	1.0 J	–	3.0 J	2.0 J	–	–	–	–	–	–
1,2-Dichloroethene(total)	–	–	–	54.0	–	–	–	–	–	–
Benzene	–	–	5.0 J	4.0 J	–	–	–	–	–	–
4-Methyl-2-Pentanone	–	–	–	6.0 J	–	–	–	–	–	–
Toluene	–	–	1.0 J	2.0 J	–	–	–	–	–	–
SEMIVOLATILES										
1,4-Dichlorobenzene	–	–	–	1.0 J	–	–	–	–	–	–
4-Methylphenol	–	–	–	–	–	–	–	–	–	30.0 J
2,4-Dimethylphenol	–	–	–	11.0	–	–	–	–	–	36.0 J
Naphthalene	–	–	–	2.0 J	0.5 J	–	–	–	–	–
2-Methylnaphthalene	–	–	–	2.0 J	–	–	–	–	–	43.0 J
Acenaphthylene	–	–	–	–	–	–	–	–	–	91.0 J
Dibenzofuran	–	–	–	–	–	–	–	–	–	140.0 J
Diethylphthalate	–	–	–	0.5 J	–	–	–	–	–	–
Phenanthrene	–	–	–	–	–	–	–	–	–	1400.0
Anthracene	–	–	–	–	–	–	–	–	–	350.0 J
Carbazole	–	–	–	–	–	–	–	–	–	75.0 J
Fluoranthene	–	–	–	–	–	–	–	–	–	1500.0
Pyrene	–	–	–	–	–	–	–	–	–	1600.0
Benzo(a)anthracene	–	–	–	–	–	–	–	–	–	980.0
Chrysene	–	–	–	–	–	–	–	–	–	870.0
bis(2-Ethylhexyl)phthalate	1.0 J	0.6 J	–	0.5 J	2.0 J	32.0 B	10.0 J	2.0 JB	–	–
Benzo(b)fluoranthene	–	–	–	–	–	–	–	–	–	460.0
Benzo(k)fluoranthene	–	–	–	–	–	–	–	–	–	600.0
Benzo(a)pyrene	–	–	–	–	–	–	–	–	–	600.0
Indeno(1,2,3-cd)pyrene	–	–	–	–	–	–	–	–	–	320.0 J
Dibenz(a,h)anthracene	–	–	–	–	–	–	–	–	–	130.0 J
Benzo(g,h,i)perylene	–	–	–	–	–	–	–	–	–	280.0 J

SITE NAME: BROWNING FERRIS INDUSTRIES

ILD 980606693

TABLE 2.0
SAMPLE SUMMARY CONTINUED

SAMPLING POINT / PARAMETER	G101 (ug\l)	G102 (ug\l)	G103 (ug\l)	G104 (ug\l)	Field Blank (ug\l)	G201 (ug\l)	DUP. OF G201 (ug\l)	FIELD BLAN (ug\l)	TRIP BLANK (ug\l)	X103 (mg\kg)
INORGANICS										
Aluminum	570.0	45.3	847.0	74.3	31.6	–	–	–	–	6610.0
Antimony	2.9	–	–	–	–	–	–	–	–	–
Arsenic	3.6	2.6	9.0	16.0	–	–	–	–	–	3.3
Barium	633.0	85.3	928.0	300.0	–	66.0	67.0	–	–	72.2
Beryllium	–	–	–	–	–	–	–	–	–	0.3
Cadmium	6.4	–	–	–	–	–	–	–	–	–
Calcium	73600.0	94100.0	119000.0	93700.0	240.0 H	98000.0	98000.0	–	–	23200.0
Chromium	6.3	–	31.9	2.4	–	–	–	–	–	8.5
Cobalt	4.6	–	3.1	4.6	–	–	–	–	–	3.6
Copper	14.6	2.0	35.8	3.4	1.3	–	74.0	–	–	9.8
Iron	3350.0	5180.0	16700.0	25100.0	25.7	–	–	–	–	7460.0
Lead	1.9	–	2.6	–	–	3.0	6.0	3.0	–	61.6
Magnesium	37300.0	33600.0	45700.0	39000.0	29.2 H	40000.0	40000.0	–	–	12800.0
Manganese	977.0	236.0	483.0	363.0	–	–	–	–	–	295.0
Nickel	30.5	16.7	34.8	48.5	–	–	–	–	–	7.9
Potassium	5640.0	3900.0	20800.0	51200.0	–	–	–	–	–	883.0
Selenium	2.6	–	–	–	–	–	–	–	–	–
Sodium	6690.0	43900.0	35400.0	115000.0	–	45000.0	45000.0	–	–	30.4
Thallium	–	–	–	–	–	–	–	–	–	0.7
Vanadium	2.2	–	2.9	–	–	–	–	–	–	15.4
Zinc	37.8	22.3	83.0	63.6	3.9 H	75.0	397.0	–	–	75.5
Temperature (Celcius)	–	–	–	–	–	14.4	–	–	–	–
Millivolt	–	–	–	–	–	19.0	–	–	–	–
PH	–	–	–	–	–	6.7	–	–	–	–

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Region V CLP Data
Received for Review on Aug 25 1995

FROM: Dennis Wesolowski, Chief (SQC-14J)
Contract Analytical Services Section

TO: Data User: IEPA

We have reviewed the data for the following case:

SITE NAME: Browning Ferris (IL)

CASE NUMBER: 23889 SDG NUMBER: MEAEJ9

Number and Type of Samples: 6 (water/soil)

Sample Numbers: MEAEJ9, MEAEK3-7

Laboratory: IEA Hrs. for Review: 3.2 + 0.8 mw

Following are our findings:

Blanks were contaminated with Calcium, Magnesium and Zinc, and Antimony results are biased low due to poor matrix spike recovery, but the data are acceptable for use with qualification. See attached CASRE data review narrative for detail.

9/6/95

RECEIVED
SEP 11 1995
IEPA/DLPC

cc: Regional TPO

NARRATIVE

SITE: BROWNING FERRIS CASE: 23889
LABORATORY: IEA SDG: MEAEJ9

The laboratory's portion of case 23889 contains 5 low level water samples and 1 low level soil sample assayed for total metals and total cyanide. This is a CADRE review.

EVIDENTIAL AUDIT: All forms are originals. Most of the raw data sheets are originals, those photocopied state where the originals can be found. Some of the original Hg raw data (pp. 149-184) and some of the original CN raw data (pp. 230-233) are with case 23893, SDG: MEZR84. The originals that are present are sample tags, Federal Express airbill, chain of custody forms and Form DC-1. All forms are present and in the order indicated on the Form DC-2 [inventory sheet].

The sample tag for sample MEAEJ9 is missing from data package.

Sample MEAEJ7 is listed on the chain of custody, but was not received by the lab. CLASS was notified by the lab (see communication log) and the lab was informed that sample MEAEJ7 was cancelled.

CADRE REVIEW:

Matrix Spike Criteria

Percent Recovery Limits	
Upper	125.0
Lower	75.0
Extreme lower	30.0

DC-268: The following inorganic samples are associated with a matrix spike recovery which is low, indicating that sample results may be biased low.
Non-detects are qualified "UJ".

Antimony
MEAEJ9

Reviewed by: James Redlin James Redlin
Lockheed ESAT
Date: 8/30/95

Laboratory Blanks Criteria

DC-284: The following inorganic samples are associated with a blank concentration which is greater than the instrument detection limit (IDL). The sample concentration is also greater than the IDL and less than five times the blank concentration.
Hits are qualified "H".

Calcium
MEAEK7

Magnesium
MEAEK7

Zinc
MEAEK7

Reviewed by: James Redlin
James Redlin
Lockheed ESAT

Date: 8/30/95

INORGANIC CADRE DATA QUALIFIER DEFINITIONS

For the purpose of defining the flagging nomenclature utinized in this document, the following code letters and associated definitions are provide:

U Indicates the material was analyzed, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

J Indicates the associated value is an estimated quantity.

R Indicates the data are unusable. (Note: The analyte may or may not be present.)

UJ Indicates the material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

L Low bias

H High bias

IEA **SDG NARRATIVE INORGANIC/METALS FRACTION**

CASE: 23889 SDG NO.: MEAEJ9 CONTRACT: 68-D3-0041

Sample Numbers: 950827001 (MEAEJ9), 950827002 (MEAEK3), 950827003 (MEAEK4), 950827004 (MEAEK5), 950827005 (MEAEK6), 950827006 (MEAEK7) for TAL Metals and Cyanide Analysis

This case was closed on August 11, 1995. The temperature of the samples upon receipt by the Industrial and Environmental Analysts, Inc. (IEA) was 6 °C. All samples were received intact.

The pH of all water samples for Metals analysis was less than two (2) at the time of sample preparation.

The pH of all water samples for Cyanide analysis was greater than twelve (12) at the time of sample preparation.

Each sample has been assigned a 9-character IEA lab identification number.

The "N" flag is applied to any samples that do not meet acceptable spike recovery control limits of 75 to 175%. The following sample(s) are flagged with a "N" for the metal(s) listed:

Sample ID	Metal
950827001 (MEAEJ9)	Antimony

Any nonconformances associated with the analysis of samples in this case are noted as follows:

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

Donald Stogner 08/22/95

Donald Stogner
Inorganics Laboratory Manager
IEA, Inc.

IEA, Inc Doc# RPF00900.NC

[redacted]

Name: Roger M. Nowakowski	Contact Recv'd Via:	X Phone	__ Fax	
		__ Vmail	__ Memo	__ Other
Date/Time of Contact: 08-11-95/1505	Initiated By:	X Lab	__ CLASS	
		__ Region	__ Other	

Contact Name/Org./Phone #: Gary Folk/IEA/(800) 444-9919

Lab: IEA Contract #: D3-0041 Case #: 23889 SDG: ____ Region: V

SOW: Affected Samples: MEAEJ7 Invoice #:

Discussion/Issue: The lab reported that sample MEAEJ7 was recorded on the traffic report (TR) but not received.

Resolution:

08-11-95/1530/Chuck Hoover/SWOK - CLASS contacted the organic lab inquiring if they received inorganic sample MEAEJ7. The organic lab indicated they did not receive MEAEJ7.

08-11-95/1550/Brad Taylor/IEPA - CLASS contacted the sampler regarding missing sample MEAEJ7. The sampler reported that they did not sample for MEAEJ7 although they neglected to remove the sample from the TR.

08-11-95/1610/Gary Folk/IEA - CLASS notified the lab that MEAEJ7 is cancelled. The sampler did not sample for this sample.

08-11-95/1630/Brian Freeman/EPA V - CLASS notified the Region.

08-11-95/0845/Brian Freeman/EPA V - CLASS faxed the Region this Record of Communication.

RAS OPS Routed	Yes	Completed Date/Time: 08-14-95/0845		
	No	Referred To	Date/Time	W.A.#: 0/08

Distribution: (1) Lab, (2) Region, (3) CLASS, (4) AOB, (5) Work Assign. Man.

CLASS is operated by DynCorp under Contract #68-D4-0104 to the U.S. Environmental Protection Agency

WP Win 6.0a H:\ROC.WP VER 1.1

TAL QUALIFIED SPREADSHEET

Case No: 23889
SDG No: MEAEJ9

Site:
Laboratory: INDUSTRIAL & ENV ANALYSTS, INC

EPA SAMPLE NUMBER:	MEAEJ9		MEAEJ9A		MEAEJ9D		MEAEJ9S		MEAEK3	
REGIONAL SAMPLE NUMBER:	MEAEJ9								MEAEK3	
SAMPLE LOCATION:	X103		X103		X103		X103		G101	
SAMPLE TYPE:	Routine Sample		Post Digest Spike		Duplicate Sample		Matrix Spike		Routine Sample	
MATRIX/ANALYSIS:	Soil/Low		Soil/Low		Soil/Low		Soil/Low		Water/Low	
DILUTION FACTOR:										
PERCENT SOLID:	84.4		84.4		84.4		84.4			
INORG										
Aluminum	6610				6370				570	
Antimony	0.37	UJ	120		0.40	U	72.8		2.9	
Arsenic	3.3				3.3		391		3.6	
Barium	72.2				66.8		455		633	
Beryllium	0.33				0.34		9.5		1.0	U
Cadmium	0.18	U			0.20	U	9.2		6.4	
Calcium	23200				24800				73600	
Chromium	8.5				9.6		46.7		6.3	
Cobalt	3.6				3.4		96.1		4.6	
Copper	9.8				9.2		57.4		14.6	
Iron	7460				7350				3350	
Lead	61.6				56.1		144		1.9	
Magnesium	12800				13800				37300	
Manganese	295				284		405		977	
Mercury	0.12	U			0.12	U	0.60		0.20	U
Nickel	7.9				7.5		102		30.5	
Potassium	883				927				5640	
Selenium	0.37	U			0.59		395		2.6	
Silver	0.18	U			0.20	U	9.6		1.0	U
Sodium	30.4				60.8				6690	
Thallium	0.65				1.1		387		3.0	U
Vanadium	15.4				15.4		110		2.2	
Zinc	75.5				68.9		165		37.8	
Cyanide	0.47	U			0.51	U	3.9		10.0	U

FILE NAME: MEAEJ9 DATE: 08/30/95 TIME: 11:48 CADRE 2.2P

Water units are reported in ug/L.
Soil units are reported in mg/Kg.

TAL QUALIFIED SPREADSHEET

Case No: 23889
SDG No: MEAEJ9

Site:
Laboratory: INDUSTRIAL & ENV ANALYSTS, INC

EPA SAMPLE NUMBER:	MEAEK3D		MEAEK3S		MEAEK4		MEAEK5		MEAEK6	
REGIONAL SAMPLE NUMBER:					MEAEK4		MEAEK5		MEAEK6	
SAMPLE LOCATION:	G101		G101		G102		G103		G104	
SAMPLE TYPE:	Duplicate Sample		Matrix Spike		Routine Sample		Routine Sample		Routine Sample	
MATRIX/ANALYSIS:	Water/Low		Water/Low		Water/Low		Water/Low		Water/Low	
DILUTION FACTOR:										
PERCENT SOLID:										
INORG										
Aluminum	593		2650		45.3		847		74.3	
Antimony	3.2		496		2.0	U	2.0	U	2.0	U
Arsenic	4.0		1930		2.6		9.0		16.0	
Barium	638		2550		85.3		928		300	
Beryllium	1.0	U	47.5		1.0	U	1.0	U	1.0	U
Cadmium	6.5		52.9		1.0	U	1.0	U	1.0	U
Calcium	74400				94100		119000		93700	
Chromium	6.5		195		1.0	U	31.9		2.4	
Cobalt	4.6		474		1.0	U	3.1		4.6	
Copper	14.4		258		2.0		35.8		3.4	
Iron	3400		4250		5180		16700		25100	
Lead	2.0		479		1.0	U	2.6		1.0	U
Magnesium	37600				33600		45700		39000	
Manganese	986		1450		236		483		363	
Mercury	0.20	U	0.94		0.20	U	0.20	U	0.20	U
Nickel	30.9		506		16.7		34.8		48.5	
Potassium	5680				3900		20800		51200	
Selenium	2.0	U	1940		2.0	U	2.0	U	2.0	U
Silver	1.0	U	47.9		1.0	U	1.0	U	1.0	U
Sodium	6550				43900		35400		115000	
Thallium	5.2		1950		3.0	U	3.0	U	3.0	U
Vanadium	2.1		474		1.0	U	2.9		1.0	U
Zinc	48.0		504		22.3		83.0		63.6	
Cyanide	10.0	U	98.3		10.0	U	10.0	U	10.0	U

FILE NAME: MEAEJ9 DATE: 08/30/95 TIME: 11:48 CADRE 2.2P

Water units are reported in ug/L.
Soil units are reported in mg/Kg.

TAL QUALIFIED SPREADSHEET

Case No: 23889
SDG No: MEAEJ9

Site:
Laboratory: INDUSTRIAL & ENV ANALYSTS, INC

EPA SAMPLE NUMBER:	MEAEK7				
REGIONAL SAMPLE NUMBER:	MEAEK7				
SAMPLE LOCATION:	FB				
SAMPLE TYPE:	Routine Sample				
MATRIX/ANALYSIS:	Water/Low				
DILUTION FACTOR:					
PERCENT SOLID:					
INORG					
Aluminum	31.6				
Antimony	2.0	U			
Arsenic	2.0	U			
Barium	1.0	U			
Beryllium	1.0	U			
Cadmium	1.0	U			
Calcium	240	H			
Chromium	1.0	U			
Cobalt	1.0	U			
Copper	1.3				
Iron	25.7				
Lead	1.0	U			
Magnesium	29.2	H			
Manganese	1.0	U			
Mercury	0.20	U			
Nickel	1.0	U			
Potassium	42.0	U			
Selenium	2.0	U			
Silver	1.0	U			
Sodium	119	U			
Thallium	3.0	U			
Vanadium	1.0	U			
Zinc	3.9	H			
Cyanide	10.0	U			

FILE NAME: MEAEJ9 DATE: 08/30/95 TIME: 11:48 CADRE 2.2P

Water units are reported in ug/L
Soil units are reported in mg/Kg

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEAEJ9S

Lab Name: INDUSTRIAL_AND_ENVIRONMEN Contract: 68-D3-0041

Lab Code: IEA___ Case No.: 23889_ SAS No.: _____ SDG No.: MEAEJ9

Matrix (soil/water): SOIL__ Level (low/med): LOW___

% Solids for Sample: _84.4

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	72.7851		0.3703	U	101.27	71.9	N	P
Arsenic	75-125	391.3566		3.3277		405.07	95.8		P
Barium	75-125	454.6265		72.1681		405.07	94.4		P
Beryllium	75-125	9.4588		0.3303	B	10.13	90.1		P
Cadmium	75-125	9.2129		0.1851	U	10.13	90.9		P
Calcium									NR
Chromium	75-125	46.6618		8.4949		40.51	94.2		P
Cobalt	75-125	96.0990		3.5854	B	101.27	91.4		P
Copper	75-125	57.4142		9.7699		50.63	94.1		P
Iron									NR
Lead	75-125	144.2002		61.6401		101.27	81.5		P
Magnesium									NR
Manganese	75-125	405.1452		295.0976		101.27	108.7		P
Mercury	75-125	0.5958		0.1185	U	0.56	106.4		CV
Nickel	75-125	101.5504		7.8817		101.27	92.5		P
Potassium									NR
Selenium	75-125	394.9299		0.3703	U	405.07	97.5		P
Silver	75-125	9.5585		0.1851	U	10.13	94.4		P
Sodium									NR
Thallium	75-125	387.4106		0.6476	B	405.07	95.5		P
Vanadium	75-125	110.1426		15.4375		101.27	93.5		P
Zinc	75-125	165.3836		75.5006		101.27	88.8		P
Cyanide	75-125	3.9311		0.4702	U	3.70	106.2		CA

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MEAEK3S

Lab Name: INDUSTRIAL_AND_ENVIRONMEN Contract: 68-D3-0041

Lab Code: IEA___ Case No.: 23889_ SAS No.: _____ SDG No.: MEAEJ9

Matrix (soil/water): WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2651.7230		570.0490		2000.00	104.1		P
Antimony	75-125	495.8140		2.9280	B	500.00	98.6		P
Arsenic	75-125	1931.8400		3.5760	B	2000.00	96.4		P
Barium	75-125	2546.1940		633.3730		2000.00	95.6		P
Beryllium	75-125	47.5340		1.0000	U	50.00	95.1		P
Cadmium	75-125	52.8920		6.3860		50.00	93.0		P
Calcium									NR
Chromium	75-125	194.8220		6.3450	B	200.00	94.2		P
Cobalt	75-125	473.7490		4.6550	B	500.00	93.8		P
Copper	75-125	257.9760		14.5990	B	250.00	97.4		P
Iron	75-125	4247.5380		3353.6890		1000.00	89.4		P
Lead	75-125	479.0690		1.9230	B	500.00	95.4		P
Magnesium									NR
Manganese	75-125	1449.8590		977.2320		500.00	94.5		P
Mercury	75-125	0.9410		0.2000	U	1.00	94.1		CV
Nickel	75-125	506.3170		30.5180	B	500.00	95.2		P
Potassium									NR
Selenium	75-125	1936.3320		2.5740	B	2000.00	96.7		P
Silver	75-125	47.9170		1.0000	U	50.00	95.8		P
Sodium									NR
Thallium	75-125	1946.5880		3.0000	U	2000.00	97.3		P
Vanadium	75-125	474.1420		2.1860	B	500.00	94.4		P
Zinc	75-125	504.3950		37.7830		500.00	93.3		P
Cyanide	75-125	98.2940		10.0000	U	100.00	98.3		CA

Comments:

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

MEAEJ9D

Lab Name: INDUSTRIAL_AND_ENVIRONMEN Contract: 68-D3-0041

Lab Code: IEA___ Case No.: 23889_ SAS No.: _____ SDG No.: MEAEJ9

Matrix (soil/water): SOIL_ Level (low/med): _LOW__

% Solids for Sample: _84.4 % Solids for Duplicate: __85.8

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		6612.0990		6374.0252		3.7		P
Antimony		0.3703	U	0.3983	U			P
Arsenic	1.9	3.3277		3.3273		0.0		P
Barium	37.0	72.1681		66.7952		7.7		P
Beryllium		0.3303	B	0.3417	B	3.4		P
Cadmium		0.1851	U	0.1991	U			P
Calcium		23252.4983		24856.5909		6.7		P
Chromium	1.9	8.4949		9.5575		11.8		P
Cobalt		3.5854	B	3.4486	B	3.9		P
Copper	4.6	9.7699		9.2085		5.9		P
Iron		7460.7763		7349.1654		1.5		P
Lead		61.6401		56.0970		9.4		P
Magnesium		12753.6315		13843.2729		8.2		P
Manganese		295.0976		284.4008		3.7		P
Mercury		0.1185	U	0.1185	U			CV
Nickel	7.4	7.8817		7.5115	B	4.8		P
Potassium	925.7	883.1511	B	927.3784	B	4.9		P
Selenium		0.3703	U	0.5856	B	200.0		P
Silver		0.1851	U	0.1991	U			P
Sodium		30.3575	B	60.7593	B	66.7		P
Thallium		0.6476	B	1.0946	B	51.3		P
Vanadium	9.3	15.4375		15.4389		0.0		P
Zinc		75.5006		68.9303		9.1		P
Cyanide		0.4702	U	0.5063	U			CA

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

MEAEK3D

Lab Name: INDUSTRIAL_AND_ENVIRONMEN Contract: 68-D3-0041

Lab Code: IEA___ Case No.: 23889_ SAS No.: _____ SDG No.: MEAEJ9

Matrix (soil/water): WATER Level (low/med): _LOW__

% Solids for Sample: __0.0 % Solids for Duplicate: ___0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum	200.0	570.0490		592.7100		3.9		P
Antimony		2.9280	B	3.2190	B	9.5		P
Arsenic		3.5760	B	4.0550	B	12.6		P
Barium	200.0	633.3730		637.5790		0.7		P
Beryllium		1.0000	U	1.0000	U			P
Cadmium	5.0	6.3860		6.5120		2.0		P
Calcium		73628.2030		74457.9690		1.1		P
Chromium		6.3450	B	6.4860	B	2.2		P
Cobalt		4.6550	B	4.6270	B	0.6		P
Copper		14.5990	B	14.4150	B	1.3		P
Iron		3353.6890		3395.2450		1.2		P
Lead		1.9230	B	1.9930	B	3.6		P
Magnesium		37260.2890		37609.3160		0.9		P
Manganese		977.2320		986.1410		0.9		P
Mercury		0.2000	U	0.2000	U			CV
Nickel		30.5180	B	30.9000	B	1.2		P
Potassium	5000.0	5645.6330		5680.6460		0.6		P
Selenium		2.5740	B	2.0000	U	200.0		P
Silver		1.0000	U	1.0000	U			P
Sodium	5000.0	6690.3400		6551.2850		2.1		P
Thallium		3.0000	U	5.1860	B	200.0		P
Vanadium		2.1860	B	2.1400	B	2.1		P
Zinc	20.0	37.7830		47.9550		23.7		P
Cyanide		10.0000	U	10.0000	U			CA

EPA United States Environmental Protection Agency Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record

(For Inorganic Traffic Report see back)

SAS No.

2. Region No. Sampling Co.

Sampler Signature

3. Purpose* Early Action: CLEM, PA, REM, RI, SI, ESI. Long-Term Action: FS, RD, RA, O&M, NPLD. Lead: SF, PRP, ST, FED

4. Date Shipped

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	NO_2/NO_3	Fluoride	Low qty	High qty	Chloride	F Regional Specific Analysis Number	G Station Location Identifier	I Corresponding CLP Group
MEJ4J9	S	L	G	6		X	X						00924		
~~MEJ4J9~~	~~S~~	~~L~~	~~G~~	~~6~~		~~X~~	~~X~~								
MEJ8J9	S	L	G	6		X	X								

Shipment for Case Complete? (Y/N) Y | Page 1 | Sample(s) to be Used for Laboratory QC | Additional Sampler Signatures | Airbill | Custody Seal Number

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by:
[signature]	8-10-95 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by:
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) S. Pasiak	Date / Time 8/11/95 0930	Remarks Is custody seal intact? Y/N/none 6°C	

DISTRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INFO

*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

362220

EPA United States Environmental Protection Agency
Contract Laboratory Program

Inorganic Traffic Report & Chain of Custody Record

(For Inorganic CLP Analysis)

SAS No.

1. Matrix (Enter in Column A): 1. Surface Water, 2. Drinking Water, 3. Leachate, 4. Field QC, 5. Soil/Sediment, 6. Oil (High only), 7. Waste (High only), 8. Other (specify in Column A)

2. Preservative (Enter in Column D): 1. HCl, 2. H_2SO_4, 3. NaOH, 4. H_2SO_4, 5. $K_2CR_2O_7$, 6. Ice only, 7. Other (specify in Column D), N. Not preserved

2. Region No. V; Sampling Co. EFA

Sampler (Name): Mark Dennis

Sampler Signature: Mark Dennis

3. Purpose*: Lead: SF, PRP, ST, FSD; Early Action: CLEM, PA, REM, RI, SI, FSI; Long-Term Action: FS, RD, RA, O&M, NPL; STD

Date Shipped: 8/10/95; Carrier: [illegible]; Airbill Number: [illegible]

CLP Sample Numbers (from labels)	A Matrix (from Box 1)	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2)	E – RAS Analysis: Diss. Metals	Total Metals	Cyanide	NO_2/NO_3 (Low only)	Fluoride	pH (High only)	Conduct.	Regional Specific Tracking Number or Tag Number	G Station Location (Optional)	H Date Sampled	I Corresponding CLP Organic Sample No.	J Sample
MEAEK3	2	L	G	2		X						5-0096[illegible]	G001	8/9/95	EAQF5	MIC
"	2	L	G	3			X					5-0096[illegible]	G001	8/9/95		MIC
MEAEK4	2	L	G	2		X						5-0096[illegible]	G002	8/9/95		MIC
"	2	L	G	3			X					5-0096[illegible]	G002	8/9/95		
MEAEK5	2	L	G	2		X						5-0096[illegible]	[illegible]	[illegible]		
"	2	L	G	3			X					5-0096[illegible]	[illegible]	[illegible]		
MEAEK6	2	L	G	2		X						5-0096[illegible]	[illegible]	[illegible]		
"	2	L	G	3			X					5-0096[illegible]	[illegible]	[illegible]		
MEAEK7	2	L	G	2		X						5-0096[illegible]	[illegible]	8/13/95	EAQG	MIC
"	2	L	G	3			X					5-0096[illegible]	[illegible]	8/13/95		MIC

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

Page: 1 of 1

Sample(s) to be Used for Laboratory QC: MEAEK[illegible]-7 [illegible]

Additional Sampler Signatures

Chain of Custody Seal Number(s)

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Mark Dennis	8/10/95 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) S. Pascal	Date / Time 8/11/95 0930	Remarks Is custody seal intact? 6°C	

DISTRIBUTION: Green - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

362218

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No: _____ CERCLIS No: ILD980606693

Case No: 23889 Site Name Location: Browning Ferris

Contractor or EPA Lab: IEA Data User: IEPA

No. of Samples: 6 Date Sampled or Data Received: 8-25-95

Have Chain-of-Custody records been received? Yes ✓ No ✓
Have traffic reports or packing lists been received? Yes ✓ No _____
If no, are traffic report or packing list numbers written on the chain-of-custody record? Yes ✓ No _____
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____

_____ _____ _____ _____

Are basic data forms in? Yes ✓ No _____
No of samples claimed: 6 No. of samples received: 6

Received by: Lynette Burnett Date: 8-25-95

Received by LSSS: Allison C Harvey Date: 8-28-95

Review started: 8/30/95 Reviewer Signature: J. Radler

Total time spent on review: 3.2 Date review completed: 8/30/95

Copied by: _____ Date: _____

Mailed to user by: _____ Date: _____

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffen, Data mgmt. Coordinator, Region V, 5SCRL

Data received by: Brad Taylor Date: 9-22-95

Data review received by: _____ Date: _____

Inorganic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if
Organic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if
Dioxin Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if
SAS Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if

PROBLEMS: Please indicate reasons why data are not suitable f you uses.

_____

_____

Received by Data Mgmt. Coordinator for Files. Data: _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Region V CLP Data Received for Review on Aug 28, 1995

FROM: Dennis Wesolowski, Chief (SQC-14J)
Contract Analytical Services Section

TO: Data User: IEPA

We have reviewed the data for the following case:

SITE NAME: Browning Ferris (IL)

CASE NUMBER: 23889 SDG NUMBER: EAPK6

Number and Type of Samples: 7 (water/soil)

Sample Numbers: EAPK6, EAQF8-9, EAQG6, EAQJ8-9 EAQK6

Laboratory: SWOK Hrs. for Review: 13.0

Following are our findings:

The data was not reviewed.

Patricia J Scott
09/13/95

RECEIVED
SEP 20 1995
IEPA/DLPC

cc: Regional TPO

NARRATIVE

LABORATORY: S W O K **CASE: 23889**

SITE NAME: Browning Ferris (IL) **SDG: EAPK6**

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

This review covers six (6) low level water samples numbered: EAPK6, EAQF8, EAQF9, EAQG6, EAQJ8, EAQJ9 and one (1) low level soil sample numbered EAQK6. The samples were collected on 08/09-10/95. The Southwest Laboratory of Oklahoma (SWOK), OK received the samples on 08/11/95 in good condition. All samples were analyzed for Volatile and six (6) of seven (7) were analyzed for Semivolatile and Pesticide/PCB fractions also following the CLP SOW OLM03.1 protocol.

All Volatile water analyses (for preserved water) and the soil sample analysis were performed within the technical holding time of fourteen (14) days after sample collection; therefore, the results are acceptable.
All water Semivolatile and Pesticide/PCB sample extractions were performed within seven (7) days and soil Semivolatile and Pesticide/PCB sample extraction was performed within fourteen (14) days and all analyses were performed within forty (40) days after extraction; therefore, the results are acceptable.

Sample **EAQK6** was used as the low level soil matrix spike/matrix spike duplicates in all three fractions. Sample **EAQJ8** was used as the low level water matrix spike/matrix spike duplicate for Volatile fraction. Sample **EAQJ9** was used as the low level water matrix spike/matrix spike duplicate for Semivolatile fraction and sample **EAQF8** was used as the water matrix spike/matrix spike duplicate for Pesticide/PCB fraction.

Sample **EAQJ8** was identified as the field blank. Sample **EAQK6** was identified as the Volatile trip blank.

The reviewer's narrative and data qualifiers are noted in the following pages.

Reviewed by: _____Krystyna Minczuk__Lockheed/ESAT
Date:__September 11th, 1995__

NARRATIVE

LABORATORY: S W O K **CASE: 23889**

SITE NAME: Browning Ferris (IL) **SDG: EAPK6**

1.HOLDING TIME

Six (6) low level water samples numbered: EAPK6, EAQF8, EAQF9, EAQG6, EAQJ8, EAQJ9 and one (1) low level soil sample numbered EAQK6 were collected on 08/09-10/95. The Southwest Laboratory of Oklahoma (SWOK), OK received the samples on 08/11/95 in good condition. All samples were analyzed for Volatile and six (6) of seven (7) were analyzed for Semivolatile and Pesticide/PCB fractions also following the CLP SOW OLM03.1 protocol.

All Volatile water analyses (for preserved water) and the soil sample analysis were performed within the technical holding time of fourteen (14) days after sample collection; therefore, the results are acceptable.
All water Semivolatile and Pesticide/PCB sample extractions were performed within seven (7) days and soil Semivolatile and Pesticide/PCB sample extraction was performed within fourteen (14) days and all analyses were performed within forty (40) days after extraction; therefore, the results are acceptable.

2.GC/MS TUNING PERFORMANCE

All GC/MS tuning complied with the mass list and ion abundance criteria for BFB, and all samples were analyzed within the twelve (12) hour periods for instrument performance checks.

All GC/MS tuning complied with the mass list and ion abundance criteria for DFTPP, and all samples were analyzed within the twelve (12) hour periods for instrument performance checks.

The GC Resolution Check Mix met the 60% resolution criteria. DDT and Endrin degradation checks using Performance Evaluation Mix of DB-1701 and DB-17 columns were acceptable (<20%); therefore, the results are acceptable.

The Florisil Cartridge Check and GPC Calibration Checks met the QC criteria; therefore, the results are acceptable.

3.CALIBRATION

Initial and continuing calibration standards of Volatile, Semivolatile and Pesticide/PCB were evaluated for the Target Compounds List (TCLs) and outliers were recorded on the outlier forms included as a part of this narrative.

Reviewed by: _____Krystyna Minczuk__Lockheed/ESAT
Date:__September 11th, 1995__

NARRATIVE

LABORATORY: S W O K **CASE: 23889**

SITE NAME: Browning Ferris (IL) **SDG: EAPK6**

4.METHOD BLANK

Volatile:

VBLK1, VBLK2 and VBLK4 are the low level water Volatile method blanks. VBLK3 is the low level soil Volatile method blank. VBLK1, VBLK3 and VBLK4 contained Methylene Chloride (2 µg/L, 17 µg/Kg and 1 µg/L respectively) and VBLK4 also contained 1,1,2,2-Tetrachloroethane (1 µg/L). VBLK2 was clean.
Methylene Chloride is a common laboratory contaminant. The presence of the laboratory contaminant in the samples associated with VBLK1, VBLK3 and VBLK4 is flagged as non-detected "U" when the sample results are less than ten (10) times the blank results.
1,1,2,2-Tetrachloroethane was not detected in any of samples associated with VBLK4.
The Volatile method blank summary (FORM IV VOA) lists the associated samples.

VHBLK1 is the Volatile storage blank. This blank was contaminated by methylene Chloride (2 µg/L). There were no samples associated with the storage blank.

Semivolatile:

SBLK2 is the low level water Semivolatile method blank. SBLK1 and SBLK3 are the low level soil Semivolatile method blanks.
SBLK2 reported two (2) Semivolatile tentatively identified compounds. SBLK1 contained bis(2-Ethylhexyl)phthalate (37 µg/Kg), Di-n-octylphthalate (28 µg/Kg) and reported eight (8) Semivolatile tentatively identified compounds. SBLK3 contained bis(2-Ethylhexyl)phthalate (83 µg/Kg) and reported ten (10) Semivolatile tentatively identified compound.
Bis(2-Ethylhexyl)phthalate and Di-n-octylphthalate are the common laboratory contaminants.
The presence of the laboratory contaminants in the samples associated with SBLK1 and SBLK3 is flagged as non-detected "U" when the sample results are less than ten (10) times the blank results.
The presence of any of the TICs in the samples associated with SBLK1, SBLK2 and SBLK3 is flagged as non-detected "U" when the sample results are less than five (5) times the blank results.
The Semivolatile method blank summary (FORM IV SV) lists the associated samples.

Pesticide/PCB:

PBLKWO and PBLKWP are the water Pesticide method blanks. PBLKSP is the soil Pesticide method blank. All method blanks had no

Reviewed by: _____Krystyna Minczuk__Lockheed/ESAT
Date:__September 11th, 1995__

NARRATIVE

LABORATORY: S W O K **CASE: 23889**

SITE NAME: Browning Ferris (IL) **SDG: EAPK6**

contaminants; therefore, the results are acceptable.
There were twenty (20) Pesticide instrument blanks. All of them had no contaminants. There were no samples associated with instrument blanks.

5.SYSTEM MONITORING COMPOUND AND SURROGATE RECOVERY

Volatile:
The low level water system monitoring compound SMC3(DCE) 1,2-Dichloroethane-d4 was below the QC limit (76-114%) in sample EAPJ8MS (74%). Any positive Volatile result in sample EAPJ8MS should be flagged as estimated "J" and non-detected result should be flagged with the sample quantitation limit as estimated "UJ".

The low level soil system monitoring compounds were within the QC limits; therefore, the results are acceptable.

Semivolatile:
The low level water surrogates for base/neutral fraction: S2 (FHP) 2-Fluorobiphenyl was below the QC limit (48-116%) in sample EAQF8 (34%) and S3(TPH) Terphenyl-d14 was below the QC limit (33-141%) in samples: EAQF9 (32%), EAQG6 (14%) and EAQJ8 (22%). Protocol requires two or more surrogate to be out in the same fraction to need qualification; therefore, no qualification is needed for all above noted samples.

The low level water surrogates were within the QC limits; therefore, the results are acceptable.

Pesticide/PCB:
The Pesticide water surrogates were within the QC limits; therefore, the results are acceptable.
The Pesticide soil surrogates were within the QC limits; therefore, the results are acceptable.

6.MATRIX SPIKE/SPIKE DUPLICATES

Volatile:
Sample **EAQJ8** was used as the water MS/MSD in Volatile fraction.
All water spike recoveries and RPDs were within the QC limits; therefore, the results are acceptable.

Sample **EAQK6** was used as the soil MS/MSD in Volatile fraction.
All soil spike recoveries and RPDs were within the QC limits;

Reviewed by: _____Krystyna Minczuk__Lockheed/ESAT
Date:__September 11th, 1995__

NARRATIVE

LABORATORY: S W O K **CASE: 23889**

SITE NAME: Browning Ferris (IL) **SDG: EAPK6**

therefore, the results are acceptable.

Semivolatile:

Sample **EAQJ9** was used as the water MS/MSD in Semivolatile fraction.

All water spike recoveries and RPDs were within the QC limits; therefore, the results are acceptable.

Sample **EAQK6** was used as the soil MS/MSD in Semivolatile fraction.

Recovery of matrix spike/matrix spike duplicate for Pyrene (MS=0%, MSD=0%) were reported zero percent. The zero percent recovery of Pyrene was affected by high concentration of this compound in original sample; therefore, no qualification is necessary.

Pesticide/PCB:

Sample **EAQF8** was used as the water MS/MSD in Pesticide fraction.

All water spike recoveries and RPDs were within the QC limits; therefore, the results are acceptable.

Sample **EAQK6** was used as the soil MS/MSD in Pesticide fraction.

All soil spike recoveries and RPDs were within the QC limits; therefore, the results are acceptable.

7.FIELD BLANK AND FIELD DUPLICATE

Sample **EAQJ8** was identified as the field blank. Sample **EAPK6** was identified as the Volatile trip blank.

EAQJ8 contained Volatile compounds: Vinyl Chloride (28 µg/L), Chloroethane (7 µg/L), Acetone (35 µg/L), Carbon Disulfide (2 µg/L), 1,2-Dichloroethane (total) (54 µg/L), Benzene (4 µg/L), 4-Methyl-2-Pentanone (8 µg/L), Toluene (2 µg/L) and two (2) Volatile tentatively identified compounds; Semivolatile compounds: 1,4-Dichlorobenzene (1 µg/L), 2,4-Dimethylphenol (11 µg/L), Naphthalene (2 µg/L), Diethylphthalate (0.5 µg/L), bis(2-Ethylhexyl)phthalate (0.5 µg/L) and thirty three (33) Semivolatile tentatively identified compounds; no Pesticide were detected in this sample.

EAPK6 contained Methylene Chloride (2 µg/L).

Reviewed by: _____Krystyna Minczuk__Lockheed/ESAT
Date:__September 11th, 1995__

NARRATIVE

LABORATORY: S W O K **CASE: 23889**

SITE NAME: Browning Ferris (IL) **SDG: EAPK6**

18.INTERNAL STANDARDS

Volatile:
The internal standards area counts and retention time were within the QC limits; therefore, the results are acceptable.

Semivolatile:
The internal standards area counts were above the QC limits for IS6(PRY) Perylene d12 in sample EAQK6MS; IS1(DCP) 1,4-Dichlorobenzene-d4 in sample EAQK6 and IS2(NPT) Naphthalene-d8 in sample EAQK6.
The positive results for the target compounds which are quantitated using IS6, IS1 and IS2 in the above noted samples are flagged as estimated "J" and non-detected results are flagged with the sample quantitation limit as estimated "UJ".
Please, refer to Table 4 for the list of associated Semivolatile compounds which are quantitated using IS6, IS1 and IS2.

9.COMPOUND IDENTIFICATION

The target compounds and TICs for the Volatile, Semivolatile and Pesticide/PCB fractions were correctly identified.

10.COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

The Volatile, Semivolatile and Pesticide/PCB Target Compounds (TCLs) and Tentative Identified Compounds (TICs) were properly quantitated; therefore, the data are acceptable. The CRQLs were adjusted to reflect all sample dilutions and percent moisture.

11.SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance.
GC baselines for the Pesticide analysis was acceptable.

12.ADDITIONAL INFORMATION

Semivolatile:
A large number of SVOA TICs were reported in samples:
EAQG6 - 8
EAQJ8 - 33
EAQK6 - 30

Reviewed by: _____Krystyna Minczuk__Lockheed/ESAT
Date:__September 11th, 1995__

CALIBRATION OUTLIERS
VOLATILE TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS#: 23289 LABORATORY: SWSK

COLUMN: DB624 SITE NAME: Browning Ferris (IL)

HEATED PURGE (Y/N): N

Instrument#	C	Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		07/26/95 8:09			09/14/95 9:25			03/15/95 8:09			03/15/95 8:12					
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Chloromethane	0.01															
Bromomethane	0.10															
Vinyl chloride	0.10															
Chloroethane	0.01															
Methylene chloride	0.01															
Acetone	0.01	.182			.172			.274	49.7	J	.252	37.7	J			
Carbon disulfide	0.01															
1,1-Dichloroethene	0.10															
1,1-Dichloroethane	0.20															
1,2-Dichloroethene (total)																
Chloroform	0.20															
1,2-Dichloroethane	0.10															
2-Butanone	0.01	.204			.216			.257	26.0	J	.250					
1,1,1-Trichloroethane	0.10															
Carbon tetrachloride	0.10															
Bromodichloromethane	0.20															
1,2-Dichloropropane																
cis-1,3-Dichloropropene	0.20															
Trichloroethene	0.30															
Dibromochloromethane	0.10															
1,1,2-Trichloroethane	0.10															
Benzene	0.50															
tran-1,3-Dichloropropene	0.10															
Bromoform	0.10															
4-Methyl-2-pentanone	0.01															
2-Hexanone	0.01	.110			.123			.154	40.0	J	.130					
Tetrachloroethene	0.20															
1,1,2,2-Tetrachloroethane	0.50															
Toluene	0.40															
Chlorobenzene	0.50															
Ethylbenzene	0.10															
Styrene	0.30															
Xylene (total)	0.30															
Toluene-d8																
Bromofluorobenzene	0.20															
1,2-Dichloroethane-d4		2.287			1.62	26.5	J	1.778			1.923					

Samples affected:

VBLK1	VBLK2	VBLK4
EAQF8	EAPK6	VHBLK1
EAQG6	EAQJ9	
EAQJ3	EAQF9	
EAQJ8MS		
EAQJ8MSD		

Reviewer's Init/Date: KM

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.

= Minimum Relative Response Factor

CALIBRATION OUTLIERS
VOLATILE TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS#: 23589 LABORATORY: SWIK

COLUMN: JB624 SITE NAME: Browning Ferris (IL)

HEATED PURGE (Y/N): Y

Instrument# L	L	Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		08/02/95 9:09			08/17/95 9:20											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Chloromethane	0.01	.967			.717	25.9	J									
Bromomethane	0.10															
Vinyl chloride	0.10															
Chloroethane	0.01															
Methylene chloride	0.01															
Acetone	0.01	.45			.35	33.9	J									
Carbon disulfide	0.01															
1,1-Dichloroethene	0.10															
1,1-Dichloroethane	0.20															
1,2-Dichloroethene (total)																
Chloroform	0.20															
1,2-Dichloroethane	0.10															
2-Butanone	0.01															
1,1,1-Trichloroethane	0.10															
Carbon tetrachloride	0.10															
Bromodichloromethane	0.20															
1,2-Dichloropropane																
cis-1,3-Dichloropropene	0.20															
Trichloroethene	0.30															
Dibromochloromethane	0.10															
1,1,2-Trichloroethane	0.10															
Benzene	0.50															
ran-1,3-Dichloropropene	0.10															
Bromoform	0.10															
4-Methyl-2-pentanone	0.01															
2-Hexanone	0.01	.20	37.3	J	.103											
Tetrachloroethene	0.20															
1,1,2,2-Tetrachloroethane	0.50															
Toluene	0.40															
Chlorobenzene	0.50															
Ethylbenzene	0.10															
Styrene	0.30															
Xylene (total)	0.30															
Toluene-d8																
Bromofluorobenzene	0.20															
1,2-Dichloroethane-d4																

Samples affected:
VBLK3.
EAQK6
EAQK6MS
EAQK6MSD

Reviewer's Init/Date: KM

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.

= Minimum Relative Response Factor

CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 1 of 2)

CASE\SAS#: 23889
COLUMN: =

LABORATORY: SWOK
SITE NAME: Browning Ferris (IL)

Instrument# T		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		06/07/95 8 25			06/15/95 8:59											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Phenol	0.80															
bis(2-chloroethyl) Ether	0.70															
2-Chlorophenol	0.70															
1,3-Dichlorobenzene																
1,4-Dichlorobenzene																
1,2-Dichlorobenzene																
2-Methylphenol	0.70															
2,2'-Oxybis(1-chl-propane)	0.01	1.493			1.491	25.4	J									
4-Methylphenol	0.60															
N-nitroso-di-n-propylamine	0.50															
Hexachloroethane	0.30															
Nitrobenzene	0.20															
Isophorone	0.40															
2-Nitrophenol	0.10															
2,4-Dimethylphenol	0.20															
bis-(2-chloroethoxyl)methane	0.30															
2,4-Dichlorophenol	0.20															
1,2,4-Trichlorobenzene	0.20															
Naphthalene	0.70															
4-Chloroaniline	0.01															
Hexachlorobutadiene	0.01															
4-Chloro-3-methylphenol	0.20															
2-Methylnaphthalene	0.40															
Hexachlorocyclopentadiene	0.01	.459			.322	29.9	J									
2,4,6-Trichlorophenol	0.20															
2,4,5-Trichlorophenol	0.20															
2-Chloronaphthalene	0.80															
2-Nitroaniline	0.01															
Dimethyl phthlate	0.01															
Acenaphthylene	1.30															
2,6-Dinitrotoluene	0.20															
3-Nitroaniline	0.01															
Acenaphthene	0.30															
2,4-Dinitrophenol	0.01															
4-Nitrophenol	0.01															
Dibenzofuran	0.80															
2,4-Dinitrotoluene	0.20															

Affected samples:

	3BLK1		
	EAQK6MS		
	EAQK6MSD		

Reviewer's Init/Date: KM 8-8-95

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.
\# = Minimum Relative Response Factor

CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 2 of 2)

CASE\SAS#: 23899

COLUMN:

LABORATORY: SWOK

SITE NAME: Browning Ferris (IL)

Instrument#		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		09/07/95 8:25			09/15/95 8:37											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Diethylphthalate	0.01															
4-Chlorophenyl-phenylether	0.40															
Fluorene	0.90															
4-Nitroaniline	0.01															
4,6-Dinitro-2-methylphenol	0.01															
N-nitrosodiphenylamine	0.01															
4-Bromophenyl-phenylether	0.10															
Hexachlorobenzene	0.10															
Pentachlorophenol	0.05															
Phenanthrene	0.70															
Anthracene	0.70															
Carbazole																
Di-n-butylphthalate	0.01															
Fluoranthene	0.60															
Pyrene	0.60															
Butylbenzylphthalate	0.01															
3,3'-Dichlorobenzidine	0.01															
Benzo(a)anthracene	0.80															
Chrysene	0.70															
bis(2-Ethylhexyl)phthalate	0.01															
Di-n-octyl phthalate	0.01															
Benzo(b)fluoranthene	0.70															
Benzo(k)fluoranthene	0.70															
Benzo(a)pyrene	0.70															
Indeno(1,2,3-cd)pyrene	0.50															
Dibenz(a,h)anthrancene	0.40															
Benzo(g,h,i)perylene	0.50															
Nitrobenzene-d5	0.01															
2-Fluorobiphenyl	0.70															
Terphenyl-d14	0.50															
Phenol-d5	0.80															
2-Fluorophenol	0.60															
2,4,6-Tribromophenol	0.01	.105			.134	28.0	J									
2-Chlorophenol-d4																
1,2-Dichlorobenzene-d4																

Reviewer's Init/Date: KM 9-8-95

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.

= Minimum Relative Response Factor

CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 1 of 2)

CASE\SAS#: 23889
COLUMN: =

LABORATORY: SWOK
SITE NAME: Browning Ferris (4)

Instrument#		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		05/17/95 10:11			05/18/95 8:59											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Phenol	0.80															
bis(2-chloroethyl) Ether	0.70															
2-Chlorophenol	0.70															
1,3-Dichlorobenzene																
1,4-Dichlorobenzene																
1,2-Dichlorobenzene																
2-Methylphenol	0.70															
2,2'-Oxybis(1-chl-propane)	0.01															
4-Methylphenol	0.60															
N-nitroso-di-n-propylamine	0.50															
Hexachloroethane	0.30															
Nitrobenzene	0.20															
Isophorone	0.40															
2-Nitrophenol	0.10															
2,4-Dimethylphenol	0.20															
bis-(2-chloroethoxyl)methane	0.30															
2,4-Dichlorophenol	0.20															
1,2,4-Trichlorobenzene	0.20															
Naphthalene	0.70															
4-Chloroaniline	0.01															
Hexachlorobutadiene	0.01															
4-Chloro-3-methylphenol	0.20															
2-Methylnaphthalene	0.40															
Hexachlorocyclopentadiene	0.01	.290	35.1	J	.115	60.5	J									
2,4,6-Trichlorophenol	0.20															
2,4,5-Trichlorophenol	0.20															
2-Chloronaphthalene	0.80															
2-Nitroaniline	0.01															
Dimethyl phthlate	0.01															
Acenaphthylene	1.30															
2,6-Dinitrotoluene	0.20															
3-Nitroaniline	0.01															
Acenaphthene	0.30															
2,4-Dinitrophenol	0.01															
4-Nitrophenol	0.01															
Dibenzofuran	0.80															
2,4-Dinitrotoluene	0.20															

Affected samples:

		SBLK3				
		EAQK6				

Reviewer's Init/Date: KM
8-8-95

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.
# = Minimum Relative Response Factor

CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 2 of 2)

CASE\SAS#: 23289 LABORATORY: SWOK

COLUMN:

SITE NAME: Browning Ferris (IL)

Instrument#	T	Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		10/17/95 10:11			10/19/95 6:59											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Diethylphthalate	0.01															
4-Chlorophenyl-phenylether	0.40															
Fluorene	0.90															
4-Nitroaniline	0.01															
4,6-Dinitro-2-methylphenol	0.01															
N-nitrosodiphenylamine	0.01															
4-Bromophenyl-phenylether	0.10															
Hexachlorobenzene	0.10															
Pentachlorophenol	0.05															
Phenanthrene	0.70															
Anthracene	0.70															
Carbazole																
Di-n-butylphthalate	0.01															
Fluoranthene	0.60															
Pyrene	0.60															
Butylbenzylphthalate	0.01															
3,3'-Dichlorobenzidine	0.01															
Benzo(a)anthracene	0.80															
Chrysene	0.70															
Bis(2-Ethylhexyl)phthalate	0.01															
Di-n-octyl phthalate	0.01															
Benzo(b)fluoranthene	0.70															
Benzo(k)fluoranthene	0.70															
Benzo(a)pyrene	0.70															
Indeno(1,2,3-cd)pyrene	0.50															
Dibenz(a,h)anthrancene	0.40															
Benzo(g,h,i)perylene	0.50															
Nitrobenzene-d5	0.01															
2-Fluorobiphenyl	0.70															
Terphenyl-d14	0.50															
Phenol-d5	0.80															
2-Fluorophenol	0.60															
2,4,6-Tribromophenol	0.01															
2-Chlorophenol-d4																
1,2-Dichlorobenzene-d4																

Reviewer's Init/Date: KM 3-8-96

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.

= Minimum Relative Response Factor

CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 1 of 2)

CASE\SAS#: 23889
COLUMN:

LABORATORY: SWOK
SITE NAME: Browning Terms (1c)

Instrument# V		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		08/16/95 12:47			08/16/95 12:47											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Phenol	0.80															
bis(2-chloroethyl) Ether	0.70															
2-Chlorophenol	0.70															
1,3-Dichlorobenzene																
1,4-Dichlorobenzene																
1,2-Dichlorobenzene																
2-Methylphenol	0.70															
2,2'-Oxybis(1-chl-propane)	0.01															
4-Methylphenol	0.60															
N-nitroso-di-n-propylamine	0.50															
Hexachloroethane	0.30															
Nitrobenzene	0.20															
Isophorone	0.40															
2-Nitrophenol	0.10															
2,4-Dimethylphenol	0.20															
bis-(2-chloroethoxyl)methane	0.30															
2,4-Dichlorophenol	0.20															
1,2,4-Trichlorobenzene	0.20															
Naphthalene	0.70															
4-Chloroaniline	0.01															
Hexachlorobutadiene	0.01															
4-Chloro-3-methylphenol	0.20															
2-Methylnaphthalene	0.40															
Hexachlorocyclopentadiene	0.01	.360			.208	42.2	J									
2,4,6-Trichlorophenol	0.20															
2,4,5-Trichlorophenol	0.20															
2-Chloronaphthalene	0.80															
2-Nitroaniline	0.01															
Dimethyl phthlate	0.01															
Acenaphthylene	1.30															
2,6-Dinitrotoluene	0.20															
3-Nitroaniline	0.01															
Acenaphthene	0.30															
2,4-Dinitrophenol	0.01															
4-Nitrophenol	0.01															
Dibenzofuran	0.80															
2,4-Dinitrotoluene	0.20															

Affected samples:

	SBLK2		
	EAQF8		
	EAQF9		
	EAQG6		
	EAQJ8		
	EAQJ9		
	EAQJ9MS		
	EAQJ9MSD		

Reviewer's Init/Date: KM 8-8-95

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.
\# = Minimum Relative Response Factor

CALIBRATION OUTLIER
SEMIVOLATILE TCL COMPOUNDS
(Page 2 of 2)

CASE\SAS#: 23289

COLUMN:

LABORATORY: SWOK

SITE NAME: Browning Ferris (IC)

Instrument# V		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		08/16/95 12:47			08/16/95 2:47											
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
Diethylphthalate	0.01															
4-Chlorophenyl-phenylether	0.40															
Fluorene	0.90															
4-Nitroaniline	0.01															
4,6-Dinitro-2-methylphenol	0.01															
N-nitrosodiphenylamine	0.01															
4-Bromophenyl-phenylether	0.10															
Hexachlorobenzene	0.10															
Pentachlorophenol	0.05															
Phenanthrene	0.70															
Anthracene	0.70															
Carbazole																
Di-n-butylphthalate	0.01															
Fluoranthene	0.60															
Pyrene	0.60															
Butylbenzylphthalate	0.01															
3,3'-Dichlorobenzidine	0.01															
Benzo(a)anthracene	0.80															
Chrysene	0.70															
is(2-Ethylhexyl)phthalate	0.01															
Di-n-octyl phthalate	0.01															
Benzo(b)fluoranthene	0.70															
Benzo(k)fluoranthene	0.70															
Benzo(a)pyrene	0.70															
Indeno(1,2,3-cd)pyrene	0.50															
Dibenz(a,h)anthrancene	0.40															
Benzo(g,h,i)perylene	0.50															
Nitrobenzene-d5	0.01															
2-Fluorobiphenyl	0.70															
Terphenyl-d14	0.50															
Phenol-d5	0.80															
2-Fluorophenol	0.60															
2,4,6-Tribromophenol	0.01															
2-Chlorophenol-d4																
1,2-Dichlorobenzene-d4																

Reviewer's Init/Date: KM 8-8-95

J/R = All positive results are estimated "J" and non-detected results are unusable "R"

* = These flags should be applied to the analytes on the sample data sheets.

= Minimum Relative Response Factor

CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS#: 23889 LABORATORY: SWOK

COLUMN: DB-1701 SITE NAME: Browning Ferris (IL)

Instrument# HP 06		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		05/14-05/95			08/16/95 8:08			08/17/95 4:31								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha-BHC	0.01															
beta-BHC	0.40															
delta-BHC	0.90															
gamma-BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4, 4'-DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4, 4'-DDD	0.60															
Endosulfan sulfate	0.60															
4, 4'-DDT	0.01															
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
Arochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples:

	EAQK6			
	EAQK6MS			
	EAQK6MSD			
	PBLKSP			

Reviewer's Init/Date: KH
8-8-95

* These flags should be applied to the analytes on the sample data sheets.
\# Minimum Relative Response Factor

CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS#: 23889 LABORATORY: SWOK

COLUMN: DB-17 SITE NAME: Browning Ferris (IL)

Instrument# MP-01B	F	Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		08/16/95			08/16/95 14:34			08/17/95 16:24								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha-BHC	0.01															
beta-BHC	0.40															
delta-BHC	0.90															
gamma-BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4, 4'-DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4, 4'-DDD	0.60															
Endosulfan sulfate	0.60															
4, 4'-DDT	0.01															
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
Arochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples:

EAQF8	EAQG6			
EAQF8MS	EAQG6DL			
EAQF8MSD	PBLKWP			
EAQF9				
EAQJ8				
EAQJ9				
RBLKWO				

Reviewer's Init/Date: KM 8-8-95

* These flags should be applied to the analytes on the sample data sheets.
\# Minimum Relative Response Factor

CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS#: 23389 LABORATORY: SWOK

COLUMN: DB 1701 SITE NAME: Browning Ferris (IL)

Instrument#		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		08/16/95			09/16/95 14:32			09/17/95 16:23								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha-BHC	0.01															
beta-BHC	0.40															
delta-BHC	0.90															
gamma-BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4, 4'-DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4, 4'-DDD	0.60															
Endosulfan sulfate	0.60															
4, 4'-DDT	0.01															
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
Arochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples:

EAQF3	EAQ G6			
EAQF4MS	EAQ G6DL			
EAQF4MSD	PBLKW8			
EAQF9				
EAQJ8				
EAQJ9				
PBLKW3				

Reviewer's Init/Date: KM 9-9-95

* These flags should be applied to the analytes on the sample data sheets.
\# Minimum Relative Response Factor

CALIBRATION OUTLIER
PESTICIDE/PCB TCL COMPOUNDS
(Page 1 of 1)

CASE\SAS#: 23889 LABORATORY: SWOK

COLUMN: DB-17 SITE NAME: Browning Ferris (K)

Instrument# MP-00B		Initial Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.			Contin. Cal.		
Date/Time:		05/14-15/95			05/16/95 8:03			08/7/95 9:31								
	#	rf	%rsd	*	rf	%d	*	rf	%d	*	rf	%d	*	rf	%d	*
alpha-BHC	0.01															
beta-BHC	0.40															
delta-BHC	0.90															
gamma-BHC	0.01															
Heptachlor	0.01															
Aldrin	0.01															
Heptachlor epoxide	0.10															
Endosulfan I	0.10															
Dieldrin	0.05															
4, 4'-DDE	0.70															
Endrin	0.70															
Endosulfan II	0.01															
4, 4'-DDD	0.60															
Endosulfan sulfate	0.60															
4, 4'-DDT	0.01															
Methoxychlor	0.01															
Endrin ketone	0.80															
Endrin aldehyde	0.70															
alpha chlordane	0.01															
gamma chlordane	0.01															
Arochlor 1016																
rochlor 1221																
Arochlor 1232																
Arochlor 1242																
Arochlor 1248																
Arochlor 1254																
Arochlor 1260																

Affected samples:

	EAQKG			
	EAQKGMS			
	EAQKGM(2)			
	PBLKSP			

Reviewer's Init/Date: KM
8-8-95

* These flags should be applied to the analytes on the sample data sheets.
\# Minimum Relative Response Factor

ORGANIC DATA QUALIFIER DEFINITIONS

For the purpose of defining the flagging nomenclature utinized in this document, the following code letters and associated definitions are provide:

VALUE-if the results is a value greater than or equal to the Contract Required Quantitation Limit (CRQL).

U Indicates that the compound was analyzed for, but not detected. The sample quantitation limit corrected for dilution and percent moisture is reported.

J Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of a compound but the result is less than the sample quantitation limit, but greater than zero. The flag is also used to indicate a reported result having an associated QC problem.

R Indicates the data are unusable. (Note: The analyte may or may not be present.)

N Indicates presumptive evidence of a compound. This flag is only used for a tentatively identified compound, where the identification is based on a mass spectral library search.

P Indicates a pesticide/Aroclor target analyte when there is greater than 25% difference for the detected concentrations between the two GC columns. The lower of the two results is reported.

C Indicates pesticide results that have been confirmed by GC/MS.

B Indicates the analyte is detected in the associated blank as well as the sample.

E Indicates compounds whose concentrations exceed the calibration range of the instrument.

D Indicates an identified compound in an analysis has been diluted. This flag alerts the data user to any differences between the concentrations reported in the two analysis.

A Indicates tentatively identified compounds that are suspected to be aldol condensation products.

G Indicates the TCLP Matrix Spike Recovery was greater than the upper limit of the analytical method.

L Indicates the TCLP Matrix Spike Recovery was less than the lower limit of the analytical method.

T Indicates the analyte is found in the associated TCLP extraction blank as well as in the sample.

X, Y, Z are reserved for laboratory defined flags.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

RECEIVED

SEP 12 1995

IEPA/DLPC

Date: SEP 07 1995

Subject: Review of Region 5 Data for Browning Ferris Code:ZZ

From: Charles T. Elly, Director
Region 5 Central Regional Laboratory

To: IEPA

Attached are the results for Browning Ferris Code:ZZ
CRL request number 950235
for analyses for ICP
Results are reported for sample designations: 95IE25S01, 95IE25D01 and 95IE25R02

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

(x) Sewer Disposal Criteria Met; Exceptions: Acid preserved samples must be neutralized prior to disposal.

Comments on Data Quality by Reviewer

The second mid-range instrument check sample was outside the ±5% criterion on the high side for cobalt (6.4%), iron (5.3%) and low magnesium (5.5%). Cobalt and iron were not present in the sample, so any high bias was of no consequence. The magnesium results were all reported from the high channel except for the field blank. Copper was found in the digestion blank, but none was found in the samples, so the data are unaffected. The wide difference in copper and zinc results for the field duplicates was confirmed by analysis of the undigested samples. Sample 95IE25R02 was identified on the tag as 95IE25S02, but also as a field blank.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for Browning Ferris Code:ZZ

John V. Morris 6 Sept 95

Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck Elb 9/6/95

Section Chief and Date ( ) Reviewed ( ) Unreviewed

Chuck Elb 9/6/95

QC Coordinator and Date ( ) Reviewed ( ) Unreviewed

Sylvia Griffin SEP 0 7 1995

Data Management Coordinator and Date Received

Date Transmitted SEP 0 7 1995

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 23-AUG-95

SAMPLE ORGANIZATION: IEPA
MPLE REQUESTOR: IEPA
LABORATORY: ESAT

SAMPLE BATCH ID: 950235
ACCOUNT NO: TFA301
FACILITY: BROWNING FERRIS

SAMPLE: 95IE25D01 FIELD: 95IE25D01

COLLECTED: 10-AUG-95 RECEIVED: 11-AUG-95 ANALYZED: 21-AUG-95

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	80U	(ug/L)	BDL	7429-90-5
Barium	67	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	98000	(ug/L)		7440-70-2
Chromium	8U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	74	(ug/L)		7440-50-8
Iron	80U	(ug/L)	BDL	7439-89-6
Magnesium	40000	(ug/L)		7439-95-4
Manganese	5U	(ug/L)	BDL	7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	45000	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	397	(ug/L)		7440-66-6

ANALYZED BY: PK 8-23-95 JVM 6 Sept 95

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 23-AUG-95

SAMPLE ORGANIZATION: IEPA
SAMPLE REQUESTOR: IEPA
LABORATORY: ESAT

SAMPLE BATCH ID: 950235
ACCOUNT NO: TFA301
FACILITY: BROWNING FERRIS

SAMPLE: 95IE25R02 FIELD: 95IE25R02

COLLECTED: 10-AUG-95 RECEIVED: 11-AUG-95 ANALYZED: 21-AUG-95

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	80U	(ug/L)	BDL	7429-90-5
Barium	6U	(ug/L)	BDL	7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	500U	(ug/L)	BDL	7440-70-2
Chromium	8U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	6U	(ug/L)	BDL	7440-50-8
Iron	80U	(ug/L)	BDL	7439-89-6
Magnesium	100U	(ug/L)	BDL	7439-95-4
Manganese	5U	(ug/L)	BDL	7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	1000U	(ug/L)	BDL	7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	40U	(ug/L)	BDL	7440-66-6

ANALYZED BY: [illegible] 8-23-95

JVM
6 Sep 95

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
REPORT PRODUCED ON: 23-AUG-95

SAMPLE ORGANIZATION: IEPA
SAMPLE REQUESTOR: IEPA
LABORATORY: ESAT

SAMPLE BATCH ID: 950235
ACCOUNT NO: TFA301
FACILITY: BROWNING FERRIS

SAMPLE: 95IE25S01 FIELD: 95IE25S01

COLLECTED: 10-AUG-95 RECEIVED: 11-AUG-95 ANALYZED: 21-AUG-95

COMPOUND	AMOUNT	(Units)	QUALIFIERS	CAS NUMBER
Aluminum	80U	(ug/L)	BDL	7429-90-5
Barium	66	(ug/L)		7440-39-3
Beryllium	1U	(ug/L)	BDL	7440-41-7
Calcium	98000	(ug/L)		7440-70-2
Chromium	8U	(ug/L)	BDL	7440-47-3
Cobalt	6U	(ug/L)	BDL	7440-48-4
Copper	6U	(ug/L)	BDL	7440-50-8
Iron	80U	(ug/L)	BDL	7439-89-6
Magnesium	40000	(ug/L)		7439-95-4
Manganese	5U	(ug/L)	BDL	7439-96-5
Nickel	20U	(ug/L)	BDL	7440-02-0
Potassium	5000U	(ug/L)	BDL	7440-09-7
Silver	6U	(ug/L)	BDL	7440-22-4
Sodium	45000	(ug/L)		7440-23-5
Vanadium	5U	(ug/L)	BDL	7440-62-2
Zinc	75	(ug/L)		7440-66-6

ANALYZED BY: 8-23-95

JVM
6 Sept 95

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

RECEIVED
SEP 1 9 1995
IEPA/DLPC

Date: SEP 0 7 1995

Subject: Review of Region 5 Data for Browning Ferris Code:ZZ

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: IEPA

Attached are the results for Browning Ferris Code:ZZ
CRL request number 950235
for analyses for Antimony, Arsenic, Cadmium, Lead, Selenium and Thallium
Results are reported for sample designations: 95IE25S01, 95IE25D01 and 95IE25R02

Results Status:
(x) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

(x) Sewer Disposal Criteria Met; Exceptions: Acid preserved samples must be neutralized prior to disposal.

Comments on Data Quality by Reviewer

Lead was found in the field blank, sample 95IE25R02, although this was not confirmed by analysis of the undigested field blank. No lead was found in the digestion blanks.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for Browning Ferris Code:ZZ

John V. Moore 7 Sept 95

Team Leader and Date (✓) Reviewed ( ) Unreviewed

Chuck Eddy 9/7/95

Section Chief and Date ( ) Reviewed (✓) Unreviewed

Chuck Eddy 9/7/95

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed

Sylvia Griffin SEP 0 7 1995

Data Management Coordinator and Date Received

Date Transmitted SEP 0 7 1995

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 29-AUG-95

Sample organization: **IEPA**
Sample Requestor: **IEPA**
Facility: **BROWNING FERRIS**
Matrix: **WATER**
Date Collected: **10-AUG-95**

Sample Batch ID: **950235**
Account No: **TFA301**
Sample ID: **95IE25D01**
Units: **ug/L**
Date Received: **11-AUG-95**

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	29-AUG-95	P. McCluskey	
Arsenic	0.2	18-AUG-95	M. Kapp	
Cadmium Concentration	0.2U	22-AUG-95	B. Yu	
Lead Concentration	6	22-AUG-95	B. Yu	
Selenium Concentration	2U	21-AUG-95	B. Yu	
Thallium Concentration	2U	21-AUG-95	B. Yu	

Team Leader: JVM 7 Sept 95

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 29-AUG-95

Sample organization: **IEPA**
Sample Requestor: **IEPA**
Facility: **BROWNING FERRIS**
Matrix: **WATER**
Date Collected: **10-AUG-95**

Sample Batch ID: **950235**
Account No: **TFA301**
Sample ID: **95IE25R02**
Units: **ug/L**
Date Received: **11-AUG-95**

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	29-AUG-95	P. McCartney	
Arsenic	0.1U	18-AUG-95	[illegible]	
Cadmium Concentration	0.2U	22-AUG-95	B. Lyn	
Lead Concentration	3	22-AUG-95	B. Lyn	
Selenium Concentration	2U	21-AUG-95	B. Lyn	
Thallium Concentration	2U	21-AUG-95	B. Lyn	

Team Leader: [illegible] 29 Aug 95

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY

Single Analyte Result Report, produced on: 29-AUG-95

Sample organization: **IEPA**
Sample Requestor: **IEPA**
Facility: **BROWNING FERRIS**
Matrix: **WATER**
Date Collected: **10-AUG-95**

Sample Batch ID: **950235**
Account No: **TFA301**
Sample ID: **95IE25S01**
Units: **ug/L**
Date Received: **11-AUG-95**

Parameter	Result	Anal. Date	Analyst	Comments
Antimony	1U	29-AUG-95	P McCantzle	
Arsenic	0.2	18-AUG-95	M. Kupp	
Cadmium Concentration	0.2U	22-AUG-95	B Yun	
Lead Concentration	3	22-AUG-95	B Yun	
Selenium Concentration	2U	21-AUG-95	B Yun	
Thallium Concentration	2U	21-AUG-95	B Yun	

Team Leader: NM 7 Sept 95

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

RECEIVED

SEP 05 1995

IEPA/DLPC

Date: AUG 30 1995

Subject: Review of Region 5 Data for **BROWNING FERRIS**

From: Charles T. Elly, Director
Region 5 Central Regional Laboratory

To: IEPA

Attached are the results for: **Browning Ferris**
CRL request number: **950235**
Analyzed for: **ABN (Organics)**
Results are reported for sample designations: 95IE25S01, -D01, & -R02 (3 samples).

Results Status:
(X) Acceptable for Use. Please see the attached Case Narrative.
(X) Data Qualified but acceptable for Use. Please see the attached Case Narrative.
( ) Data Unacceptable for Use

(X) Sewer Disposal Criteria Met; Exceptions: none
Comments on Data Quality by Reviewer:

Please see the case narrative.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for **Browning Ferris 950235 ABN**

Bobu Pabuchuko 08/24/95

Team Leader and Task Monitor Date (X) Reviewed ( ) Unreviewed

Lili Tang 8/25/95

Section Chief and Date (✓) Reviewed ( ) Unreviewed

Chuck E. Ulz 8/25/95

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed

Sylvia Griffin AUG 30 1995

Data Management Coordinator and Date Received

Date Transmitted AUG 30 1995

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

CASE NARRATIVE

DATE: August 24, 1995

PROJECT NAME: Browning Ferris - CRL Case #: 950235
Analysis of Acid\Base\Neutral Organic Analytes

ANALYST: Babu Paruchuri, Chemist

REVIEWERS: Chi M. Tang, Chief
Organic Laboratory Section

I. CASE DESCRIPTION:

The laboratory received three (95IE25S01, -D01, and -R02) residential well water samples on 08/11/95 for acid/base-neutral (ABN) organic compound analysis. These samples were analyzed by the CRL test method # 625CLP. The site samples were extracted on 08/14/95. 95IE25R02 was analyzed on 08/17/95 and 95IE25S01 and -D01 were analyzed on 08/21/95. All site samples were extracted and analyzed within sample holding time requirements. These samples were received at the laboratory in good condition. (QC Criteria for sample holding time for Extraction and Analysis: Seven Days from date of collection and 40 days from date of extraction, respectively). No problems were observed.

II. INSTRUMENT QUALITY CONTROLS:

1. **Instrument Performance Check:** On each day of analysis, GC/MS instrument (HP-MS#2) performance checks were made to determine if the EPA tuning criteria for DFTPP were met. (QC Criteria: Same as CLP Statement of Work criteria). No problems were observed.

2. **Initial Calibration Check:** An acceptable five point initial calibration (IC) curve is required for all target compounds before samples can be analyzed. The initial calibration curves generated on 08/16/95 and 08/22/95 were acceptable for all of the target compounds. (QC Criteria for IC: %RSD should be $\leq$ 30%). No problems were observed.

3. **Continuing Calibration Check:** A continuing calibration check standard (CCC) was analyzed on 08/17/95. The CCC data were acceptable for all of the target compounds.

A mid-level standard from the initial calibration analyzed on 08/21/95 was used as a CCC. Its data were acceptable for most of the target compounds except benzoic acid and 2,4-dinitrophenol. Because these compounds were not detected in 95IE25S01 and -D01, their results were flagged "UJ" (UJ = estimated detection limit). (QC Criteria for CCC standard: %D should be

≤ 25%). No other problems were observed.

4. **Internal Standard (IS) Area and Retention Time Summary:** The site samples met the internal standard (IS) area and retention time (RT) QC criteria. (QC Criteria for IS Area: internal standard area counts for samples and blanks must not vary by more than a factor of two [- 50% to + 100%] from the associated daily calibration standard; QC Criteria for RT: RT of the IS compounds in samples and blanks must not vary by more than ± 30 seconds from the daily calibration standard). No problems were observed.

III. METHOD QUALITY CONTROL:

1. **Method Blank Results:** On the day of sample extraction, reagent water spiked with surrogates was extracted to check for contamination due to sample extraction/concentration procedures. The method blank sample data were acceptable. See Form I ABN. A common laboratory contaminant, bis(2-ethylhexyl)phthalate, was detected in the method blank sample. All site samples were flagged "B" (B = Found in lab blank) since this contaminant was also detected in them.

2. **Surrogate Spike Compound Results:** The surrogate spike compound recovery data were within QC limits for samples 95IE25S01 and -D01. However, surrogate recovery data for -R02 were biased low since a portion of the sample extract was lost during a concentration step. Because two of the three base-neutral surrogates were outside QC acceptance limits, all base-neutral organic compound data were flagged "UJ". No other problems were observed. See Form II ABN-1.

3. **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results:** MS/MSD sample analyses are not required for residential well water sample analysis. Instead, the laboratory analyzes, on a daily basis, a Laboratory Control Sample (LCS), and, on a monthly basis, a Performance Evaluation Sample (PES). The site sample data quality, in terms of accuracy, is evaluated based on data from LCS and PES data. Please see below.

4. **Laboratory Control Sample (LCS):** The laboratory generated acceptable accuracy data for most of the compounds, except bis(2-chloroethyl)ether and 2-chlorophenol. Because their recoveries were slightly below acceptance limits and because none of these compounds were detected at the site, the site data for these two compounds were flagged "UJ" (UJ = estimated method detection limit). See Form XI ABN.

5. **Performance Evaluation Sample (PES):** The laboratory generated acceptable results for the PES. EPA (EMSL-LV) establishes data acceptance limits for PES. No problems were

observed.

IV. SAMPLE RESULTS: The laboratory met qualitative and quantitative analysis requirements for TCLs and TICs.

Bis(2-ethylhexyl)phthalate, a common laboratory contaminant, was detected in the laboratory method blank, and site samples. The site sample data quality was not affected.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAB BLANK

ab Name: BROWNING FERRIS FSIPIL Contract: SLO-10C

ab Code: USEPA Case No.: 950235 SAS No.: BRWNFER SDG No.: -------

atrix: (soil/water) WATER Lab Sample ID: LAB BLANK

ample wt/vol: 1000 (g/ml) ML Lab File ID: >B8502

evel: (low/med) LOW Date Received: 08/11/95

Moisture: not dec. ---- dec. ---- Date Extracted: 08/14/95

xtraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/17/95

PC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U J
95-57-8	2-Chlorophenol	5	U J
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

BP 8/24/95

No TICs. BP 8/23/95

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LAB BLANK

ab Name: BROWNING FERRIS FSIPIL Contract: SLO-10C

ab Code: USEPA Case No.: 950235 SAS No.: BRWNFER SDG No.: -------

atrix: (soil/water) WATER Lab Sample ID: LAB BLANK

ample wt/vol: 1000 (g/ml) ML Lab File ID: >B8502

evel: (low/med) LOW Date Received: 08/11/95

Moisture: not dec. ---- dec. ---- Date Extracted: 08/14/95

xtraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/17/95

PC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U
120-12-7	Anthracene	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
86-74-8	Carbazole	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	22	
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	5	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:ABN

ample organization: **IEPA**
ample Requestor: **IEPA**
acility: **BROWNING FERRIS**
atrix:**WATER**

Method:**A625SWLCS.1**

Sample Batch ID: **950235**
Account No: **TFA301**
Sample ID: **95IE25R02**
Units: **ug/L**

ate Collected:**10-AUG-95**
ate Extracted:**14-AUG-95**

Date Received:**11-AUG-95**
Date Analyzed:**17-AUG-95**

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	UJ
95-57-8	2-Chlorophenol	5	UJ
541-73-1	1,3-Dichlorobenzene	5	UJ
106-46-7	1,4-Dichlorobenzene	5	UJ
100-51-6	Benzyl alcohol	5	UJ
95-50-1	1,2-Dichlorobenzene	5	UJ
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	UJ
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	UJ
67-72-1	Hexachloroethane	5	UJ
98-95-3	Nitrobenzene	5	UJ
78-59-1	Isophorone	5	UJ
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	U
111-91-1	bis(2-Chloroethoxy)methane	5	UJ
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	UJ
91-20-3	Naphthalene	5	UJ
106-47-8	4-Chloroaniline	5	UJ
87-68-3	Hexachlorobutadiene	5	UJ
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	UJ
77-47-4	Hexachlorocyclopentadiene	5	UJ
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	UJ
88-74-4	2-Nitroaniline	20	UJ
131-11-3	Dimethylphthalate	5	UJ
208-96-8	Acenaphthylene	5	UJ
99-09-2	3-Nitroaniline	20	UJ
83-32-9	Acenaphthene	5	UJ
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	UJ
606-20-2	2,6-Dinitrotoluene	5	UJ
121-14-2	2,4-Dinitrotoluene	5	UJ
84-66-2	Diethylphthalate	5	UJ
7005-72-3	4-Chlorophenyl-phenylether	5	UJ
86-73-7	Fluorene	5	UJ
100-01-6	4-Nitroaniline	20	UJ
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine	5	UJ
101-55-3	4-Bromophenyl-phenylether	5	UJ
118-74-1	Hexachlorobenzene	5	UJ
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	UJ

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:**ABN**

ample organization: **IEPA**
a e Requestor: **IEPA**
acility: **BROWNING FERRIS**
atrix:**WATER**

Method:**A625SWLCS.1**

Sample Batch ID: **950235**
Account No: **TFA301**
Sample ID: **95IE25R02**
Units: **ug/L**

ate Collected:**10-AUG-95**
ate Extracted:**14-AUG-95**

Date Received:**11-AUG-95**
Date Analyzed:**17-AUG-95**

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
120-12-7	Anthracene	5	UJ
86-74-8	Carbazole	5	UJ
84-74-2	Di-n-butylphthalate	5	UJ
206-44-0	Fluoranthene	5	UJ
129-00-0	Pyrene	5	UJ
85-68-7	Butylbenzylphthalate	5	UJ
91-94-1	3,3'-Dichlorobenzidine	5	UJ
56-55-3	Benzo(a)anthracene	5	UJ
218-01-9	Chrysene	5	UJ
117-81-7	bis(2-Ethylhexyl)phthalate	2	JB
117-84-0	Di-n-octylphthalate	5	UJ
205-99-2	Benzo(b)fluoranthene	5	UJ
207-08-9	Benzo(k)fluoranthene	5	UJ
50-32-8	Benzo(a)pyrene	5	UJ
193-39-5	Indeno(1,2,3-cd)pyrene	5	UJ
53-70-3	Dibenzo(a,h)anthracene	5	UJ
191-24-2	Benzo(g,h,i)perylene	5	UJ

Analyzed by: Babu Paruchuri

NO TICs.

Team Leader: Babu Paruchuri 8/24/95

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:ABN

ample organization: **IEPA**
ample Requestor: **IEPA**
acility: **BROWNING FERRIS**
atrix:**WATER**

Method:**A625SWLCS.1**

Sample Batch ID: **950235**
Account No: **TFA301**
Sample ID: **95IE25S01**
Units: **ug/L**

ate Collected:**10-AUG-95**
ate Extracted:**14-AUG-95**

Date Received:**11-AUG-95**
Date Analyzed:**~~22~~ 21-AUG-95**

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	UJ
95-57-8	2-Chlorophenol	5	UJ
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	UJ
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	20	UJ
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
606-20-2	2,6-Dinitrotoluene	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:**ABN**

ample organization: **IEPA**
ar e Requestor: **IEPA**
acility: **BROWNING FERRIS**
atrix:**WATER**

Method:**A625SWLCS.1**

Sample Batch ID: **950235**
Account No: **TFA301**
Sample ID: **95IE25S01**
Units: **ug/L**

ate Collected:**10-AUG-95**
ate Extracted:**14-AUG-95**

Date Received:**11-AUG-95**
Date Analyzed:**~~22~~ 21-AUG-95**

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
120-12-7	Anthracene	5	U
86-74-8	Carbazole	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	32	B
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	5	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

Analyzed by: Barbara Pasuchuzi.

NO TICS.

Team Leader: Barbara Pasuchuzi 8/24/95

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:**ABN**

ample organization: **IEPA**
ample Requestor: **IEPA**
acility: **BROWNING FERRIS**
atrix:**WATER**

Method:**A625SWLCS.1**

Sample Batch ID: **950235**
Account No: **TFA301**
Sample ID: **95IE25D01**
Units: **ug/L**

ate Collected:**10-AUG-95**
ate Extracted:**14-AUG-95**

Date Received:**11-AUG-95**
Date Analyzed:~~22~~ 21**-AUG-95**

BP 12/4/95

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	UJ
95-57-8	2-Chlorophenol	5	UJ
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
100-51-6	Benzyl alcohol	5	U
95-50-1	1,2-Dichlorobenzene	5	U
95-48-7	2-Methylphenol	5	U
108-60-1	bis(2-Chloroisopropyl)ether	5	U
106-44-5	4-Methylphenol	5	U
621-64-7	N-Nitroso-di-n-propylamine	5	U
67-72-1	Hexachloroethane	5	U
98-95-3	Nitrobenzene	5	U
78-59-1	Isophorone	5	U
88-75-5	2-Nitrophenol	5	U
105-67-9	2,4-Dimethylphenol	5	U
65-85-0	Benzoic acid	20	UJ
111-91-1	bis(2-Chloroethoxy)methane	5	U
120-83-2	2,4-Dichlorophenol	5	U
120-82-1	1,2,4-Trichlorobenzene	5	U
91-20-3	Naphthalene	5	U
106-47-8	4-Chloroaniline	5	U
87-68-3	Hexachlorobutadiene	5	U
59-50-7	4-Chloro-3-methylphenol	5	U
91-57-6	2-Methylnaphthalene	5	U
77-47-4	Hexachlorocyclopentadiene	5	U
88-06-2	2,4,6-Trichlorophenol	5	U
95-95-4	2,4,5-Trichlorophenol	20	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	20	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
99-09-2	3-Nitroaniline	20	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	20	UJ
100-02-7	4-Nitrophenol	20	U
132-64-9	Dibenzofuran	5	U
606-20-2	2,6-Dinitrotoluene	5	U
121-14-2	2,4-Dinitrotoluene	5	U
84-66-2	Diethylphthalate	5	U
7005-72-3	4-Chlorophenyl-phenylether	5	U
86-73-7	Fluorene	5	U
100-01-6	4-Nitroaniline	20	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U
86-30-6	N-Nitrosodiphenylamine	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	5	U

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:ABN

ample organization: **IEPA**
ar e Requestor: **IEPA**
acility: **BROWNING FERRIS**
atrix:**WATER**

Method:**A625SWLCS.1**

Sample Batch ID: **950235**
Account No: **TFA301**
Sample ID: **95IE25D01**
Units: **ug/L**

ate Collected:**10-AUG-95**
ate Extracted:**14-AUG-95**

Date Received:**11-AUG-95**
Date Analyzed:**~~22~~ 21-AUG-95**

8/24/95

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
120-12-7	Anthracene	5	U
86-74-8	Carbazole	5	U
84-74-2	Di-n-butylphthalate	5	U
206-44-0	Fluoranthene	5	U
129-00-0	Pyrene	5	U
85-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	5	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	J
117-84-0	Di-n-octylphthalate	5	U
205-99-2	Benzo(b)fluoranthene	5	U
207-08-9	Benzo(k)fluoranthene	5	U
50-32-8	Benzo(a)pyrene	5	U
193-39-5	Indeno(1,2,3-cd)pyrene	5	U
53-70-3	Dibenzo(a,h)anthracene	5	U
191-24-2	Benzo(g,h,i)perylene	5	U

Analyzed by: Babu Paluchuri.

NO TICS. **Team Leader:** Babu Paluchuri. 8/24/95

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: BROWNING FERRIS FSIPIL Contract: SLO-10C

Lab code: USEPA Case No.: 950235 SAS No.: BRWNFER SDG No.: ------

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 ( )#	TOT OUT
01	95IE25S01	47	47	81	44	45	69		0
02	95IE25D01	63	66	80	67	66	73		0
03									
04									
05									
06									
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d5	(10-100)
S5 (2FP)	= 2-Fluorophenol	(21-110)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

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

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: BROWNING FERRIS FSIPIL Contract: SLO-10C

Lab code: USEPA Case No.: 950235 SAS No.: BRWNFER SDG No.: ------

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	S7 ( ) #	TOT OUT
01	LAB BLANK	56	61	84	62	56	78		0
02	LAB SPIKE	63	64	78	54	63	94		0
03	95IE25R02	9 *	10 *	45	10	9 *	20		3
04									
05									
06									
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d5	(10-100)
S5 (2FP)	= 2-Fluorophenol	(21-110)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

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

11B

SEMIVOLATILE ORGANICS LAB CONTROL SPIKE

EPA SAMPLE NO.

LAB SPIKE

ab Name: GREEN AP REFRACTORIES IL Contract: SLO-10C

ab Code: USEPA Case No.: 950233 SAS No.: GRNAPRF SDG No.: -------

atrix: (soil/water) WATER Lab Sample ID: LAB SPIKE

ample wt/vol: 1000 (g/ml) ML Lab File ID: >B8503

evel: (low/med) LOW Date Received: 08/10/95

Moisture: not dec. ---- dec. ---- Date Extracted: 08/14/95

xtraction: (Sepf/Cont/Sonc) CONT Date Analyzed: 08/17/95

PC Cleanup: (Y/N) N pH: NA Dilution Factor: 1.0

COMPOUND	Conc	Spike	Recovery
Phenol	46	75	62
bis(2-Chloroethyl)ether	41	75	55
2-Chlorophenol	40	75	53
N-Nitroso-di-n-propylamine	53	75	71
Hexachloroethane	39	75	52
Isophorone	52	75	69
1,2,4-Trichlorobenzene	44	75	58
Naphthalene	39	75	52
4-Chloroaniline	50	75	67
2,4,6-Trichlorophenol	52	75	69
2,6-Dinitrotoluene	66	75	88
Diethylphthalate	65	75	86
N-Nitrosodiphenylamine	72	75	96
Hexachlorobenzene	61	75	81
Benzo(a)pyrene	64	75	85

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: BROWNING FERRIS FSIPIL Contract: SLO-10C

Lab code: USEPA Case No.: 950235 SAS No.: BRWNFER SDG No.: ------

Lab File ID: >B8502 Lab Sample ID: LAB BLANK

Date Extracted: 08/14/95 Extraction:(Sepf/Cont/Sonc) CONT

Date Analyzed: 08/17/95 Time Analyzed: 12:28

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	LAB SPIKE	LAB SPIKE	>B8503	08/17/95
2	95IE25R02	95IE24R02	>B8515	08/17/95
3	95IE25S01	95IE24S01	>B8526	08/21/95
4	95IE25S01	95IE24S01	>B8527	08/21/95
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				

COMMENTS: _____.

_____.

page __ of __.

TFA301 14-DMY TA

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: TOXIC SUBSTANCES

DIVISION/BRANCH SUPERFUND SAMPLE DATE 8/10/95 LAB ARRIVAL DATE 8/11/95 DUE DATE 9/1/95

DU NUMBER TFA DATA SET NUMBER 950235 STUDY BROWNING FERRIS PRIORITY N CONTRACTOR IETA

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER VOLATILE ORGANICS SCAN UG/L TOX 17684	WATER ABN ORGANICS SCAN UG/L TOX 17674	SEDIMENTS SOLIDS VOLATILE ORGANICS SCAN MG/KG (DRY) TOX 216622	SEDIMENTS SOLIDS ABN ORGANICS SCAN MG/KG (DRY) TOX 216722
95IE25S01	G2015-009703-4-5-6-7-8	X			
95IE25D01	G201 DUPLICATE 5-009715-5-009716	X			
95IE25R01	TRIP BLANK 5-009723-5-009729	X			
95IE25R02	G202 FIELD BLANK 5-009719-720	X			
95IE25S01	G2015-009704-710-711		X		
95IE25D01	G201 DUPLICATE 5-009717-5-009721		X		
95IE25R02	G202 FIELD BLANK		X		

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: AUG 3 0 1995

Subject: Review of Region 5 Data for **BROWNING FERRIS**

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: IEPA

RECEIVED
SEP 05 1995
IEPA/DLPC

Attached are the results for: **BROWNING FERRIS**
CRL request number: **950235**
Analyzed for: **VOA (Organics)**
Results are reported for sample designations: 95IE25S01, D01, R01 and R02 (FOUR SAMPLES)

Results Status:
(X) Acceptable for Use
( ) Data Qualified but acceptable for use
( ) Data Unacceptable for Use

(X) Sewer Disposal Criteria Met; Exceptions: none
Comments on Data Quality by Reviewer:

Please see narrative.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for **BROWNING FERRIS 950235 VOA**

Midia Fuentes 08/25/95

Team Leader and Task Monitor Date (X) Reviewed ( ) Unreviewed

Chi M. Vang 8/28/95

Section Chief and Date (✓) Reviewed ( ) Unreviewed

Chuck E. Ellis 8/29/95

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed

Sylvia Griffin AUG 3 0 1995

Data Management Coordinator and Date Received

Date Transmitted AUG 3 0 1995

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

CASE NARRATIVE

DATE: August 22, 1995

PROJECT NAME: Browning Ferris - CRL Case #: 950235
Volatile Organic Analysis (VOA)

ANALYST: Robert D. Kuhajda, Lockheed/ESAT Organic Group RK

REVIEWERS: Lewis Kranz, Lockheed/ESAT QA/QC Coordinator for DMiller
Dennis Miller, Lockheed/ESAT Team Manager DMiller
Nidia Fuentes, EPA Task Monitor NF

I. CASE DESCRIPTION:

The laboratory received the residential well samples on August 11, 1995. The samples were analyzed on August 12 to 13, 1995. Samples were analyzed within the hold time requirement of seven days. These samples were received at the laboratory in good condition. No problems were observed.

II. INSTRUMENT QUALITY CONTROLS:

1. **Instrument Performance Check:** Performance checks using bromofluorobenzene (BFB) were made to determine if acceptable EPA tuning criteria were met. The QC criteria are the same as the CLP IFB's criteria. QC criteria were met for all IPCs. No problems were observed.

2. **Initial Calibrations:** An acceptable five point initial calibration is required for all target compounds before samples can be analyzed. The initial calibration was generated on August 12, 1995 on GC/MS 7. All target compounds met the 30% RSD limits. No problems were observed.

3. **Continuing Calibrations:** No continuing calibration was required.

4. **Internal Standard (IS) Area and Retention Time Summary:** According to the QC criteria, the IS areas of the samples and blanks must not vary by more than 40% from the corresponding IS areas of the daily calibration standard. The RT of the IS in the samples must be within ± 20 seconds of the internal standard RTs in the daily calibration standard. All internal standards were within acceptable limits. No problems were observed.

III. METHOD QUALITY CONTROL:

1. **Method Blank Results:** A Lab Blank, (reagent water spiked with surrogates and internal standards), was analyzed to check for contamination. No targets or TICs were detected. The method blank was acceptable.

2. **Surrogate Spike Compound Results:** The surrogate spike compound recovery data were within the QC limits for the samples. No problems were observed.

3. **Laboratory Control Sample (LCS):** The LCS for August, 1995 was analyzed on GC/MS 7. The laboratory generated acceptable results.

4. **Performance Evaluation Sample**: The PES for August, 1995 was analyzed on GC/MS 7. The laboratory generated acceptable results.

IV. SAMPLE RESULTS

The trip blank contained three TICs. The field blank contained acetone and methylene chloride. No compounds were detected in the samples; therefore, the contamination in the field and trip blanks does not affect the sample results.

Dilutions or reanalyses were not required. No other problems were observed. The laboratory met the qualitative and quantitative analysis requirements for TCLs and TICs.

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:VOA

Sample organization: IEPA
Sample Requestor: IEPA
Facility: BROWNING FERRIS
Matrix:WATER

Method:A624SAS.0

Sample Batch ID: 950235
Account No: TFA301
Sample ID: 95IE25D01
Units: ug/L

Date Collected:10-AUG-95
Date Extracted:12-AUG-95

Date Received:11-AUG-95
Date Analyzed:13-AUG-95

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-35-4	1,1-Dichloroethene	1	U
67-64-1	Acetone	3	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	2-Butanone	3	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	Cis-1,3-Dichloropropene	1	U
108-88-3	Toluene	1	U
108-10-1	4-Methyl-2-Pentanone	3	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
127-18-4	Tetrachloroethene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
591-78-6	2-Hexanone	3	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

Analyzed by: A. Guglietta / Lockheed ESAT

Team Leader: [signature]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:VOA

Sample organization: IEPA
Sample Requestor: IEPA
Facility: BROWNING FERRIS
Matrix:WATER

Method:A624SAS.0

Sample Batch ID: 950235
Account No: TFA301
Sample ID: 95IE25R01
Units: ug/L

Date Collected:10-AUG-95
Date Extracted:12-AUG-95

Date Received:11-AUG-95
Date Analyzed:13-AUG-95

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-35-4	1,1-Dichloroethene	1	U
67-64-1	Acetone	3	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	2-Butanone	3	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	Cis-1,3-Dichloropropene	1	U
108-88-3	Toluene	1	U
108-10-1	4-Methyl-2-Pentanone	3	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
127-18-4	Tetrachloroethene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
591-78-6	2-Hexanone	3	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

Analyzed by: A. Guglitta / Lockheed ESAT

Team Leader: [illegible]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 07 1995

Subject: Review of Region 5 Data for BROWNING FERRIS

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: IEPA

RECEIVED
SEP 12 1995
IEPA/DLPC

Attached are the results for BROWNING FERRIS
CRL request number 950235
for analyses for Mercury and Cyanide.
Results are reported for sample designations: 95IE25S01, 95IE25D01, and 95IE25R02.

Results Status:
(X) Acceptable for Use: Mercury and Cyanide
( ) Data Qualified, but Acceptable for use:
( ) Data Unacceptable for Use:

( ) Sewer Disposal Criteria Met;

The portion of samples 95IE25S01, 95IE25D01, and 95IE25R02 which were collected and analyzed for mercury should be disposed of in a drum. The acid/dichromate preservative used is toxic.

The portion of samples 95IE25S01, 95IE25D01, and 95IE25R02 which were collected and analyzed for cyanide are preserved with sodium hydroxide. All the samples should be neutralized prior to disposal down the drain. Cyanide concentration in all the samples are less than detection.

Comments on Data Quality by Reviewer:

All the cyanide results are acceptable for use.

Mercury: Mercury samples were received in the laboratory preserved with nitric acid only. Acid dichromate preservative was added to the samples as required by the procedure for mercury analysis. The results are acceptable for use.

Comments by Laboratory Director or Quality Control Coordinator:

Francis A. Awanya 9/6/95

Team Leader and Date ( ) Reviewed ( ) Unreviewed

Chuck Ebby 9/7/95

Section Chief and Date ( ) Reviewed (✓) Unreviewed

Chuck Ebby 9/7/95

QC Coordinator and Date ( ) Reviewed (✓) Unreviewed

Sylvia Griffin SEP 0 7 1995

Data Management Coordinator and Date Received

Date Transmitted SEP 0 7 1995

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

(3 samples)

950235 TFA301

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: PESTICIDES AND PCB'S

DIVISION/BRANCH SUPERFUND SAMPLE DATE 8/10/95 LAB ARRIVAL DATE 8/11/95 DUE DATE 9/1/95

DU NUMBER TFA DATA SET NUMBER 950235 STUDY BROWNING FERRIS PRIORITY N CONTRACTOR IEPA

CRL LOG NUMBER	SAMPLE DESCRIPTION	WATER TRIHALOMETHANES UG/L PES17414	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES 17136	WATER HERBICIDES UG/L PES 17424	WATER OIL AND GREASE MG/L PES 17439
95IE25S01	G201 5-009712-13-14		X	X		
95IE25D01	G201 DUPLICATE 5-009718		X	X		
95IE25R02	G202 FIELD BLANK 5-009722		X	X		

IV. **SAMPLE RESULTS:** There were no target analytes detected in the sample and field duplicate above the detection limits.

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: PEST/PCB

Sample organization: IEPA
mple Requestor: IEPA
racility: BROWNING FERRIS
Matrix: WATER

RLIMS Method: 608_P/P_DNS1

Sample Batch ID: 950235
Account No: TFA301
Sample ID: 95IE25801
Units: ug/L

Date Collected: 10-AUG-95
Date Extracted: 14-AUG-95

Date Received: 11-AUG-95
Date Analyzed:

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: Stephanie N Tobin (Lockheed/ESAT)
Team Leader: Mike Wilson

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No: _____ CERCLIS No: ILD980606693

Case No: 23889 Site Name Location: Browning Ferris

Contractor or EPA Lab: SWOK Data User: IEPA

No. of Samples: 7 Date Sampled or Data Received: 8-28-95

Have Chain-of-Custody records been received? Yes ✓ No ✓
Have traffic reports or packing lists been received? Yes ✓ No _____
If no, are traffic report or packing list numbers written on the chain-of-custody record? Yes ✓ No _____
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____

_____ _____ _____ _____

Are basic data forms in? Yes ✓ No _____
No of samples claimed: 7 No. of samples received: 7

Received by: Lynette Burnett Date: 8-28-95

Received by LSSS: Allison C Harvey Date: 8-31-95

Review started: 8-8-95 Reviewer Signature: K. Minovich

Total time spent on review: 9+4=13 Date review completed: 8-11-95

Copied by: _____ Date: _____

Mailed to user by: _____ Date: _____

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffen, Data mgmt. Coordinator, Region V, 5SCRL

Data received by: Brad Taylor Date: 9-22-95

Data review received by: _____ Date: _____

Inorganic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if C
Organic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if
Dioxin Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if
SAS Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if

PROBLEMS: Please indicate reasons why data are not suitable fc you uses.

_____

_____

Received by Data Mgmt. Coordinator for Files. Data: _____

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:PEST/PCB

Sample organization: IEPA
mple Requestor: IEPA
acility: BROWNING FERRIS
Matrix:WATER

RLIMS Method:608_P/P_DNS1

Sample Batch ID: 950235
Account No: TFA301
Sample ID: 95IE25D01
Units: ug/L

Date Collected:10-AUG-95
Date Extracted:14-AUG-95

Date Received:11-AUG-95
Date Analyzed:14-AUG-95

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: Stephanie N Tobin (lockheed/ESAT)

Team Leader: [signature]

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter: PEST/PCB

Sample organization: IEPA
Sample Requestor: IEPA
Facility: BROWNING FERRIS
Matrix: WATER

RLIMS Method: 608_P/P_DNS1

Sample Batch ID: 950235
Account No: TFA301
Sample ID: 95IE25R
Units: ug/L

Date Collected: 10-AUG-95
Date Extracted: 14-AUG-95

Date Received: 11-AUG-95
Date Analyzed: 14-AUG-95

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
319846	Alpha-BHC	.01	U
58899	Lindane	.01	U
76448	Heptachlor	.01	U
309002	Aldrin	.01	U
1024573	Heptachlor Epoxide	.01	U
959988	Endosulfan I	.01	U
60571	Dieldrin	.02	U
72208	Endrin	.02	U
3312659	Endosulfan II	.02	U
50293	p,p'-DDT	.02	U
72-43-5	Methoxychlor	.1	U
319857	Beta-BHC	.01	U
419868	Delta-BHC	.01	U
5103-74-2	Gamma-Chlordane	.01	U
5103-71-9	Alpha-Chlordane	.01	U
72559	p,p'-DDE	.02	U
72548	p,p'-DDD	.02	U
7421934	Endrin Aldehyde	.02	U
1031078	Endosulfan Sulfate	.02	U
53494-70-5	Endrin Ketone	.02	U
57-74-9	Chlordane, Technical	.2	U
8001352	Toxaphene	1	U
1104-28-2	Aroclor 1221	.2	U
11141165	Aroclor 1232	.2	U
53469219	Aroclor 1242	.2	U
12674-11-2	Aroclor 1016	.2	U
12672296	Aroclor 1248	.2	U
11097691	Aroclor 1254	.2	U
11096825	Aroclor 1260	.2	U

Analyzed by: Stephanie N Tobin (Lockheed/ESAT)
Team Leader: Nita Wilson

CASE NARRATIVE

DATE: August 23, 1995

PROJECT NAME: Browning Ferris/CRL Case: SF950235
Analysis of Pesticides/PCBs

ANALYST: Steffanie Tobin, ESAT Chemist
Krystyna Minczuk, ESAT Chemist

REVIEWERS: W. Ira Wilson, Lockheed/ESAT Organic Supervisor
Lewis Kranz, Lockheed/ESAT QA/QC Coordinator
Dennis Miller, Lockheed/ESAT Team Manager
Erlinda Evangelista, EPA CRL Task Monitor

I. CASE DESCRIPTION:

The laboratory received three (3) residential well water samples (95IE25S01, 95IE25D01, 95IE25R02) on 08/10/95 for pesticides/PCBs analysis using CRL method 608 Pest/PCB DNS. The samples were extracted on 08/13/95 utilizing one-step continuous liquid/liquid extractors and analyzed on 08/14/95 utilizing the HP5890 GC/EC#2. The samples were extracted within the holding time requirements of seven (7) days after collection and analyzed within forty days after extraction. No problems were encountered in extraction or analysis.

This data set was analyzed with Case SF950232 (7 residential well water samples), Case SF950233 (4 residential well water samples) and Case SF950234 (3 residential well water samples).

II. INSTRUMENT QUALITY CONTROLS:

1. **Instrument Performance Check:** Initial and continuing Endrin and DDT degradation checks for both the primary and confirmatory columns were within CRL QC limits of <10%, ranging from 4.1%-8.4%. The raw data for the Endrin and DDT were included with Case SF950232.

2. **Initial Calibration Check:** An acceptable initial calibration is required before samples can be analyzed. Correlation coefficients generated for Pesticide B and Aroclor 1242 using five points and for Pesticide A using four points were greater than 0.995 and were acceptable. Pesticide A level 5 standard was rejected as a outlier per EPA task monitor.

3. **Continuing Calibration Check:** Continuing calibration check standards (Level 3 Pest A, Pest B & Aroclor 1242) were

within the acceptable RPD (continuing vs. initial area) limit of <15% for each compound on primary column.

The continuing calibration check standards (Level 3 Pest A, Pest B & Aroclor 1242) were within the acceptable RPD on the confirmatory column with the exception of p,p'-DDD (15.2%) and methoxychlor (18.0%) for 2ST_045; d-BHC (17.6%) for 2ST_046; lindane (16.4%), p,p'-DDD (19.3%) and methoxychlor (33.2%) for 2ST_056; d-BHC (18.0%) for 2ST_057. The raw data for the continuing standards were included with Case SF950232.

4. **Retention Time (RT) Summary:** The retention time RPDs for each individual compound in the Pest A, Pest B & Aroclor 1242 were within acceptable [limits of <0.25% (continuing vs.initial) ranged from 0.00%-0.14%].

III. METHOD QUALITY CONTROL:

1. **Method Blank Results:** A reagent water spiked with surrogates was analyzed with the samples. No target analytes were detected above the method detection limit.

2. **Surrogate Spike Compound Results:** The TCMX surrogate spike recoveries for sample 95IE25D01 were below the QC limits (50%-150%) in both the primary and confirmatory columns. The TCMX recovery was 13.0% for the primary column and 12.0% for the confirmatory column. The DCB spike recoveries were within the QC limit (50-150%) on both the primary and confirmatory columns.

3. **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results:** MS/MSD are not required for residential well water analysis. Instead, the laboratory analyzes a Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCS DUP) with each data set or extraction batch, and a Performance Evaluation Sample (PES) once a month. Please see below for comments on the LCS/LCS DUP.

4. **Laboratory Control Sample (LCS):** The laboratory generated acceptable percent recovery results for AR-1242 (QC limits for percent recovery: 50-150%).

5. **Florisil Cartridge Check:** A Florisil Cartridge check was performed using the Pest B mix (Level 3) and recoveries of all compounds were acceptable (QC limit is 80-120%). The raw data for the Florisil Cartridge Check was included with Case SF950232.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: SEP 0 5 1995

Subject: Review of Region 5 Data for SF 950235 BROWNING FERRIS

From: Charles T. Elly, Director Chuck Elly
Region 5 Central Regional Laboratory

To: IEPA

RECEIVED
SEP 07 1995
IEPA/DLPC

Attached are the results for SF 950235 BROWNING FERRIS
CRL request number 950235
for analyses for PCB/PESTICIDES
Results are reported for sample designations: 95IE25S01, 95IE25D01, 95IE25R02

Results Status:
(X) Acceptable for Use
( ) Data Qualified, but Acceptable for use
( ) Data Unacceptable for Use

( ) Sewer Disposal Criteria Met; Exceptions: none

Comments on Data Quality by Reviewer

Data are acceptable for use. Please see attached case narrative for comments.

Comments by Laboratory Director or Quality Control Coordinator

Review Record for SF 950235 BROWNING FERRIS (NOTE: The raw data for the initial & continuing calibration, instrument & method quality controls are included in data package for Case # 950232. Case #s 950232 - 35 were processed as a batch.)

Erlinda Evangelista

E. Evangelista 8/28/95

Team Leader and Date (X) Reviewed ( ) Unreviewed

Chi M. Tang Chi M. Tang 8/31/95

Section Chief and Date (X) Reviewed ( ) Unreviewed

Chuck Ellis 9/1/95

QC Coordinator and Date ( ) Reviewed (X) Unreviewed

Sylvia Griffin SEP 0 5 1995

Data Management Coordinator and Date Received

Date Transmitted SEP 0 5 1995

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
SL - 10C

Received by and Date

Comments:

4A
VOLATILE METHOD BLANK SUMMARY

L. Name: CRL REGION V Contract: LOCKHEED/ESAT

Lab code: 5SCRL Case No.: 950235 SAS No.: SDG No.: ---

Lab File ID: >B1538 Lab Sample ID: LAB BLANK

Date Analyzed: 08/13/95 Time Analyzed: 01:12

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: GC/MS#7

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	95IE25R01	95IE25R01	>B1543	04:22
2	95IE25R02	95IE25R02	>B1544	05:00
3	95IE25S01	95IE25S01	>B1545	05:38
4	95IE25D01	95IE25D01	>B1546	06:15
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				

COMMENTS: _____

page __ of __.

11A
VOLATILE ORGANICS LAB CONTROL SPIKE

EPA SAMPLE NO.

LAB SPIKE

Name: CRL REGION V Contract: LOCKHEED/ESA

Code: 5SCRL Case No.: 950224 SAS No.: SDG No.: ---

rix: (soil/water) WATER Lab Sample ID: LAB SPIKE

ple wt/vol: 25 (g/ml) ML Lab File ID: >B1508

el: (low/med) LOW Date Received: 08/07/95

oisture: not dec. Date Analyzed: 08/07/95

umn: (pack/cap) CAP Dilution Factor: 1.0

COMPOUND	Conc	Spike	Recovery
Vinyl chloride	6	5	123
Carbon tetrachloride	6	5	111
Benzene	6	5	118
1,2-Dichloroethane	6	5	114
Trichloroethene	6	5	116
1,2-Dichloropropane	6	5	110
cis-1,3-Dichloropropene	6	5	111
Tetrachloroethene	5	5	109
1,1,2-Trichloroethane	6	5	111
1,2-Dibromoethane	5	5	110
Bromoform	4	5	90
1,4-Dichlorobenzene	5	5	106

QC LIMITS: 60% - 140%

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:VOA

Sample organization: IEPA
Sample Requestor: IEPA
Facility: BROWNING FERRIS
Matrix:WATER

Method:A624SAS.0

Sample Batch ID: 950235
Account No: TFA301
Sample ID: 95IE25S01
Units: ug/L

Date Collected:10-AUG-95
Date Extracted:12-AUG-95

Date Received:11-AUG-95
Date Analyzed:13-AUG-95

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-35-4	1,1-Dichloroethene	1	U
67-64-1	Acetone	3	U
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	2-Butanone	3	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	Cis-1,3-Dichloropropene	1	U
108-88-3	Toluene	1	U
108-10-1	4-Methyl-2-Pentanone	3	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
127-18-4	Tetrachloroethene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
591-78-6	2-Hexanone	3	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

Analyzed by: A. Guglutta / Lockheed ESAT

Team Leader:

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: CRL REGION V Contract: LOCKHEED/ESAT

Lab code: 5SCRL Case No.: 950235 SAS No.: SDG No.: ---

	EPA SAMPLE NO.	S1 (BEN)#	S2 (BFB)#	S3 (TOL)#	S4 ( )#	TOT OUT
01	LAB BLANK	100	98	99		0
02	95IE25R01	97	99	97		0
03	95IE25R02	99	97	99		0
04	95IE25S01	98	100	100		0
05	95IE25D01	96	100	97		0
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
S1 (BEN)	= BENZENE-D6	(70-130)
S2 (BFB)	= p-BROMOFLUOROBENZENE	(80-120)
S3 (TOL)	= TOLUENE-D8	(70-130)

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

EPA RLIMS CRL - REGION V
TENTATIVELY IDENTIFIED COMPOUNDS
REPORT PRODUCED ON: 25-AUG-95

SA LE ORGANIZATION: IEPA
SAMPLE REQUESTOR: IEPA
LABORATORY: ESAT

SAMPLE BATCH ID: 950235
ACCOUNT NO: TFA301
FACILITY: BROWNING FERRIS

624SAS.0 (624VOC 25-mL WATER CAP COL GC/MS)

SAMPLE: 95IE25R01 FIELD: 95IE25R01 CONTROL TYPE: SAM

COLLECTED: 10-AUG-95 RECEIVED: 11-AUG-95 ANALYZED: 13-AUG-95

COMPOUND	EST. CONC.	RT	Q	CAS NUMBER
ACETALDEHYDE	4 J	6.07		75070
UNKNOWN HYDROCARBON	.6 J	21.68		
UNKNONW HYDROCARBON	.8 J	23.97		

ANALYZED BY: A. Ingletta / Lockheed ESAT

EPA RLIMS CRL - REGION V
FINAL RESULTS REPORT
Parameter:VOA

Sample organization: IEPA
Sample Requestor: IEPA
Facility: BROWNING FERRIS
Matrix:WATER

Method:A624SAS.0

Sample Batch ID: 950235
Account No: TFA301
Sample ID: 95IE25R02
Units: ug/L

Date Collected:10-AUG-95
Date Extracted:12-AUG-95

Date Received:11-AUG-95
Date Analyzed:13-AUG-95

CAS NUMBER	COMPOUND	AMOUNT	QUALIFIERS
74-87-3	Chloromethane	1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	1	U
75-00-3	Chloroethane	1	U
75-35-4	1,1-Dichloroethene	1	U
67-64-1	Acetone	3	J
75-15-0	Carbon Disulfide	1	U
75-09-2	Methylene Chloride	1	
156-60-5	trans-1,2-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
156-59-2	cis-1,2-Dichloroethene	1	U
74-97-5	2-Butanone	3	U
74-97-5	Bromochloromethane	1	U
67-66-3	Chloroform	1	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
71-43-2	Benzene	1	U
107-06-2	1,2-Dichloroethane	1	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
75-27-4	Bromodichloromethane	1	U
10061-01-5	Cis-1,3-Dichloropropene	1	U
108-88-3	Toluene	1	U
108-10-1	4-Methyl-2-Pentanone	3	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
127-18-4	Tetrachloroethene	1	U
79-00-5	1,1,2-Trichloroethane	1	U
591-78-6	2-Hexanone	3	U
124-48-1	Dibromochloromethane	1	U
106-93-4	1,2-Dibromoethane	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
1083836423	m &/or p-Xylene	1	U
95-47-6	o-Xylene	1	U
100-42-5	Styrene	1	U
75-25-2	Bromoform	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
95-50-1	1,2-Dichlorobenzene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U

Analyzed by: A. Guglietta / Lockheed ESAT

Team Leader: [signature]

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAQF8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17971.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/14/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	8.906	10	J
2.	UNKNOWN HYDROCARBON	9.650	18	J
3.	UNKNOWN ALKYL BENZENE	17.208	7	J
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

EPA SAMPLE NO.

EAQF9

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17983.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/15/95

GC Column:DB-624 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	J
67-64-1	Acetone	24	
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

SOUTHWEST LABORATORY OF OKLAHOMA
1700 West Albany, Suite A / Broken Arrow, OK 74012
918-251-2858

RECEIVED
AUG 28 1995
US EPA CENTRAL REGIONAL LAB.
536 S. CLARK ST.
CHICAGO, ILLINOIS 60605

SDG NARRATIVE

August 23, 1995

CONTRACT NO.: 68-D5-0026

CASE NO.: 23889

SAMPLE NOS.: EAPK6, EAQF8, EAQF9, EAQG6, EAQJ8, EAQJ9, EAQJ9MS, EAQJ9MSD, EAQK6, EAQK6MS, EAQK6MSD

SDG NO.: EAPK6

VOLATILE FRACTION

One soil and six water samples were submitted for Volatile Organic Analysis. The samples were analyzed by GC/MS following the OLM03.1 CLP Statement of Work.

Alternate columns used for the analysis of volatile compounds by Method OLM03.1 are the Restek XTI-5 (bonded 5% phenyl-95% dimethyl polysiloxane), 30m, 0.25mm ID, 1um film thickness (Restek #12253) and the DB624, 75m, 0.53mm ID Megabore, 3um film thickness (J&W 125-1374).

An alternate trap used for the analysis of volatile compounds by method OLM03.1 is the Vocarb 3000 (Carbopack B/Carboxen 1000 & 1001; Tekmar #2-1066).

No major problems occurred during the analyses of these samples. Samples EAQF8, EAQF9, EAQG6, and EAQJ8 all had pH=7 and were therefore apparently not acidified prior to receipt at our laboratory.

Blanks: VBLK1, VBLK3, VBLK4, and VHBLK1 all had low-level methylene chloride contamination; VHBLK1, VBLK1 and VBLK4 less than CRQL and VBLK3 less than 2.5X CRQL. Also, VBLK4 contained 1,1,2,2-tetra-chloroethane contamination less than CRQL.

Surrogates: The 1,2-dichloroethane-d4 recovery for the matrix spike of sample EAQJ8 did not fall within QC limits, but no reanalysis was performed as per contract.

Matrix Spikes: No problems.

Internal Standards: No problems.

SEMIVOLATILE FRACTION

One soil and five water samples were submitted for Semivolatile Organic Analysis. The samples were analyzed by GC/MS following the OLM03.1 CLP Organic Statement of Work.

The following column is used for the semivolatile analysis: Restek XTI-5 (bonded 5% phenyl-95% dimethyl polysiloxane), 30m, 0.25mm ID, 0.25um film thickness (Restek #12223)

No major problems occurred during the analyses of these samples. Note: Sample coolers arrived at 14 and 5 degrees Celcius. The Chain of Custody indicated a sample EAQK4, no sample EAQK4 was submitted to laboratory.

The following samples had alkanes reported and the reports are included at the end of this SDG narrative: EAQJ8, EAQK6 and SBLK3.

Blanks: SBLK1 and SBLK3 had low level phthalate contamination below CRQL

Surrogates: EAQF8 had low recovery of 2-fluorobiphenyl at 34%. EAQF9, EAQG6, and EAQJ8 had low recovery of terhneyl-d14 at 32%, 14% and 22%, respectively.

Matrix Spikes: EAQK6MS/MSD had zero percent recovery of pyrene. Note: Sample concentration was higher than spike amounts, expect non-homogenous sample.

Internal Standards: Sample EAQK6 and EAQK6MS had internal standard area's outside of QC limits (high).

NOTE: All manual integrations in this data package for GC/MS Volatiles/Semivolatiles have been performed for one of the following reasons:

a. Data system missed peak during acquisition.
b. Data system improperly integrated peak.

If water samples are contained in this case, their pH data is included on the page accompanying this SDG narrative.

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

Harry M. Borg

Harry M. Borg
Organic Program Manager

August 23, 1995

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable)

Case No.

1. Matrix (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Field QC
5. Soil/Sediment
6. Oil (High only)
7. Waste (High only)
8. Other (Specify in Column A)

2. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaHSO4
4. H2SO4
5. Ice only
6. Other (Specify in Column D)
N. Not preserved

2. Region No.: [illegible]
Sampling Co.: [illegible]
Sampler (Name): [illegible]
Sampler Signature: [illegible]

3. Purpose*
Lead: SF / PRP / ST / FED
Early Action: CLEM / PA / REM / RI / [X] SI / ESI
Long-Term Action: FS / RD / RA / O&M / NPLD

4. Date Shipped: [illegible]
Carrier: [illegible]
Airbill Number: [illegible]

5. Ship To: [illegible] 1300 W Albany [illegible] Arrow OK [illegible]
ATTN: [illegible]

6. Date Received -- Received by: [illegible] 8-11-95
Laboratory Contract Number
Unit Price

7. Transfer to:
Date Received
Received by
Contract Number
Price

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K High Phases Solids	Water-Miscible Liq.	Water-Immis. Liq.
EAQ60	2	L	G	5			X		5-[illegible]	G103	8/1/95-1750	[illegible]	[illegible]			
EAQJ8	2	L	G	1	X				[illegible]	G104	8/10/95-1000	[illegible]	[illegible]			
"	2	L	G	5		X			[illegible]	G104	8/10/95-1000	"	[illegible]			
"	2	L	G	5			X		[illegible]	G104	8/10/95-1000	"	[illegible]			
EAQJ9	2	L	G	1	X				[illegible]	FB ~~[illegible]~~	8/7/95-[illegible]	[illegible]	[illegible]			
"	2	L	G	5		X			[illegible]	FB ~~[illegible]~~	8/7/95-[illegible]	"	[illegible]			
"	2	L	G	5			X		[illegible]	FB ~~[illegible]~~	8/7/95-[illegible]	"	[illegible]			
EAING	2	L	G	1	X				5-009710-1	TB	8/7/95-[illegible]	—	"			

Shipment for Case Complete? (Y/N)	Page	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
Y	1 of 1	EAQJ[illegible]		[illegible]

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	8/[illegible]/1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	
		[illegible]	8/11/95 0930		

A21-012-4 REV 3/93

DISTRIBUTION: Blue - Region Copy; White - Lab Copy for Return to Region; Pink - SMO Copy; Yellow - Lab Copy for Return to SMO; EAPK6

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

358975

EPA United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable):
Case No.:

1. Matrix (Enter in Column A)
   1. Surface Water
   2. Ground Water
   3. Leachate
   4. Field QC
   5. Soil/Sediment
   6. Oil (High only)
   7. Waste (High only)
   8. Other (Specify in Column A)

2. Preservative (Enter in Column D)
   1. HCl
   2. HNO3
   3. NaHSO4
   4. H2SO4
   5. Ice only
   6. Other (Specify in Column D)
   N. Not preserved

2. Region No.: 7
Sampling Co.:
Sampler (Name):
Sampler Signature:
3. Purpose: Lead [ ] SF [ ] PRP [ ] ST [ ] FED; Early Action [ ] CLEM [ ] PA [ ] REM [ ] RI [X] SI [ ] ESI; Long Term Action [ ] FS [ ] RD [ ] RA [ ] O&M [ ] NPLD

4. Date Shipped:
Carrier:
Airbill Number:
5. Ship To:
ATTN:

6. Date Received -- Received by: 8-11-95
Laboratory Contract Number:
Unit Price:
7. Transfer to:
Date Received:
Received by:
Contract Number:
Price:

CLP Sample Numbers (from labels)	A Matrix (from Box 1) / Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2) / Other:	E RAS Analysis: VOA	BNA	Pest/PCB	High only / ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K High Phases: Solids	Water-Miscible Liq.	Water-Immis. Liq.
[illegible]	5	L	G	5	X				[illegible]	X101	8/1/95	[illegible]	[illegible]			
"	5	L	G	5		X	X		[illegible]	X101	8/1/95		[illegible]			
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~X~~				~~[illegible]~~	~~X102~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~			
~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~		~~X~~	~~X~~		~~[illegible]~~	~~X102~~	~~[illegible]~~		~~[illegible]~~			
* [illegible]	5	L	G	5	X				[illegible]	X103	6/10/95 1100	[illegible]	[illegible]			
"	5	L	G	5		X	X		[illegible]	X103	6/10/95 1100		[illegible]			

Shipment for Case Complete? (Y/N): Y
Page 1 of 1
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s):

* SDG Final Sample.

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	[illegible] 1100				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) [signature] EAPK	Date / Time 8/11/95 0930	Remarks: Is custody seal intact? Y/N/none — EAQK4 missing.	

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

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

A21-012-4 REV 3/93

359277

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK1

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: C950814A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17963.D

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

% Moisture: not dec. _____ Date Analyzed: 08/14/95

GC Column:DB-624 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

EPA SAMPLE NO.

VBLK2

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: C950815A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17979.D

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

% Moisture: not dec. _____ Date Analyzed: 08/15/95

GC Column:DB-624 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.

VBLK2

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: C950815A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17979.D

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

% Moisture: not dec. _____ Date Analyzed: 08/15/95

GC Column:DB-624 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

EPA SAMPLE NO.

VBLK3

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: L950817A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L17449.D

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

% Moisture: not dec. 0 Date Analyzed: 08/17/95

GC Column:DB-624 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	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	17	
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.

VBLK3

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: L950817A

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L17449.D

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

% Moisture: not dec. 0 Date Analyzed: 08/17/95

GC Column:DB-624 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
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

EPA SAMPLE NO.

VBLK4

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: C950818A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C18042.D

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

% Moisture: not dec. _____ Date Analyzed: 08/18/95

GC Column:DB-624 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	1	J
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	1	J
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.

VBLK4

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: C950818A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C18042.D

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

% Moisture: not dec. _____ Date Analyzed: 08/18/95

GC Column:DB-624 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

EPA SAMPLE NO.

EAPK6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17980.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/15/95

GC Column:DB-624 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	2	J
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.

EAPK6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17980.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/15/95

GC Column:DB-624 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

EPA SAMPLE NO.

EAQF8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17971.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/14/95

GC Column:DB-624 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	20	B
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	1	J
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

u KN 8/8/

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 21-AUG-95

Sample Organization: **IEPA**
Sample Requestor: **IEPA**
Laboratory: **ESAT**

Sample Batch ID: **950235**
Account NO: **TFA301**
Facility: **BROWNING FERRIS**

Sample: **95IE25801**

Field: **95IE25801**

Collected: **10-AUG-95 /**

Received: **11-AUG-95**

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	17-AUG-95	M. Fletcher
Mercury	0.1	(ug/L)	U	15-AUG-95	L. Terrar

Reviewed by : Francis A Awanya 9/6/95

EPA United States Environmental Protection Agency Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record
(For Organic CLP Analysis)

SAS No. (if applicable):
Case No.:

1. Matrix (Enter in Column A)
   1. Surface Water
   2. Ground Water
   3. Leachate
   4. Field QC
   5. Soil/Sediment
   6. Oil (High only)
   7. Waste (High only)
   8. Other (Specify in Column A)

2. Preservative (Enter in Column D)
   1. HCl
   2. HNO3
   3. NaHSO4
   4. H2SO4
   5. Ice only
   6. Other (Specify in Column D)
   N. Not preserved

2. Region No.: V
Sampling Co.:
4. Date Shipped:
Carrier:
6. Date Received -- Received by: 8/11/95
Sampler (Name):
Airbill Number:
Laboratory Contract Number:
Unit Price:
Sampler Signature:
5. Ship To:
7. Transfer to:
Date Received:
3. Purpose*
Lead: SF, PRP, ST, FED
Early Action: CLEM, PA, REM, RI, SI (X), ESI
Long Term Action: FS, RD, RA, O&M, NPLD
Received by:
ATTN:
Contract Number:
Price:

CLP Sample Numbers (from labels)	A Matrix (from Box 1) Other:	B Conc.: Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 2) Other:	E RAS Analysis: VOA	BNA	Pest/PCB	High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K High Phases: Solids	Water-Miscible Liq.	Water-Immis. Liq.
LAJF8	2	L	G	1	X				[illegible]	G101	[illegible]	[illegible]	[illegible]			
"	2	L	G	5		X			[illegible]	G101	[illegible]		[illegible]			
"	2	L	G	5			X		[illegible]	G101	[illegible]		[illegible]			
LAJF9	2	L	G	1	X				[illegible]	G102	[illegible]	[illegible]	[illegible]			
"	2	L	G	5		X			[illegible]	G102	[illegible]		[illegible]			
"	2	L	G	5			X		[illegible]	G102	[illegible]	"	[illegible]			
LAJG0	2	L	G	1	X				[illegible]	G103	[illegible]	[illegible]	[illegible]			
"	2	L	G	5		X			[illegible]	G103	[illegible]	"	[illegible]			

Shipment for Case Complete? (Y/N): Y
Page 1 of 1
Sample(s) to be Used for Laboratory QC:
Additional Sampler Signatures:
Chain of Custody Seal Number(s): [illegible]

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	[illegible] 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	
		[signature] EAPK	8/11/95 0830		

A21-012-4 REV 3/93

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

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

358973

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 21-AUG-95

Sample Organization: **IEPA**
Sample Requestor: **IEPA**
Laboratory: **ESAT**

Sample Batch ID: **950235**
Account NO: **TFA301**
Facility: **BROWNING FERRIS**

Sample: **95IE25D01**

Field: **95IE25D01**

Collected: **10-AUG-95 /**

Received: **11-AUG-95**

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	17-AUG-95	M. Fletcher
Mercury	0.1	(ug/L)	U	15-AUG-95	L. Leonovo

Reviewed by : Francis A Aroanya 9/6/95

ENVIRONMENTAL PROTECTION AGENCY
REGION V
CENTRAL REGIONAL LABORATORY
FINAL RESULT REPORT for the team: MINERALS-NUTRIENTS

Report produced on: 21-AUG-95

Sample Organization: IEPA
Sample Requestor: IEPA
Laboratory: ESAT

Sample Batch ID: 950235
Account NO: TFA301
Facility: BROWNING FERRIS

Sample: 95IE25R02

Field: 95IE25R02

Collected: 10-AUG-95 /

Received: 11-AUG-95

Parameter	Result	(Units)	QUALIFIERS	Anal. Date	Analyst
Cyanide (Total)	8	(ug/L)	U	17-AUG-95	M. Fletcher
Mercury	0.1	(ug/L)	U	15-AUG-95	T. Teonova

Reviewed by : Francis A. Awanya 9/6/95

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK4

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab File ID: C18042.D Lab Sample ID: C950818A

Date Analyzed: 08/18/95 Time Analyzed: 0845

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VHBLK1	VHBLK	C18044.D	0943
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

page 01 of 01

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK1

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: C950814A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17963.D

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

% Moisture: not dec. _____ Date Analyzed: 08/14/95

GC Column:DB-624 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	2	J
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

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK2

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab File ID: C17979.D Lab Sample ID: C950815A

Date Analyzed: 08/15/95 Time Analyzed: 0946

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAPK6	23190.01	C17980.D	1022
02	EAQJ9	23190.06	C17981.D	1048
03	EAQF9	23190.03	C17983.D	1316
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK3

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab File ID: L17449.D Lab Sample ID: L950817A

Date Analyzed: 08/17/95 Time Analyzed: 1030

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: L

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAQK6	23190.07	L17452.D	1235
02	EAQK6MS	23190.07MS	L17453.D	1303
03	EAQK6MSD	23190.07MSD	L17454.D	1332
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix Spike - EPA Sample No.: EAQK6 Level(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	58	0	48	83	59-172
Trichloroethene	58	0	48	83	62-137
Benzene	58	0	53	91	66-142
Toluene	58	0	52	90	59-139
Chlorobenzene	58	0	50	86	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	58	48	83	0	22	59-172
Trichloroethene	58	49	84	1	24	62-137
Benzene	58	53	91	0	21	66-142
Toluene	58	52	90	0	21	59-139
Chlorobenzene	58	51	88	2	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

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

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK1

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab File ID: C17963.D Lab Sample ID: C950814A

Date Analyzed: 08/14/95 Time Analyzed: 1034

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAQF8	23190.02	C17971.D	1614
02	EAQG6	23190.04	C17973.D	1706
03	EAQJ8	23190.05	C17974.D	1731
04	EAQJ8MS	23190.05	C17975.D	1757
05	EAQJ8MSD	23190.05	C17976.D	1823
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

3A
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix Spike - EPA Sample No.: EAQJ8

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	45	90	61-145
Trichloroethene	50	0	50	100	71-120
Benzene	50	4	53	98	76-127
Toluene	50	2	51	98	76-125
Chlorobenzene	50	0	49	98	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	47	94	4	14	61-145
Trichloroethene	50	50	100	0	14	71-120
Benzene	50	56	104	6	11	76-127
Toluene	50	51	98	0	13	76-125
Chlorobenzene	50	50	100	2	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

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

COMMENTS: _____

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Level:(low/med) LOW

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	VBLK3	98	100	93		0
02	EAQK6	98	91	93		0
03	EAQK6MS	98	86	94		0
04	EAQK6MSD	97	89	93		0
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
SMC1 (TOL) = Toluene-d8	(84-138)
SMC2 (BFB) = Bromofluorobenzene	(59-113)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	VBLK1	104	104	96		0
02	EAQF8	107	103	78		0
03	EAQG6	106	100	91		0
04	EAQJ8	107	103	94		0
05	EAQJ8MS	106	101	74*		1
06	EAQJ8MSD	110	104	95		0
07	VBLK2	99	106	100		0
08	EAPK6	101	102	90		0
09	EAQJ9	99	103	101		0
10	EAQF9	99	106	98		0
11	VBLK4	96	99	95		0
12	VHBLK1	100	106	101		0
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
SMC1 (TOL) = Toluene-d8	(88-110)
SMC2 (BFB) = Bromofluorobenzene	(86-115)
SMC3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

INDIVIDUAL STANDARD MIXTURE A -- MEDIUM

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.02	0.04
Heptachlor	0.02	0.04
gamma-BHC	0.02	0.04
Endosulfan I	0.02	0.04
Dieldrin	0.04	0.08
Endrin	0.04	0.08
4,4'-DDD	0.04	0.08
4,4'-DDT	0.04	0.08
Methoxychlor	0.2	0.4
Tetrachloro-m-xylene	0.02	0.04
Decachlorobiphenyl	0.04	0.08

INDIVIDUAL STANDARD MIXTURE B -- MEDIUM

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.02	0.04
delta-BHC	0.02	0.04
Aldrin	0.02	0.04
Heptachlor epoxide	0.02	0.04
alpha-Chlordane	0.02	0.04
gamma-Chlordane	0.02	0.04
4,4'-DDE	0.04	0.08
Endosulfan sulfate	0.04	0.08
Endrin aldehyde	0.04	0.08
Endrin ketone	0.04	0.08
Endosulfan II	0.04	0.08
Tetrachloro-m-xylene	0.02	0.04
Decachlorobiphenyl	0.04	0.08

INDIVIDUAL STANDARD MIXTURE A -- HIGH

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.08	0.16
Heptachlor	0.08	0.16
gamma-BHC	0.08	0.16
Endosulfan I	0.08	0.16
Dieldrin	0.16	0.32
Endrin	0.16	0.32
4,4'-DDD	0.16	0.32
4,4'-DDT	0.16	0.32
Methoxychlor	0.8	1.6
Tetrachloro-m-xylene	0.08	0.16
Decachlorobiphenyl	0.16	0.32

INDIVIDUAL STANDARD MIXTURE B -- HIGH

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.08	0.16
delta-BHC	0.08	0.16
Aldrin	0.08	0.16
Heptachlor epoxide	0.08	0.16
alpha-Chlordane	0.08	0.16
gamma-Chlordane	0.08	0.16
4,4'-DDE	0.16	0.32
Endosulfan sulfate	0.16	0.32
Endrin aldehyde	0.16	0.32
Endrin ketone	0.16	0.32
Endosulfan II	0.16	0.32
Tetrachloro-m-xylene	0.08	0.16
Decachlorobiphenyl	0.16	0.32

MULTI-RESPONSE STANDARD MIXTURES

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
Aroclor-1016	0.1	0.2
Aroclor-1221	0.2	0.4
Aroclor-1232	0.1	0.2
Aroclor-1242	0.1	0.2
Aroclor-1248	0.1	0.2
Aroclor-1254	0.1	0.2
Aroclor-1260	0.1	0.2
Toxaphene	0.5	1.0

All manual integrations in this data package for GC/EC have been performed for one of the following reasons:

a. Data system missed a peak during processing.
b. Data system improperly integrated a peak.

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

Vicki L. Hall

Vicki L. Hall
GC Group Leader

SDG Narrative
August 19, 1995

Case: 23889
SDG: EAPK6
Contract: 68-D5-0026
Samples: EAQF8, EAQF9, EAQJ8, EAQJ9, EAQG6, EAQK6, EAQG6DL.
Fraction: Pesticide/PCB

SDG EAPK6 consisted of 1 soil and 5 water samples plus 1 dilution which were analyzed for pesticide/PCBs. All samples, blanks and spikes were extracted and analyzed according to EPA SOW OLM03.1. The samples were analyzed on J&W Scientific dual analytical columns (30m x 0.32mm ID, 0.25µm film thickness, DB-17 and DB-1701). The DB-17 phase consists of (50%-Phenyl) Methylpolysiloxane and the DB-1701 phase consists of (14%-Cyanopropylphenyl) Methylpolysiloxane. These columns were specifically designed for pesticide/PCB separation as required by the EPA's SOW. All applicable manufacturer's instructions were followed for the analysis of pesticides/PCBs. Manufacturer provided information concerning the performance characteristics of the column are kept on site.

All surrogate and matrix spike recoveries were within advisory limits. Samples EAQG6 and EAQG6DL were sulfur cleaned using the copper technique as outlined in D-56/PEST, 10.1.8.3.3.2, in addition to GPC and Florisil cleanups. The sample still had the same interference after cleanup.

Sample EAQG6 in this SDG required a 1:10 dilution in order to satisfy D-59/PEST, 10.2.3.1 which states that "all samples must be analyzed at the most concentrated level that is consistent with achieving satisfactory chromatography." The nature of these samples would not allow for analysis at a lesser dilution.

Sample EAQG6 in this SDG, as noted above, required dilution. This was performed per D-59/PEST, 10.2.3.1, which states that all samples must be analyzed at the most concentrated level that is consistent with achieving satisfactory chromatography. These samples were diluted in order to reduce the matrix interference. Therefore, the dilutions are billable.

The following tables list the total nanograms injected on column for each calibration standard based upon amount injected on column, 1µL or 2µL:

RESOLUTION CHECK

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
gamma-Chlordane	0.01	0.02
Endosulfan I	0.01	0.02
4,4'-DDE	0.02	0.04
Dieldrin	0.02	0.04
Endosulfan Sulfate	0.02	0.04
Endrin Ketone	0.02	0.04
Methoxychlor	0.1	0.2

Tetrachloro-m-xylene	0.02	0.04
Decachlorobiphenyl	0.02	0.04

PERFORMANCE EVALUATION

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
gamma-BHC	0.01	0.02
alpha-BHC	0.01	0.02
4,4'-DDT	0.1	.02
beta-BHC	0.01	0.02
Endrin	0.05	0.1
Methoxychlor	0.25	0.5
Tetrachloro-m-xylene	0.02	0.04
Decachlorobiphenyl	0.02	0.04

INDIVIDUAL STANDARD MIXTURE A -- LOW

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
alpha-BHC	0.005	0.01
Heptachlor	0.005	0.01
gamma-BHC	0.005	0.01
Endosulfan I	0.005	0.01
Dieldrin	0.01	0.02
Endrin	0.01	0.02
4,4'-DDD	0.01	0.02
4,4'-DDT	0.01	0.02
Methoxychlor	0.05	0.1
Tetrachloro-m-xylene	0.005	0.01
Decachlorobiphenyl	0.01	0.02

INDIVIDUAL STANDARD MIXTURE B -- LOW

Compounds	Total nanograms (1µL)	Total nanograms (2µL)
beta-BHC	0.005	0.01
delta-BHC	0.005	0.01
Aldrin	0.005	0.01
Heptachlor epoxide	0.005	0.01
alpha-Chlordane	0.005	0.01
gamma-Chlordane	0.005	0.01
4,4'-DDE	0.01	0.02
Endosulfan sulfate	0.01	0.02
Endrin aldehyde	0.01	0.02
Endrin ketone	0.01	0.02
Endosulfan II	0.01	0.02
Tetrachloro-m-xylene	0.005	0.01
Decachlorobiphenyl	0.01	0.02

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAQF9

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17983.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/15/95

GC Column:DB-624 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

EPA SAMPLE NO.

EAQG6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17973.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/14/95

GC Column: DB-624 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	5	J
75-09-2	Methylene Chloride	~~10~~ 2	JB
67-64-1	Acetone	18	
75-15-0	Carbon Disulfide	3	J
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	5	J
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	1	J
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

u KH 8/8/96

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAQG6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17973.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/14/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	5.961	8	J
2.		UNKNOWN ALKYL BENZENE	17.137	7	J
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

EPA SAMPLE NO.

EAQJ8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17974.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/14/95

GC Column:DB-624 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	28	
75-00-3	Chloroethane	7	J
75-09-2	Methylene Chloride	~~10~~ 5	JB
67-64-1	Acetone	35	
75-15-0	Carbon Disulfide	2	J
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	54	
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	4	J
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	6	J
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	2	J
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

u KH 8/8/

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAQJ8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17974.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/14/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

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

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	60-29-7	Ether	6.942	6	NJ
2.		UNKNOWN ALKYL BENZENE	16.903	5	J
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

EPA SAMPLE NO.

EAQJ9

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17981.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/15/95

GC Column:DB-624 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	2	J
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.

EAQJ9

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C17981.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. _____ Date Analyzed: 08/15/95

GC Column:DB-624 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

EPA SAMPLE NO.

EAQK6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: 23190.07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L17452.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. 14 Date Analyzed: 08/17/95

GC Column:DB-624 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	35	B
67-64-1	Acetone	12	
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
71-55-6	1,1,1-Trichloroethane	12	U
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

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAQK6

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: 23190.07

Sample wt/vol: 5.0 (g/mL) G Lab File ID: L17452.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: not dec. 14 Date Analyzed: 08/17/95

GC Column:DB-624 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
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.				

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 (2CP)#	S8 (DCB)#	TOT OUT
01	SBLK2	62	59	77	71	69	53	72	60	0
02	EAQF8	37	34*	54	36	35	34	40	32	1
03	EAQF9	44	46	32*	46	47	44	53	46	1
04	EAQG6	53	51	14*	56	55	62	60	55	1
05	EAQJ8	47	45	22*	51	47	59	53	45	1
06	EAQJ9	54	53	81	59	56	52	61	56	0
07	EAQJ9MS	61	62	92	64	64	63	69	64	0
08	EAQJ9MSD	62	64	85	65	63	67	70	63	0
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(35-114)	
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)	
S3 (TPH)	= Terphenyl-d14	(33-141)	
S4 (PHL)	= Phenol-d5	(10-110)	
S5 (2FP)	= 2-Fluorophenol	(21-110)	
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)	
S7 (2CP)	= 2-Chlorophenol-d4	(33-110)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(16-110)	(advisory)

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

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 (2CP)#	S8 (DCB)#	TOT OUT
01	SBLK1	35	38	62	42	36	48	38	38	0
02	EAQK6MS	50	52	64	52	50	72	49	53	0
03	EAQK6MSD	42	49	61	45	38	69	40	39	0
04	SBLK3	64	71	85	74	76	80	81	73	0
05	EAQK6	64	79	74	74	78	79	74	73	0
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS	
S1 (NBZ)	= Nitrobenzene-d5	(23-120)	
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)	
S3 (TPH)	= Terphenyl-d14	(18-137)	
S4 (PHL)	= Phenol-d5	(24-113)	
S5 (2FP)	= 2-Fluorophenol	(25-121)	
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)	
S7 (2CP)	= 2-Chlorophenol-d4	(20-130)	(advisory)
S8 (DCB)	= 1,2-Dichlorobenzene-d4	(20-130)	(advisory)

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

3C
WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix Spike - EPA Sample No.: EAQJ9

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Phenol	75	0	44	59	12-110
2-Chlorophenol	75	0	48	64	27-123
1,4-Dichlorobenzene	50	0	28	56	36- 97
N-Nitroso-di-n-prop.(1)	50	0	30	60	41-116
1,2,4-Trichlorobenzene	50	0	28	56	39- 98
4-Chloro-3-Methylphenol	75	0	52	69	23- 97
Acenaphthene	50	0	35	70	46-118
4-Nitrophenol	75	0	40	53	10- 80
2,4-Dinitrotoluene	50	0	33	66	24- 96
Pentachlorophenol	75	0	25	33	9-103
Pyrene	50	0	43	86	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	75	47	63	6	42	12-110
2-Chlorophenol	75	47	63	2	40	27-123
1,4-Dichlorobenzene	50	28	56	0	28	36- 97
N-Nitroso-di-n-prop.(1)	50	29	58	3	38	41-116
1,2,4-Trichlorobenzene	50	28	56	0	28	39- 98
4-Chloro-3-Methylphenol	75	49	65	6	42	23- 97
Acenaphthene	50	34	68	3	31	46-118
4-Nitrophenol	75	37	49	8	50	10- 80
2,4-Dinitrotoluene	50	30	60	10	38	24- 96
Pentachlorophenol	75	28	37	11	50	9-103
Pyrene	50	44	88	2	31	26-127

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

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

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

COMMENTS: _____

3D
SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix Spike - EPA Sample No.: EAQK6 Level(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Phenol	2900	0	1200	41	26- 90
2-Chlorophenol	2900	0	1300	45	25-102
1,4-Dichlorobenzene	1900	0	870	46	28-104
N-Nitroso-di-n-prop.(1)	1900	0	1000	53	41-126
1,2,4-Trichlorobenzene	1900	0	1100	58	38-107
4-Chloro-3-Methylphenol	2900	0	1700	59	26-103
Acenaphthene	1900	0	1100	58	31-137
4-Nitrophenol	2900	0	1800	62	11-114
2,4-Dinitrotoluene	1900	0	1200	63	28- 89
Pentachlorophenol	2900	0	780	27	17-109
Pyrene	1900	1600	1400	0*	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	2900	1200	41	0	35	26- 90
2-Chlorophenol	2900	1100	38	17	50	25-102
1,4-Dichlorobenzene	1900	680	36	24	27	28-104
N-Nitroso-di-n-prop.(1)	1900	790	42	23	38	41-126
1,2,4-Trichlorobenzene	1900	900	47	21	23	38-107
4-Chloro-3-Methylphenol	2900	1700	59	0	33	26-103
Acenaphthene	1900	1000	53	9	19	31-137
4-Nitrophenol	2900	1800	62	0	50	11-114
2,4-Dinitrotoluene	1900	1200	63	0	47	28- 89
Pentachlorophenol	2900	1000	34	23	47	17-109
Pyrene	1900	1500	0*	0	36	35-142

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

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

RPD: 0 out of 11 outside limits
Spike Recovery: 2 out of 22 outside limits

COMMENTS:

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK1

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab File ID: T11021.D Lab Sample ID: BL0811SG

Instrument ID: T Date Extracted: 08/11/95

Matrix: (soil/water) SOIL Date Analyzed: 08/15/95

Level:(low/med) LOW Time Analyzed: 1202

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EAQK6MS	23190.07MS	T11025.D	08/15/95
02	EAQK6MSD	23190.07MSD	T11026.D	08/15/95
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

page 01 of 01

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK2

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab File ID: V9722.D Lab Sample ID: BL0812WA

Instrument ID: V Date Extracted: 08/12/95

Matrix: (soil/water) WATER Date Analyzed: 08/16/95

Level:(low/med) LOW Time Analyzed: 1838

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EAQF8	23190.02	V9723.D	08/16/95
02	EAQF9	23190.03	V9724.D	08/16/95
03	EAQG6	23190.04	V9725.D	08/16/95
04	EAQJ8	23190.05	V9726.D	08/16/95
05	EAQJ9	23190.06	V9727.D	08/16/95
06	EAQJ9MS	23190.06MS	V9728.D	08/16/95
07	EAQJ9MSD	23190.06MSD	V9729.D	08/16/95
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

page 01 of 01

4B
SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

SBLK3

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab File ID: T11089.D Lab Sample ID: BL0816SF

Instrument ID: T Date Extracted: 08/16/95

Matrix: (soil/water) SOIL Date Analyzed: 08/18/95

Level:(low/med) LOW Time Analyzed: 0959

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	EAQK6	23190.07	T11090.D	08/18/95
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

page 01 of 01

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: BL0811SG

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11021.D

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 08/11/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/15/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	330	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK1

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: BL0811SG

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11021.D

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 08/11/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/15/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	37	J
117-84-0	Di-n-octylphthalate	28	J
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK1

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: BL0811SG

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11021.D

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 08/11/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/15/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 8

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.152	4200	NJA
2.		UNKNOWN ORGANIC ACID	8.604	83	J
3.		UNKNOWN AMIDE	13.123	80	J
4.		UNKNOWN AMIDE	13.262	130	J
5.		UNKNOWN AMIDE	14.561	1900	J
6.		UNKNOWN AMIDE	14.711	93	J
7.		UNKNOWN AMIDE	17.191	880	J
8.		UNKNOWN	18.339	440	J
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK2

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: BL0812WA

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9722.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

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.

SBLK2

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: BL0812WA

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9722.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

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	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
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(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.

SBLK2

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: BL0812WA

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9722.D

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

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ORGANIC ACID	9.133	4	J
2.	UNKNOWN	18.055	2	J
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK3

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: BL0816SF

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11089.D

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 08/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/18/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)Ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
95-48-7	2-Methylphenol	330	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330	U
106-44-5	4-Methylphenol	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(2-Chloroethoxy)methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
106-47-8	4-Chloroaniline	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-Methylphenol	330	U
91-57-6	2-Methylnaphthalene	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
95-95-4	2,4,5-Trichlorophenol	830	U
91-58-7	2-Chloronaphthalene	330	U
88-74-4	2-Nitroaniline	830	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
99-09-2	3-Nitroaniline	830	U
83-32-9	Acenaphthene	330	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK3

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: BL0816SF

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11089.D

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 08/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/18/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	830	U
100-02-7	4-Nitrophenol	830	U
132-64-9	Dibenzofuran	330	U
121-14-2	2,4-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U
100-01-6	4-Nitroaniline	830	U
534-52-1	4,6-Dinitro-2-methylphenol	830	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	830	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
86-74-8	Carbazole	330	U
84-74-2	Di-n-butylphthalate	330	U
206-44-0	Fluoranthene	330	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	330	U
56-55-3	Benzo(a)anthracene	330	U
218-01-9	Chrysene	330	U
117-81-7	bis(2-Ethylhexyl)phthalate	83	J
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)fluoranthene	330	U
50-32-8	Benzo(a)pyrene	330	U
193-39-5	Indeno(1,2,3-cd)pyrene	330	U
53-70-3	Dibenz(a,h)anthracene	330	U
191-24-2	Benzo(g,h,i)perylene	330	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK3

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: BL0816SF

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11089.D

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

% Moisture: 0 decanted: (Y/N) N Date Extracted: 08/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/18/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	1.500	81	J
2.		UNKNOWN	1.618	86	J
3.	123-42-2	2-Pentanone, 4-hydroxy-4-met	3.056	10000	NJA
4.		UNKNOWN ORGANIC ACID	8.444	220	J
5.		UNKNOWN AMIDE	11.514	92	J
6.		UNKNOWN AMIDE	12.952	190	J
7.		UNKNOWN AMIDE	13.081	280	J
8.		UNKNOWN AMIDE	14.390	3700	J
9.		UNKNOWN AMIDE	14.541	180	J
10.		UNKNOWN AMIDE	16.999	1000	J
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQF8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9723.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3

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.

EAQF8

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9723.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3

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	Dibenz(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.

EAQF8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.02

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9723.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ORGANIC ACID	9.136	2	JB
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQF9

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9724.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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.

EAQF9

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9724.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

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	0.6	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	Dibenz(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.

EAQF9

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.03

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9724.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

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

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	18.058	4	JB
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.				

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQG6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9725.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9

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.

EAQG6

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9725.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9

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	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
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(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.

EAQG6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9725.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Phenol, -trimethyl-	6.174	6	J
2.	UNKNOWN	8.617	11	J
3.	UNKNOWN	8.983	11	J
4.	UNKNOWN ORGANIC ACID	9.134	2	JB
5. 934-34-9	2(3H)-Benzothiazolone	9.844	3	N
6. 10544-50-0	Sulfur, mol. (S8)	13.148	12	N
7.	Phenol, -(-methylethylidene)	13.956	2	J
8.	UNKNOWN	14.601	4	J
9.	UNKNOWN	15.118	2	J
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQJ8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.05

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9726.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9

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	1	J
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	11	
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	2	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	2	J
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.

EAQJ8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.05

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9726.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9

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	0.5	J
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	0.5	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	Dibenz(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.

EAQJ8

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.05

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9726.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9

Number TICs found: 33

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 108-10-1	Methyl Isobutyl Ketone	2.518	2	NJ
2. 103-65-1	Benzene, propyl-	4.283	2	NJ
3.	-Trimethylbenzene	4.756	6	J
4.	Benzene, -methyl--propyl-	5.036	3	J
5.	Benzene, -methyl--(-methylet	5.155	3	J
6. 78-40-0	Triethyl phosphate	5.381	3	NJ
7.	UNKNOWN	5.542	4	J
8.	Benzene, -methyl--(-methylet	5.628	4	J
9.	Phenol, -trimethyl-	5.951	4	J
10.	Phenol, -trimethyl-	6.177	10	J
11.	Phenol, 3ethyl--methyl-	6.317	3	J
12.	Phenol, -(-methylethyl)-	6.468	2	J
13.	Phenol, -tert-butyl-	6.586	2	J
14. 90-12-0	Naphthalene, 1-methyl-	6.855	3	NJ
15.	Naphthalene, -dimethyl-	7.738	2	J
16.	UNKNOWN	8.222	3	J
17.	UNKNOWN	8.362	2	J
18.	UNKNOWN	8.986	2	J
19. 134-62-3	Diethyltoluamide	9.051	4	NJ
20.	UNKNOWN	9.126	9	J
21.	-Propanol, -[(-methyl--ethan	9.180	6	J
22.	UNKNOWN	9.287	3	J
23.	UNKNOWN	9.761	5	J
24. 934-34-9	2(3H)-Benzothiazolone	9.858	6	NJ
25.	UNKNOWN	10.256	2	J
26.	UNKNOWN ALCOHOL	10.590	9	J
27.	UNKNOWN ALCOHOL	10.665	9	J
28.	UNKNOWN ALCOHOL	10.686	9	J
29.	UNKNOWN ALCOHOL	10.805	3	J
30.	UNKNOWN	11.364	4	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAQJ8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.05

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9726.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9

Number TICs found: 33

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN ALCOHOL	11.526	5	J
2.	UNKNOWN ALCOHOL	11.569	3	J
3.	UNKNOWN	14.593	4	J
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQJ9

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.06

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9727.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7

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	0.5	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
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.

EAQJ9

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.06

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9727.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7

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	Dibenz(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.

EAQJ9

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.06

Sample wt/vol: 1000 (g/mL) ML Lab File ID: V9727.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: _____ decanted: (Y/N)___ Date Extracted: 08/12/95

Concentrated Extract Volume: 1000(uL) Date Analyzed: 08/16/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 68-12-2	Formamide, N,N-dimethyl-	2.890	34	NJ
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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQK6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: 23190.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11090.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: 14 decanted: (Y/N) N Date Extracted: 08/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/18/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

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
106-44-5	4-Methylphenol	30	J
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	36	J
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	43	J
77-47-4	Hexachlorocyclopentadiene	380	U
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
131-11-3	Dimethylphthalate	380	U
208-96-8	Acenaphthylene	91	J
606-20-2	2,6-Dinitrotoluene	380	U
99-09-2	3-Nitroaniline	960	U
83-32-9	Acenaphthene	380	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQK6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: 23190.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11090.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: 14 decanted: (Y/N) N Date Extracted: 08/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/18/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

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	140	J
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
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	1400	
120-12-7	Anthracene	350	J
86-74-8	Carbazole	75	J
84-74-2	Di-n-butylphthalate	380	U
206-44-0	Fluoranthene	1500	
129-00-0	Pyrene	1600	
85-68-7	Butylbenzylphthalate	380	U
91-94-1	3,3'-Dichlorobenzidine	380	U
56-55-3	Benzo(a)anthracene	980	
218-01-9	Chrysene	870	
117-81-7	bis(2-Ethylhexyl)phthalate	380 ~~120~~	JB U KM 8/8/95
117-84-0	Di-n-octylphthalate	380	U
205-99-2	Benzo(b)fluoranthene	460	
207-08-9	Benzo(k)fluoranthene	600	
50-32-8	Benzo(a)pyrene	600	
193-39-5	Indeno(1,2,3-cd)pyrene	320	J
53-70-3	Dibenz(a,h)anthracene	130	J
191-24-2	Benzo(g,h,i)perylene	280	J

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAQK6

ab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: 23190.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11090.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: 14 decanted: (Y/N) N Date Extracted: 08/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/18/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Number TICs found: 35

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN KETONE	1.553	150	J
2.	UNKNOWN ALCOHOL	1.639	88	J
3. 123-42-2	2-Pentanone, 4-hydroxy-4-met	3.077	12000	NJAB
4.	Naphthalene, -dimethyl-	6.973	110	J
5.	Naphthalene, -dimethyl-	7.091	170	J
6.	Naphthalene, -trimethyl-	8.132	130	
7.	Naphthalene, -trimethyl-	8.283	120	J
8.	Dibenzofuran, -methyl-	8.776	140	J
9.	Benzene, -methylenebis[-meth	9.721	160	J
10. 486-25-9	9H-Fluoren-9-one	9.785	310	NJ
11.	UNKNOWN	9.882	130	J
12.	Anthracene, -methyl-	11.073	290	J
13.	Anthracene, -methyl-	11.127	420	J
14.	Anthracene, -methyl-	11.202	160	J
15.	Anthracene, -methyl-	11.288	250	J
16.	Anthracene, -methyl-	11.331	200	J
17.	UNKNOWN AMIDE	11.513	180	JB
18.	Naphthalene, -phenyl-	11.674	260	J
19.	Phenanthrene, -dimethyl-	12.168	120	J
20.	Cyclopenta()phenanthrenone	12.286	290	J
21.	UNKNOWN PAH	12.586	160	J
22. 243-42-5	Benzo[b]naphtho[2,3-d]furan	12.984	210	NJ
23.	UNKNOWN AMIDE	13.091	540	JB
24.	11H-Benzo[]fluorene	13.316	200	J
25.	11H-Benzo[]fluorene	13.520	390	J
26.	Pyrene, -methyl-	13.703	250	J
27.	Pyrene, -methyl-	13.885	220	J
28.	UNKNOWN AMIDE	14.390	3000	JB
29. 82-05-3	7H-Benz[de]anthracen-7-one	14.529	620	NJ
30.	Benzo[]fluoranthene	14.797	240	J

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAQK6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: 23190.07

Sample wt/vol: 30.0 (g/mL) G Lab File ID: T11090.D

Level: (low/med) LOW Date Received: 08/11/95

% Moisture: 14 decanted: (Y/N) N Date Extracted: 08/16/95

Concentrated Extract Volume: 500(uL) Date Analyzed: 08/18/95

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Number TICs found: 35

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 82-05-3	7H-Benz[de]anthracen-7-one	14.937	220	NJ
2.	Benz[a]anthracene, -methyl-	16.010	270	J
3.	UNKNOWN AMIDE	17.009	1600	JB
4. 205-99-2	Benz[e]acephenanthrylene	17.642	590	NJ
5. 14021-23-9	D-Friedoolean-14-ene, 3-meth	19.917	650	NJ
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.				

402

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

GC Column(1): DB-1701 ID: 0.32(mm) GC Column(2): DB-17 ID: 0.32(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLKWO	61	150	90	94			0
02	PBLKWP	75	134	94	95			0
03	EAQF8	61	114	53	56			0
04	EAQF8MS	66	118	55	63			0
05	EAQF8MSD	67	132	57	67			0
06	EAQF9	66	129	50	62			0
07	EAQJ8	64	112	61	81			0
08	EAQJ9	60	116	91	90			0
09	EAQG6	59	126	49	54			0
10	EAQG6DL	58	145	61	61			0
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

QC LIMITS

TCX = Tetrachloro-m-xylene (30-150)
DCB = Decachlorobiphenyl (30-150)

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

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

GC Column(1): DB-1701 ID: 0.32(mm) GC Column(2): DB-17 ID: 0.32(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLKSP	99	54	89	94			0
02	EAQK6	74	44	76	84			0
03	EAQK6MS	56	40	68	76			0
04	EAQK6MSD	86	48	77	78			0
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

QC LIMITS

TCX = Tetrachloro-m-xylene (30-150)
DCB = Decachlorobiphenyl (30-150)

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

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix Spike - EPA Sample NO.: EAQF8

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
gamma-BHC(Lindane)	0.500	0	0.445	89	56-123
Heptachlor	0.500	0	0.453	91	40-131
Aldrin	0.500	0	0.413	83	40-120
Dieldrin	1.00	0	0.972	97	52-126
Endrin	1.00	0	1.05	105	56-121
4,4'-DDT	1.00	0	0.948	95	38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMI RPD	R.
gamma-BHC(Lindane)	0.500	0.458	92	3	15	56-123
Heptachlor	0.500	0.457	91	0	20	40-131
Aldrin	0.500	0.414	83	0	22	40-120
Dieldrin	1.00	1.02	102	5	18	52-126
Endrin	1.00	1.09	109	4	21	56-121
4,4'-DDT	1.00	1.04	104	9	27	38-127

Column to be used to flag recovery values

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

Comments: _____

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix Spike - EPA Sample NO.: EAQK6

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
gamma-BHC(Lindane)	19.4	0	10.5	54	46-127
Heptachlor	19.4	0	12.3	63	35-130
Aldrin	19.4	0	10.8	56	34-132
Dieldrin	38.8	0	27.3	70	31-134
Endrin	38.8	0	29.3	76	42-139
4,4'-DDT	38.8	0	28.7	74	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC(Lindane)	19.4	12.0	62	14	50	46-127
Heptachlor	19.4	14.1	73	15	31	35-130
Aldrin	19.4	12.4	64	13	43	34-132
Dieldrin	38.8	31.6	82	16	38	31-134
Endrin	38.8	34.8	90	17	45	42-139
4,4'-DDT	38.8	34.7	89	18	50	23-134

Column to be used to flag recovery values

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

Comments: _____

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLKWO

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab Sample ID: PBLKWO Lab File ID: 1_001817

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 08/14/95

Date Analyzed (1): 08/16/95 Date Analyzed (2): 08/16/95

Time Analyzed (1): 0851 Time Analyzed (2): 0851

Instrument ID (1): HP_01A Instrument ID (2): HP_01B

GC Column (1): DB-1701 ID: 0.32(mm) GC Column (2): DB-17 ID: 0.32(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EAQF8	23190.02	08/16/95	08/16/95
02	EAQF8MS	23190.02MS	08/16/95	08/16/95
03	EAQF8MSD	23190.02MSD	08/16/95	08/16/95
04	EAQF9	23190.03	08/16/95	08/16/95
05	EAQJ8	23190.05	08/16/95	08/16/95
06	EAQJ9	23190.06	08/16/95	08/16/95
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Comments:

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLKWP

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab Sample ID: PBLKWP Lab File ID: 1_001833

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) Y Date Extracted: 08/14/95

Date Analyzed (1): 08/16/95 Date Analyzed (2): 08/16/95

Time Analyzed (1): 1713 Time Analyzed (2): 1713

Instrument ID (1): HP_01A Instrument ID (2): HP_01B

GC Column (1): DB-1701 ID: 0.32(mm) GC Column (2): DB-17 ID: 0.32(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EAQG6	23190.04	08/16/95	08/16/95
02	EAQG6DL	23190.04DL	08/17/95	08/17/95
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Comments:

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLKSP

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Lab Sample ID: PBLKSP Lab File ID: 6_001898

Matrix: (soil/water) SOIL Extraction: (SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N Date Extracted: 08/11/95

Date Analyzed (1): 08/16/95 Date Analyzed (2): 08/16/95

Time Analyzed (1): 1726 Time Analyzed (2): 1726

Instrument ID (1): HP_06A Instrument ID (2): HP_06B

GC Column (1): DB-1701 ID: 0.32(mm) GC Column (2): DB-17 ID: 0.32(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	EAQK6	23190.07	08/16/95	08/16/95
02	EAQK6MS	23190.07MS	08/16/95	08/16/95
03	EAQK6MSD	23190.07MSD	08/16/95	08/16/95
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Comments:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKSP

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

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

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

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

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 08/16/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	1.7	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.3	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	170	U
12674-11-2	Aroclor-1016	33	U
11104-28-2	Aroclor-1221	67	U
11141-16-5	Aroclor-1232	33	U
53469-21-9	Aroclor-1242	33	U
12672-29-6	Aroclor-1248	33	U
11097-69-1	Aroclor-1254	33	U
11096-82-5	Aroclor-1260	33	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKWO

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

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

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

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

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/14/95

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKWP

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

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

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

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

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:08/14/95

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQF8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.02

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 08/11/95

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/14/95

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.3 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQF9

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.03

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 08/11/95

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/14/95

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQG6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.04

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 08/11/95

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/14/95

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQG6DL

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.04DL

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 08/11/95

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/14/95

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/17/95

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 6.9 Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.50	U
319-85-7	beta-BHC	0.50	U
319-86-8	delta-BHC	0.50	U
58-89-9	gamma-BHC (Lindane)	0.50	U
76-44-8	Heptachlor	0.50	U
309-00-2	Aldrin	0.50	U
1024-57-3	Heptachlor epoxide	0.50	U
959-98-8	Endosulfan I	0.50	U
60-57-1	Dieldrin	1.0	U
72-55-9	4,4'-DDE	1.0	U
72-20-8	Endrin	1.0	U
33213-65-9	Endosulfan II	1.0	U
72-54-8	4,4'-DDD	1.0	U
1031-07-8	Endosulfan sulfate	1.0	U
50-29-3	4,4'-DDT	1.0	U
72-43-5	Methoxychlor	5.0	U
53494-70-5	Endrin ketone	1.0	U
7421-93-4	Endrin aldehyde	1.0	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	50	U
12674-11-2	Aroclor-1016	10	U
11104-28-2	Aroclor-1221	20	U
11141-16-5	Aroclor-1232	10	U
53469-21-9	Aroclor-1242	10	U
12672-29-6	Aroclor-1248	10	U
11097-69-1	Aroclor-1254	10	U
11096-82-5	Aroclor-1260	10	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQJ8

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.05

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 08/11/95

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/14/95

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.9 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQJ9

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) WATER Lab Sample ID: 23190.06

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

% Moisture: _____ decanted: (Y/N) __ Date Received: 08/11/95

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/14/95

Concentrated Extract Volume: 10000(uL) Date Analyzed: 08/16/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.7 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
7421-93-4	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQK6

Lab Name: SWL-TULSA Contract: 68-D5-0026

Lab Code: SWOK Case No.: 23889 SAS No.: SDG No.: EAPK6

Matrix: (soil/water) SOIL Lab Sample ID: 23190.07

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

% Moisture: 14 decanted: (Y/N) N Date Received: 08/11/95

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 08/11/95

Concentrated Extract Volume: 5000(uL) Date Analyzed: 08/16/95

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	2.0	U
58-89-9	gamma-BHC (Lindane)	2.0	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.0	U
1024-57-3	Heptachlor epoxide	2.0	U
959-98-8	Endosulfan I	2.0	U
60-57-1	Dieldrin	3.8	U
72-55-9	4,4'-DDE	3.8	U
72-20-8	Endrin	3.8	U
33213-65-9	Endosulfan II	3.8	U
72-54-8	4,4'-DDD	3.8	U
1031-07-8	Endosulfan sulfate	3.8	U
50-29-3	4,4'-DDT	3.8	U
72-43-5	Methoxychlor	20	U
53494-70-5	Endrin ketone	3.8	U
7421-93-4	Endrin aldehyde	3.8	U
5103-71-9	alpha-Chlordane	2.0	U
5103-74-2	gamma-Chlordane	2.0	U
8001-35-2	Toxaphene	200	U
12674-11-2	Aroclor-1016	38	U
11104-28-2	Aroclor-1221	78	U
11141-16-5	Aroclor-1232	38	U
53469-21-9	Aroclor-1242	38	U
12672-29-6	Aroclor-1248	38	U
11097-69-1	Aroclor-1254	38	U
11096-82-5	Aroclor-1260	38	U

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Data Set No: _____ CERCLIS No: ILD980606693

Case No: 23889 Site Name Location: Browning Ferris

Contractor or EPA Lab: SWOK Data User: IEPA

No. of Samples: 7 Date Sampled or Data Received: 8-28-95

Have Chain-of-Custody records been received? Yes ✓ No ✓
Have traffic reports or packing lists been received? Yes ✓ No _____
If no, are traffic report or packing list numbers written on the chain-of-custody record? Yes ✓ No _____
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____

_____ _____ _____ _____

Are basic data forms in? Yes ✓ No _____
No of samples claimed: 7 No. of samples received: 7

Received by: Lynette Burnett Date: 8-28-95

Received by LSSS: Allison C Harvey Date: 8-31-95

Review started: 8-8-95 Reviewer Signature: K. Minowski

Total time spent on review: 9+4=13 Date review completed: 8-11-95

Copied by: _____ Date: _____

Mailed to user by: _____ Date: _____

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffen, Data mgmt. Coordinator, Region V, 5SCRL

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if O
Organic Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if O
Dioxin Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if O
SAS Data Complete [ ] Suitable for Intended Purpose [ ] ✓ if O

PROBLEMS: Please indicate reasons why data are not suitable for you uses.

_____

_____

Received by Data Mgmt. Coordinator for Files. Data: _____