



Water Body No. WA-28-1020GW
(Segment No. 13-28-GW)

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

7171 Cleanwater Lane, Building 8, LH-14 • Olympia, Washington 98504-6814

March 12, 1992

TO: Megan White
FROM: Pam Marti *PM*
SUBJECT: Toftdahl Drum Site - Routine Monitoring Round IV

SUMMARY

The Toxics, Compliance, and Ground Water Investigations Section collected samples from four domestic water supply wells located in the area surrounding the former Toftdahl Drum Site on April 23, 1991. This sampling was part of the routine ground water monitoring conducted at the site since 1987. Low concentrations of lead, copper, and zinc were detected in the domestic wells. These concentrations were all well below state and federal drinking water standards and state ground water quality standards. Observed concentrations are consistent with previous sampling results; copper and zinc are the only analytes that are regularly detected in the private wells. These occurrences are probably related to well construction and plumbing materials.

OBJECTIVES

The Toxics, Compliance, and Ground Water Investigations Section was requested by the Toxics Cleanup Program (TCP) to monitor ground water at the Toftdahl Drum Site on a semi-annual basis as required by the federally mandated Record of Decision (ROD). Monitoring objectives are as follows:

1. Provide routine ground water monitoring data semi-annually for five years, ending in April 1991, then annually for ten years. (Annual sampling for priority pollutant metals was completed in October 1990. Annual sampling for all priority pollutants was completed in April 1991.)
2. Sample for all priority pollutants semi-annually to provide TCP with data that would possibly explain past sporadic detection of polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and semi-volatile organic compounds (BNAs); and
3. Determine future sampling needs at the completion of the semi-annual sampling.

SITE BACKGROUND

In the early 1970s, drums containing unknown quantities and types of waste were cleaned for resale on the Toftdahl property. The drums allegedly contained industrial wastes from a plywood manufacturing facility. It is estimated that between 100 and 200 drums were cleaned on the site. Approximately 50 drums contained residual wastes and could not be sold. These drums were buried on-site (see Figure 1). In 1985, the buried drums and wastes were removed. A Remedial Investigation conducted after drum removal concluded that no significant soil or ground water contamination existed. Low concentrations of PAHs, PCBs, VOCs, and BNAs were detected sporadically in nearby domestic water-supply wells. The ROD for the Toftdahl site requires ground water monitoring semi-annually for five years, then annually for ten years. In 1989, the site was delisted from the National Priorities List.

Geology of the area was defined in the Final Remedial Investigation (1986) as consisting of a complex sequence of discontinuous sediments, sedimentary rocks, and volcanic layers. Extensive weathering and/or hydrothermal alteration of the original rock units and deposits makes stratigraphic correlation uncertain. Generally, ground water occurs in coarser stratified sand, gravel and clayey gravel zones at various depths. Based on on-site well logs, two aquifer systems have been identified beneath the site, designated the shallow and deep aquifers. Both systems consist of several discontinuous water-bearing zones separated by layers of clay and silt. The shallow system ranges in depth from about 7 to 30 feet and the deep system ranges in depth from 69 to 98 feet. Water levels in some deep borings are within 50 feet of the ground surface indicating at least partially confining conditions. The four private wells sampled during the compliance monitoring are all drilled to the deep zone, and range in depth from 72 to 110 feet. Ground water in the deep system is generally thought to flow to the south. The Boone well is considered to be upgradient of the site and the Bedoff, Homala, and Kyle wells downgradient. Figure 2 shows the locations of the domestic wells sampled and the approximate ground water flow direction.

METHODS

Ground Water Sampling

Prior to sample collection, domestic wells were purged by allowing taps to run until pH, temperature, and specific conductance measurements stabilized. Samples were then collected from the tap nearest the well. Wells were sampled from upgradient to downgradient. All wells were sampled for volatile and semi-volatile organics, polychlorinated biphenyls (PCBs), pesticides, cyanide, and total priority pollutant metals. Volatile organic samples were preserved with two drops of 1:1 hydrochloric acid, and metal samples were preserved with 1 mL of nitric acid to a pH < 2. Chemical analyses, analytical methods, and detection limits are shown in Table 1.

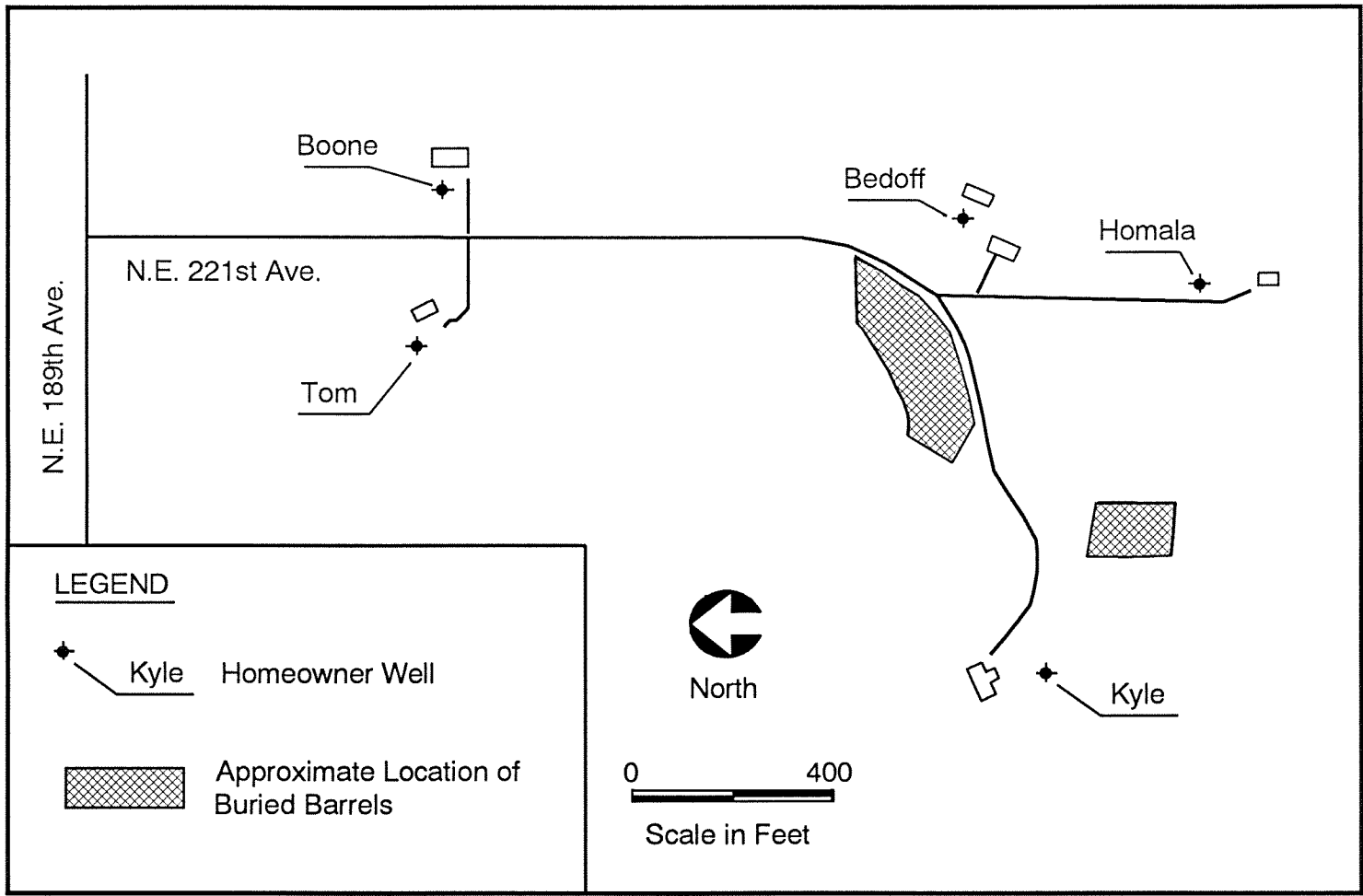


Figure 1: Location Map

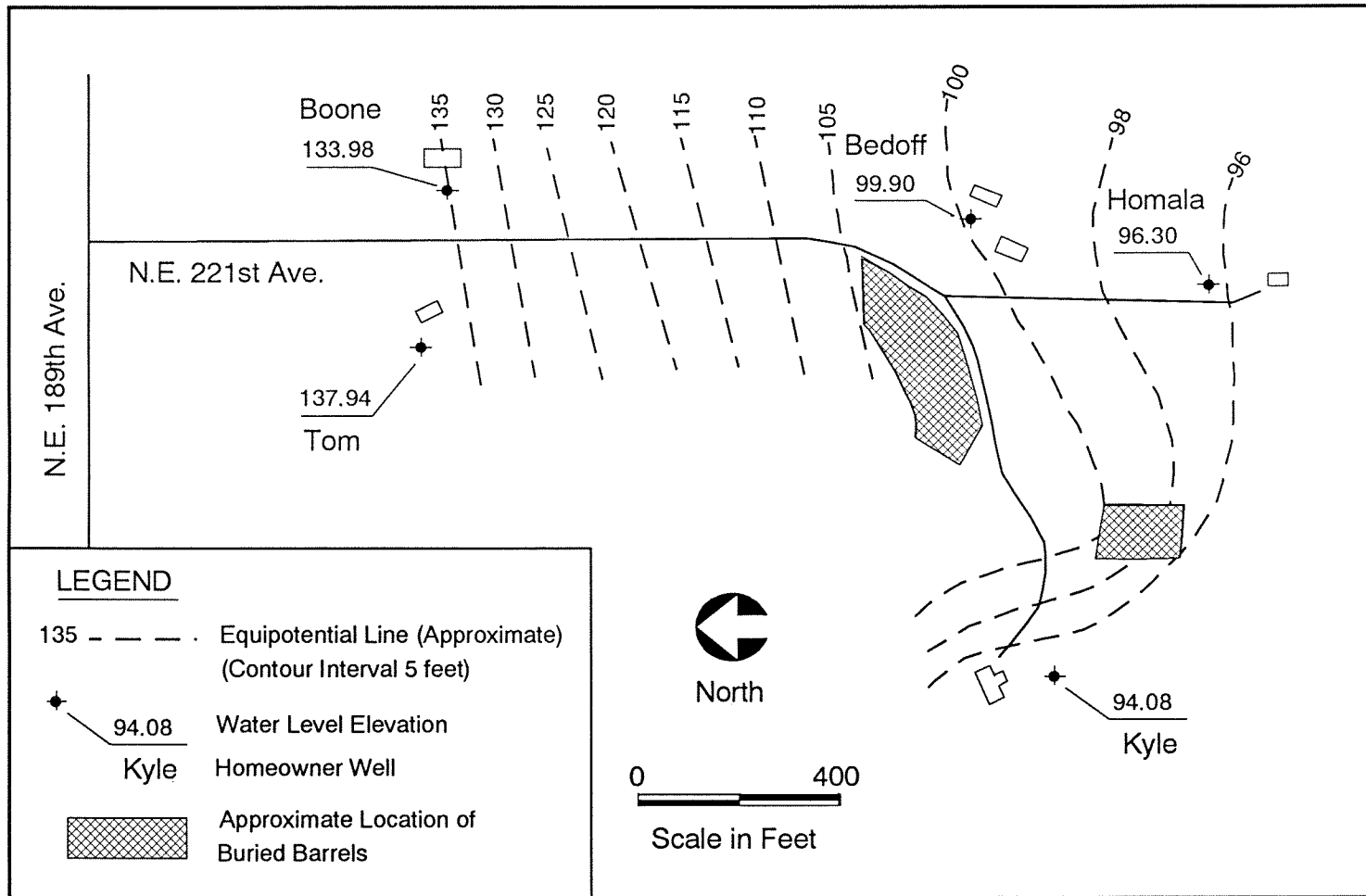


Figure 2: Potentiometric Surface Map for May 2, 1986 (Deep Aquifer)

Table 1: Parameters, Analytical Methods and Detection Limits

Analytical Parameters	Method	Detection Limit
Field Parameters:		
pH	Beckman pH Meter	0.1 Std Units
Specific Conductance	Beckman RC-15C Conductivity Bridge	10 μ mhos/cm
Temperature	Precision Thermometer	0.1°C
Volatile Organics	#624	1.0 μ g/L
Semivolatiles	#625	1.0 μ g/L
Pesticides/PCBs	#608	0.01 μ g/L
Metals (Total Recoverable):		
Antimony	#204.2	1.0 μ g/L
Arsenic	#206.2	1.5 μ g/L
Beryllium	#200.7	1.0 μ g/L
Cadmium	#200.7	2.0 μ g/L
Chromium	#200.7	5.0 μ g/L
Copper	#200.7	2.0 μ g/L
Lead	#239.2	1.0 μ g/L
Mercury	#245.1	0.04 μ g/L
Nickel	#200.7	10.0 μ g/L
Selenium	#270.2	2.0 μ g/L
Silver	#200.7	2.0 μ g/L
Thallium	#279.1	2.5 μ g/L
Zinc	#200.7	2.0 μ g/L
Cyanide	#335.3	0.001 mg/L

U.S. EPA, 1983. Methods for the Chemical Analysis of Water and Wastes. Environmental Monitoring and Support Laboratory, March 1983.

Quality Assurance Samples

In addition to laboratory calibration standards and method blanks, field quality assurance samples consisted of a blind duplicate and a transport blank. A blind duplicate sample, labeled "Smith", was collected from the Kyle well. Duplicate samples are two sets of samples collected from a well at the same time and submitted to the laboratory with different identification.

Laboratory quality assurance results were evaluated by Stuart Magoon and Randy Knox of the Manchester Laboratory, and are included in Appendix A. In general, the quality of the results are good. Acetone was detected at or near the detection limit in the Boone (4 ppb), Bedoff (4 ppb), and Kyle (2 ppb) wells and is qualified with a "J" indicating an estimated concentration. Although the procedural blanks associated with these samples showed no detectable levels of acetone, acetone is a common laboratory contaminant. Mercury was detected in the transport blank at 0.50 $\mu\text{g/L}$. All spike recoveries were within acceptable limits of 75-125%. Relative percent difference (%RPD) for a spike and spike duplicate were within $\pm 20\%$. The relative percent difference of the blind duplicate samples (Kyle and Smith) were within $\pm 20\%$ for duplicate analysis.

ANALYTICAL RESULTS

Analytical results are presented in Appendix A. Data were managed using the ENVIS database software package. Table 2 is a summary of field parameters and test results for sample Round IV conducted on April 23, 1991. Of the organic analytes tested for (volatile and semi-volatile compounds, cyanide, pesticides, and polychlorinated biphenyls) acetone was the only analyte detected at or near the detection limit in three of the four wells sampled and were qualified as estimates. Copper and zinc were detected at low concentrations in both the up- and downgradient wells. Lead was also detected in the Boone well (upgradient) and the Kyle well, but concentrations were near the detection limit and were qualified as estimates.

DISCUSSION AND CONCLUSIONS

As shown in Table 3, all detected concentrations for this round of sampling were well below the maximum contaminant levels (MCLs) established for state and federal drinking water supplies. Table 3 also summarizes results for all sample rounds to date.

Results from routine monitoring for 1987 to the present supports the Remedial Investigation (RI) findings that the degree of contamination at the site is probably small and does not appear to be a threat to public health or the environment via the ground water. Copper and zinc are the only analytes that are consistently detected in the wells, and concentrations are consistently higher in the upgradient Boone well than in the downgradient wells. These occurrences are probably related to well construction and plumbing materials. The presence of acetone at low concentrations during this round of sampling is probably related to laboratory contamination but

Table 2: Summary of Sampling Results from April 23, 1991 (ug/L unless otherwise specified)

Location	pH (s.u.)	Temperature (C)	Specific Conductance (umhos/cm)	Lead	Copper	Zinc	Mercury
Boone	6.91	10.8	109	1.2 J	120	178	0.04 u
Bedoff	7.15	10.5	120	20 u	58.4	5.5 J	0.04 u
Kyle	7.04	10.4	86	2.4 J	64.1	19 J	0.04 u
Smith (duplicate)	--	--	--	NAR	61.9	22	0.04 u
Homala	6.96	9.9	87	NAR	2 u	64.3	0.04 u
Transport	--	--	--	1 u	2 u	4 u	0.5
Maximum Contaminant Level (MCL)	--	--	--	50 *	1000 **	5000 **	2 *

J: Estimated Concentration

NAR: Requested but Not Analyzed

u: The compound was not detected at or above the associated numerical value.

--: Not Analyzed

*: Primary Maximum Contaminant Levels (MCLs) are based on chronic and acute health effects.

** : Secondary Maximum Contaminant Levels (MCL) are based on factors other than health effects.

Table 3: Summary of Sampling Results from September 1988 to April 1991

	Boone	Bedoff	Kyle	Smith	Homala	MCL's
September 12, 1988						
Copper	76	121	42	--	--	1000**
Zinc	389	6	52	--	--	5000**
Mercury	0.08 u	0.08 u	0.08 u	--	--	2.0*
October 17, 1989						
Copper	50	50	30	--	ND	1000**
Zinc	290	ND	20	--	20	5000**
Mercury	0.06 u	0.06 u	0.1 B	--	0.16 B	2.0*
April 11, 1990						
Copper	77.6	37.6	46.1	46.1	3.3 J	1000**
Zinc	160	5.0 u	31 B	22 JB	80.3	5000**
Mercury	0.05 J	0.08 J	0.04 J	0.02 u	0.04 J	2.0*
October 23, 1990						
Copper	83.9	45.9	25.8	28.4	2.0 u	1000**
Zinc	480	6.2 JB	12 JB	15 JB	34.0	5000**
Mercury	0.04 u	0.04 u	0.04 u	0.04 u	0.04 u	2.0*
Chromium	6 J	5.0 u	5.0 u	5.0 u	5.0 u	50*
Lead	1.1 J	1.0 u	1.0 u	1.0 u	1.5 J	50*
April 23, 1991						
Copper	120	58.4	64.1	61.9	2.0 u	1000**
Zinc	178	5.5 J	19 J	22	64.3	5000**
Mercury	0.04 u	0.04 u	0.04 u	0.04 u	0.04 u	2.0*
Lead	1.2 J	20 u	2.4 J	NAR	NAR	50*

--: Not analyzed

u: The compound was not detected at or above the associated numerical value.

ND: Not Detected

J: Estimated Value

B: Analyte was also found in an analytical blank.

*: Primary Maximum Contaminant Levels (MCLs) are based on chronic and acute health effects.

** : Secondary Maximum Contaminant Levels (MCLs) are based on factors other than health effect.

should be verified in subsequent sampling events. Other organic contaminants such as volatile and semi-volatile compounds, cyanide, pesticides, and PCBs, which occurred sporadically at very low concentrations during the initial phases of the site investigation have not been detected since the first routine sample round in 1987.

RECOMMENDATIONS

1. Based on past analytical results and the Record of Decision (ROD), routine monitoring should continue annually for the next 10 years. Due to the presence of acetone in Sample Round IV, volatile organics should be analyzed for at least the next two years. Selected metals (chromium, copper, lead and zinc) should be tested for the next ten years.
2. Three downgradient wells (Bedoff, Homala, and Kyle) and one upgradient well (Boone) should continue to be sampled.
3. At the completion of the ten year monitoring period, if no contaminants are observed other than copper and zinc, long-term monitoring should be discontinued.

cc: Bill Yake

Appendix A

WASHINGTON STATE DEPARTMENT OF ECOLOGY
ENVIRONMENTAL INVESTIGATIONS AND LABORATORY SERVICES
MANCHESTER LABORATORY

May 30, 1991

TO: Pamela Marti
FROM: Randy Knox *RJK*
SUBJECT: QA Summary on Metals Data

SAMPLE RECEIPT:

The samples from the Toftdahl Drum Site project were received by the Manchester Laboratory on 24/04/91 in good condition.

HOLDING TIMES:

All analyses were performed within the specified holding times for metals analysis (28 days for mercury, 180 days for all other metals).

INSTRUMENT CALIBRATION:

Instrument calibration was performed before each analytical run and checked by initial calibration verification standards and blanks. Continuing calibration standards and blanks were analyzed at a frequency of 10% during the run and again at the end of the analytical run. All initial and continuing calibration verification standards were within the control limits of +/- 10%. AA calibration gave correlation coefficients greater than the criteria of 0.995. A correlation coefficient of 0.995 or higher means that the calibration is acceptable.

PROCEDURAL BLANKS:

The procedural blanks associated with these samples showed no detectable levels of analytes.

SPIKED SAMPLE ANALYSIS:

Spiked sample and duplicate spiked sample analysis were performed on sample number(s) 178071. All spike recoveries were within the acceptable limits of +/- 25% for water sample analysis.

PRECISION DATA:

The duplicate results of the spiked and duplicate spiked sample were used to calculate precision related to the analysis of these

samples. The % RPD for all parameters was within the +/- 20% window for duplicate analysis. Most differences were small with the exception of chromium which was 19.6% and nickel which was 18.5%. There is no need to qualify the data.

ICP SERIAL DILUTION ANALYSIS:

The levels of analytes were low enough that serial dilution was not appropriate.

SUMMARY:

The data generated by the analysis of the above referenced samples can be used without qualification.

If you have any questions about the results or the methods used to obtain these results please call me at SCAN 744-4737.

cc Bill Kammin

Project: DOE-008N TOFTDAHL DRUM SITE

Officer: PZM

Account: D3P01

Laboratory: Ecology, Manchester

Sample No: 91 178070

Description: BOONE

Source: Drinking Water (At tap)

Begin Date: 91/04/23

All lab contract data

Metals - PP		Water-Total	
		Result	Units
Arsenic	As-Total	1.5U	ug/l
Lead	Pb-Total	1.2J*	ug/l
Thallium	Tl-Total	2.5U	ug/l
Selenium	Se-Total	2.0U	ug/l
Mercury	Hg-Total	.04U	ug/l

Metals - PP		Water-Total	
Matrix Spike #1		Result	Units
Mercury	Hg-Total	104	% Recov

Metals - PP		Water-Total	
Matrix Spike #2		Result	Units
Mercury	Hg-Total	99	% Recov

Metals - ICP Scan		Water-Total	
		Result	Units
Beryllium	Be-Total	1.0U	ug/l
Cadmium	Cd-Total	2.0U	ug/l
Chromium	Cr-Total	5.0U	ug/l
Copper	Cu-Total	120 *	ug/l
Nickel	Ni-Total	10U	ug/l
Silver	Ag-Total	2.0U	ug/l
Zinc	Zn-Total	178 *	ug/l
Antimony	Sb-Total	30U	ug/l

Contract Lab Program		Water-Total	
		Result	Units
B/N/Acid	GC/MS	REQ	CLP
VOA	GC/MS	REQ	CLP
P/PCBs	GC	REQ	CLP
Cyanide		REQ	CLP

(Sample Complete)

Project: DOE-008N TOFTDAHL DRUM SITE

Officer: PZM

Account: D3P01

Laboratory: Ecology, Manchester

Sample No: 91 178071

Description: BEDOFF

Source: Drinking Water (At tap)

Begin Date: 91/04/23

Metals - PP			Water-Total		Metals - ICP Scan				Water-Total	
			Result	Units	*** Continued ***				Result	Units
Arsenic	As-Total		1.5U	ug/l	Matrix Spike #2					
Lead	Pb-Total		1.0U	ug/l	Zinc	Zn-Total		97	% Recov	
Thallium	Tl-Total		2.5U	ug/l	Antimony	Sb-Total		97	% Recov	
Selenium	Se-Total		2.0U	ug/l						
Mercury	Hg-Total		.04U	ug/l						
Metals - ICP Scan			Water-Total		Contract Lab Program				Water-Total	
			Result	Units					Result	Units
Beryllium	Be-Total		1.0U	ug/l	B/N/Acid	GC/MS		REQ	CLP	
Cadmium	Cd-Total		2.0U	ug/l	VOA	GC/MS		REQ	CLP	
Chromium	Cr-Total		5.0U	ug/l	P/PCBs	GC		REQ	CLP	
Copper	Cu-Total		58.4 *	ug/l	Cyanide			REQ	CLP	
Lead	Pb-Total		20U	ug/l						
Nickel	Ni-Total		10U	ug/l						
Silver	Ag-Total		2.0U	ug/l						
Zinc	Zn-Total		5.5J*	ug/l						
Antimony	Sb-Total		30U	ug/l						
Metals - ICP Scan			Water-Total							
Matrix Spike #1			Result	Units						
Beryllium	Be-Total		98	% Recov						
Cadmium	Cd-Total		93	% Recov						
Chromium	Cr-Total		79	% Recov						
Copper	Cu-Total		102	% Recov						
Lead	Pb-Total		NAR	% Recov						
Nickel	Ni-Total		82	% Recov						
Silver	Ag-Total		95	% Recov						
Zinc	Zn-Total		98	% Recov						
Antimony	Sb-Total		100	% Recov						
Metals - ICP Scan			Water-Total							
Matrix Spike #2			Result	Units						
Beryllium	Be-Total		98	% Recov						
Cadmium	Cd-Total		96	% Recov						
Chromium	Cr-Total		96	% Recov						
Copper	Cu-Total		102	% Recov						
Lead	Pb-Total		NAR	% Recov						
Nickel	Ni-Total		98	% Recov						
Silver	Ag-Total		100	% Recov						

(Sample Complete)

Project: DOE-008N TOFTDAHL DRUM SITE

Officer: PZM

Account: D3P01

Laboratory: Ecology, Manchester

Sample No: 91 178072

Description: HOMALA

Source: Drinking Water (At tap)

Begin Date: 91/04/23 :

Metals - PP		Water-Total	
		Result	Units
Arsenic	As-Total	1.5U	ug/l
Lead	Pb-Total	1.0U	ug/l
Thallium	Tl-Total	2.5U	ug/l
Selenium	Se-Total	2.0U	ug/l
Mercury	Hg-Total	.04U	ug/l

Metals - ICP Scan		Water-Total	
		Result	Units
Beryllium	Be-Total	1.0U	ug/l
Cadmium	Cd-Total	2.0U	ug/l
Chromium	Cr-Total	5.0U	ug/l
Copper	Cu-Total	2.0U	ug/l
Lead	Pb-Total	NAR	ug/l
Nickel	Ni-Total	10U	ug/l
Silver	Ag-Total	2.0U	ug/l
Zinc	Zn-Total	64.3 *	ug/l
Antimony	Sb-Total	30U	ug/l

Contract Lab Program		Water-Total	
		Result	Units
B/N/Acid	GC/MS	REQ	CLP
VOA	GC/MS	REQ	CLP
P/PCBs	GC	REQ	CLP
Cyanide		REQ	CLP

(Sample Complete)

Project: DOE-008N TOFTDAHL DRUM SITE

Officer: PZM

Account: D3P01

Laboratory: Ecology, Manchester

Sample No: 91 178073

Description: KKYLE

Source: Drinking Water (At tap)

Begin Date: 91/04/23 :

Metals - PP		Water-Total	
		Result	Units
Arsenic	As-Total	1.5U	ug/l
Lead	Pb-Total	2.4J*	ug/l
Thallium	Tl-Total	2.5U	ug/l
Selenium	Se-Total	2.0U	ug/l
Mercury	Hg-Total	.04U	ug/l

Metals - ICP Scan		Water-Total	
		Result	Units
Beryllium	Be-Total	1.0U	ug/l
Cadmium	Cd-Total	2.0U	ug/l
Chromium	Cr-Total	5.0U	ug/l
Copper	Cu-Total	64.1 *	ug/l
Lead	Pb-Total	NAR	ug/l
Nickel	Ni-Total	10U	ug/l
Silver	Ag-Total	2.0U	ug/l
Zinc	Zn-Total	19J*	ug/l
Antimony	Sb-Total	30U	ug/l

Contract Lab Program		Water-Total	
		Result	Units
B/N/Acid	GC/MS	REQ	CLP
VOA	GC/MS	REQ	CLP
P/PCBs	GC	REQ	CLP
Cyanide		REQ	CLP

(Sample Complete)

Project: DOE-008N TOFTDAHL DRUM SITE

Officer: PZM

Account: D3P01

Laboratory: Ecology, Manchester

Sample No: 91 178074

Description: SMITH

Source: Drinking Water (At tap)

Begin Date: 91/04/23 ;

Metals - PP		Water-Total	
		Result	Units
Arsenic	As-Total	1.5U	ug/l
Lead	Pb-Total	1.0U	ug/l
Thallium	Tl-Total	2.5U	ug/l
Selenium	Se-Total	2.0U	ug/l
Mercury	Hg-Total	.04U	ug/l

Metals - ICP Scan		Water-Total	
		Result	Units
Beryllium	Be-Total	1.0U	ug/l
Cadmium	Cd-Total	2.0U	ug/l
Chromium	Cr-Total	5.0U	ug/l
Copper	Cu-Total	61.9 *	ug/l
Lead	Pb-Total	NAR	ug/l
Nickel	Ni-Total	10U	ug/l
Silver	Ag-Total	2.0U	ug/l
Zinc	Zn-Total	22 *	ug/l
Antimony	Sb-Total	30U	ug/l

Contract Lab Program		Water-Total	
		Result	Units
B/N/Acid	GC/MS	REQ	CLP
VOA	GC/MS	REQ	CLP
P/PCBs	GC	REQ	CLP
Cyanide		REQ	CLP

(Sample Complete)

Project: DOE-008N TOFTDAHL DRUM SITE

Officer: PZM

Account: D3P01

Laboratory: Ecology, Manchester

Sample No: 91 178075

Description: TRANSPOR

Source: Water (General)

Begin Date: 91/04/23

Metals - PP		Water-Total	
		Result	Units
Arsenic	As-Total	1.5U	ug/l
Lead	Pb-Total	1.0U	ug/l
Thallium	Tl-Total	2.5U	ug/l
Selenium	Se-Total	2.0U	ug/l
Mercury	Hg-Total	.50 *	ug/l

Metals - PP		Water-Total	
Matrix Spike #1		Result	Units
Arsenic	As-Total	103	% Recov
Lead	Pb-Total	99	% Recov
Thallium	Tl-Total	120	% Recov
Selenium	Se-Total	95	% Recov

Metals - PP		Water-Total	
Matrix Spike #2		Result	Units
Arsenic	As-Total	105	% Recov
Lead	Pb-Total	104	% Recov
Thallium	Tl-Total	122	% Recov
Selenium	Se-Total	96	% Recov

Metals - ICP Scan		Water-Total	
		Result	Units
Beryllium	Be-Total	1.0U	ug/l
Cadmium	Cd-Total	2.0U	ug/l
Chromium	Cr-Total	5.0U	ug/l
Copper	Cu-Total	2.0U	ug/l
Lead	Pb-Total	NAR	ug/l
Nickel	Ni-Total	10U	ug/l
Silver	Ag-Total	2.0U	ug/l
Zinc	Zn-Total	4.0U	ug/l
Antimony	Sb-Total	30U	ug/l

Contract Lab Program		Water-Total	
		Result	Units
B/N/Acid	GC/MS	REQ	CLP
VOA	GC/MS	REQ	CLP
P/PCBs	GC	REQ	CLP

(Sample Complete)

Project: DOE-008N TOFTDAHL DRUM SITE

Officer: PZM

Account: D3P01

Blank ID: PB 19.36

Metals - PP		Water-Total	
Blank #1		Result	Units
Arsenic	As-Total	1.5U	ug/l
Lead	Pb-Total	1.0U	ug/l
Thallium	Tl-Total	2.5U	ug/l
Selenium	Se-Total	2.0U	ug/l

Metals - ICP Scan		Water-Total	
Blank #1		Result	Units
Beryllium	Be-Total	1.0U	ug/l
Cadmium	Cd-Total	2.0U	ug/l
Chromium	Cr-Total	5.0U	ug/l
Copper	Cu-Total	2.0U	ug/l
Lead	Pb-Total	NAR	ug/l
Nickel	Ni-Total	10U	ug/l
Silver	Ag-Total	2.0U	ug/l
Zinc	Zn-Total	4.0U	ug/l
Antimony	Sb-Total	30U	ug/l

(Sample Complete)



WASHINGTON STATE DEPARTMENT OF ECOLOGY
MANCHESTER ENVIRONMENTAL LABORATORY
Manchester, Washington 98353

DATA REVIEW

[Signature]
By: Craig Smith, Chemist
PROJECT: Toftdahl
Lab Sample No: 178070 - 178074
Report Date: 06-11-91

.....
HOLDING TIME: Collected To Manchester Analyzed
 04-23 04-24 5-8-91 CN
These times are within the U.S. EPA limits for analysis from the date of collection.
.....

SAMPLE DATA:

The QA/QC is acceptable.

The data may be used without qualification.



**ANALYTICAL
RESOURCES
INCORPORATED**

Analytical
Chemists &
Consultants

333 Ninth Ave. North
Seattle, WA 98109-5187
(206) 621-6490
(206) 621-7523 (FAX)

**Final Report
Laboratory Analysis of Selected Parameters**

Matrix: WATER

Data Release Authorized: *m. P. Roberts*
Report Prepared: May 8, 1991 (mjt)

Project No: D3P01/TOFTDAHE
QC Report No: WDOE-8155
Date Received: 4/25/91

Sample Data:		Analysis Date
		5/3/91
Lab ID	Sample Number	TOT-CN (mg /L)
8155 A	178070	< 0.010
8155 B	178071	< 0.010
8155 C	178072	< 0.010
8155 D	178073	< 0.010
8155 E	178074	< 0.010

Method Blank Analysis:

Sample Number	TOT-CN (mg /L)
Method Blank 1	< 0.010
Detection Limit:	0.010

Check Standard Analysis:

Check Standard	TOT-CN (mg /L)	Cyanide Standards	
Measured Value	0.049	0.077	0.833
True Value	0.051	0.086	0.858
% Recovery	96.08%	89.74%	97.09%

Duplicate Analysis:

	TOT-CN (mg /L)
Original	< 0.010
Duplicate	< 0.010
RPD	-

Spike Analysis:

Original	< 0.010
Spike	0.865
Spk Level	0.858
% Recovery	100.82%

Comments:


State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
June 29, 1991

Project: Toftdahl Drum

Samples: 178070 178071 178072 178073 178074 178075

Laboratory: Laucks Testing Laboratory 4477

By: Stuart Magoon 

Case Summary

These analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness.

There is no need to assimilate the "dilution factor" or "sample wt/vol" into the final values reported; these calculations have already been figured into the reported values.

Note that if this data is transferred into some other format the compounds that have been tentatively identified (TIC) should have an "NJ" qualifier added to the result. The "NJ" qualifier is used to indicate that the compound has been tentatively identified and the reported value is an estimated quantity.

DATA QUALIFIER DEFINITIONS

- U - The compound was not detected at or above the associated numerical value.
- J - The compound was detected but the value is an estimated quantity.
- UJ - The analyte was not detected at or above the reported estimated level.
- NR - Not Reported. These compounds are added as part of the Matrix Spike solution.
- NJ - There is evidence that the analyte is present. The associated numerical value is an estimate of the amount of this compound present.

Volatiles

Sample	Date Collect	Date Extd	Date Anlz	#Days ext anal	#Days Collect to anal
178070	4/23	NA	4/30	NA	7 of 14
178071	4/23	NA	4/30	NA	7 of 14
178072	4/23	NA	4/30	NA	7 of 14
178073	4/23	NA	4/30	NA	7 of 14
178074	4/23	NA	4/30	NA	7 of 14
178075	4/23	NA	4/30	NA	7 of 14

These samples were analyzed within the SW-846 recommended holding time.

Surrogates:

Surrogate recoveries for these samples, the matrix spikes, and the associated method blank are reasonable, acceptable and within the QC limits.

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

Matrix spike/spike duplicate recovery and precision data are reasonable and acceptable, and within QC limits.

Sample Data:

This data is acceptable for use.

Semivolatiles (BNA)

Sample	Date Collect	Date Extd	Date Anlz	#Days ext anal	#Days Collect to anal
178070	4/23	4/26	5/2	3 of 7	6 of 40
178071	4/23	4/26	5/2	3 of 7	6 of 40
178072	4/23	4/26	5/2	3 of 7	6 of 40
178073	4/23	4/26	5/2	3 of 7	6 of 40
178074	4/23	4/26	5/2	3 of 7	6 of 40

These samples were extracted and analyzed within the SW-846 recommended holding time.

Surrogates:

Surrogate recoveries for these samples, the matrix spikes, and the associated method blank are reasonable, acceptable and within QC limits.

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

Matrix spike/spike duplicate recovery and precision data are acceptable and within QC limits.

Sample Data:

This data is acceptable for use. Note that data qualifiers may modify the usefulness of the individual values.

Sample 178075 was inadvertently not analyzed. This sample was a Transport Blank. Fortunately samples 178070, 178071, and 178072 did not contain any detectable target analytes and can serve the same purpose as a transport blank.

Pesticides and PCB's

Sample	Date Collect	Date Extd	Date Anlz	#Days ext anal	#Days Collect to anal
178070	4/23	4/29	5/4	6 of 7	5 of 40
178071	4/23	4/29	5/4	6 of 7	5 of 40
178072	4/23	4/29	5/4	6 of 7	5 of 40
178073	4/23	4/29	5/4	6 of 7	5 of 40
178074	4/23	4/29	5/4	6 of 7	5 of 40

These samples were extracted and analyzed within the SW-846 recommended holding time.

Surrogates:

Surrogate recoveries for these samples, the matrix spikes, and the associated method blank are reasonable, acceptable and within QC limits.

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

Matrix spike/spike duplicate recovery and precision data are acceptable and within QC limits.

Sample Data:

This data is acceptable for use. Note that data qualifiers may modify the usefulness of the individual values.

Sample 178075 was inadvertently not analyzed. This sample was a Transport Blank. Fortunately none of the samples analyzed contained any detectable target analytes.

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

TO: Washington State Department of Ecology
Project Name: Toftdahl Drum
Laboratory No.: 9104477
Date of this report: June 17, 1991

GENERAL REMARKS:

The following samples were analyzed under the above lab number:

<u>Client</u> <u>Sample</u> <u>I.D.</u>	<u>LTL</u> <u>Sample</u> <u>Number</u>	<u>Analysis</u> <u>Request</u>
178070	9104477-01	VOA/ABN/PEST/PCB
178071	9104477-02	VOA/ABN/PEST/PCB
178072	9104477-03	VOA/ABN/PEST/PCB
178073	9104477-04	VOA/ABN/PEST/PCB
178074	9104477-05	VOA/ABN/PEST/PCB
178075 TB	9104477-06	VOA

When completing forms created through the CLP software, every attempt is made to use both your sample IDs as well as the laboratory sample IDs on the forms. The forms have varied default sizes to their sample identification fields, and are not amenable to alteration or editing. When it is not possible to use your complete sample ID, because of field length limitations, Laucks will use as much of your ID as will fit, beginning from the RIGHT hand side of the sample ID number. In addition, ALL forms will contain our sample IDs, which can be cross referenced from the table above.

Many of the CLP-package forms will include the words "EPA Sample No.," or some variation of this, which again cannot be edited. Where a reference is made to the EPA, you may take this to mean more generally, "the client". These data are not part of an actual EPA case.

GENERAL REMARKS ON ORGANIC ANALYSES:

GC/MS Fractions:

Compounds may be called out as hits on the computerized printout. However, if they are not reported on the OADS (sample results) form, the mass spectral data have been manually searched and the compounds have been eliminated as hits based on this search.

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

ABN Fraction:

The data system which is used to perform the searches for ABN Tentatively Identified Compounds (TICs) is set with a threshold of 5% fit for TICs. In some cases less than three compounds in the NBS library pass this threshold setting. When this occurs there will not be spectra and fits for the associated unknown compound. This will be called out on the first page of the data system report and will be reflected in the spectra which are drawn; i.e., there will be less than three best-fit spectra. This generally has one of two meanings. First, that there are no compounds passing the fit criteria; or, second, that one or more compounds pass the fit criteria. It is our opinion that the threshold setting for fit is set low enough that all reasonable and possible hits will be reported (up to a maximum of three).

Two optional ABN surrogates are used for recovery purposes, recoveries for one of which (2-Bromophenol) are listed under "Other" on Form II. The second optional surrogate is d10-Azobenzene. The recoveries for samples in this set are as listed:

Sample	% Recovery
SBLKL1	69
178070	70
178070MS	70
178070MSD	72
178071	70
178072	67
178073	74
178074	69

Volatile Fraction:

All volatile analyses were performed using a DB-624 megabore capillary. The elution order and retention times differ from those stated for packed column analysis in the U.S.E.P.A.'s Statement of Work for organic CLP analyses. Listed below are the correct elution order and the internal standard with which each compound is associated.

Bromochloromethane(IS)	1,4-Difluorobenzene(IS)	d5-Chlorobenzene(IS)
Chloromethane	Benzene	4-Methyl-2-Pentanone
Vinyl Chloride	Trichloroethylene	Toluene
Bromomethane	1,2-Dichloropropane	d8-Toluene(SURR)

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

ABN Fraction:

The acid and base-neutral fractions of all samples in this case were combined prior to the solvent reduction step, so that final extract volume for all samples was 1.0 ml, rather than the default 2.0 mls. Thus, CRQLS reported for all samples are lower by a factor of two.

Pesticide/PCB Fraction:

Initial Linearity Verification Standards:

All of the compounds were above the 15% RSD control limit in the confirmation column.

Continuing Calibration Verification Standards:

In the first and second CCV of the quantitation column several of the analytes and the surrogates DBC and DCB had a percent deviation above the 15% control limit.

In the first CCV of the confirmation run all of the analytes and surrogates exceeded the 20% deviation control limit. In the second CCV of the confirmation column all of the analytes and the surrogates DBC, DCB, and Isodrin were above the 20% deviation control limit.

It is noted that there is considerable variance in the CCV standards. Because these standards exceeded the upper control limit and there was no detection of pesticides or PCBs in any of the samples, no further action was required.

Pesticide Breakdown Evaluation:

In the quantitation column the total breakdown exceeded the 15% control limit in all three of the EVAL B standards. The first and third EVAL B standards were above the 20% control limit in the confirmation run.

Sample Results:

No pesticides or PCBs were detected in any of the samples. All surrogate recoveries as well as MS/MSD results were in control.

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

Chloroethane	Bromodichloromethane	Trans-1,3-Dichloropropene
1,1-Dichloroethylene	Cis-1,3-Dichloropropene	1,1,2-Trichloroethane
Acetone		Tetrachloroethylene
Carbon Disulfide		2-Hexanone
Methylene Chloride		Dibromochloromethane
Trans-1,2-Dichloroethylene		Chlorobenzene
1,1-Dichloroethane		Ethylbenzene
Vinyl Acetate		Styrene
Cis-1,2-Dichloroethylene		M,P-Xylene
2-Butanone		O-xylene
Chloroform		Bromoform
1,1,1-Trichloroethane		1,1,2,2-Tetrachloroethane
Carbon Tetrachloride		Bromofluorobenzene(SURR)
1,2-Dichloroethane		
d4-1,2-Dichloroethane(SURR)		

The analytes listed above were assigned to their respective internal standards on the basis of relative retention time (RRT). For all compounds except cis-1,3-dichloropropene, the RRTs fall between 0.8 and 1.2. Cis-1,2-dichloropropene was the only compound to fall outside of this range, and was assigned to the internal standard closest to its retention time.

Separation of cis- and trans- dichloroethylene isomers is achievable on a DB-624 megabore capillary column. These compounds have been found to coelute on the packed column specified in the U.S.E.P.A.'s Statement of Work. When these isomers are found in a sample, they will be reported as total-1,2-dichloroethylene.

A holding blank was analyzed in the same QC period with the samples from this set. The raw data were not submitted with the case. It will be held on file at Laucks should future review be necessary.

Pesticide/PCB Fraction:

The compound isodrin was added as a second, optional surrogate in the pesticide/PCB analyses. Recovery values are reported on the appropriate FORM II - PEST.

SPECIFIC REMARKS ON ORGANIC ANALYSES:

VOA Fraction:

No comments.

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: Laucks Testing Labs Contract: _____
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SOG No.: _____

	DOE SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	VBLKJ1	99	98	98	-----	0
02	178070	97	94	94	-----	0
03	178071	100	98	99	-----	0
04	178071MS	99	99	96	-----	0
05	178071MSD	105	103	105	-----	0
06	178072	107	107	105	-----	0
07	178073	105	101	102	-----	0
08	178074	104	101	104	-----	0
09	178075TB	103	101	102	-----	0
10	-----	-----	-----	-----	-----	-----
11	-----	-----	-----	-----	-----	-----
12	-----	-----	-----	-----	-----	-----
13	-----	-----	-----	-----	-----	-----
14	-----	-----	-----	-----	-----	-----
15	-----	-----	-----	-----	-----	-----
16	-----	-----	-----	-----	-----	-----
17	-----	-----	-----	-----	-----	-----
18	-----	-----	-----	-----	-----	-----
19	-----	-----	-----	-----	-----	-----
20	-----	-----	-----	-----	-----	-----
21	-----	-----	-----	-----	-----	-----
22	-----	-----	-----	-----	-----	-----
23	-----	-----	-----	-----	-----	-----
24	-----	-----	-----	-----	-----	-----
25	-----	-----	-----	-----	-----	-----
26	-----	-----	-----	-----	-----	-----
27	-----	-----	-----	-----	-----	-----
28	-----	-----	-----	-----	-----	-----
29	-----	-----	-----	-----	-----	-----
30	-----	-----	-----	-----	-----	-----

QC LIMITS

S1 (TOL) = Toluene-d8 (88-110)
 S2 (BFB) = Bromofluorobenzene (86-115)
 S3 (DCE) = 1,2-Dichloroethane-d4 (76-114)

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

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SOG No.: _____

Matrix Spike - DOE Sample No.: 178071

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.000	0.000	43.100	86	61-145
Trichloroethene	50.000	0.000	51.000	102	71-120
Benzene	50.000	0.000	54.600	109	76-127
Toluene	50.000	0.000	54.500	109	76-125
Chlorobenzene	50.000	0.000	48.500	97	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
1,1-Dichloroethene	50.000	43.000	86	0	14 61-145
Trichloroethene	50.000	49.500	99	3	14 71-120
Benzene	50.000	52.600	105	4	11 76-127
Toluene	50.000	53.600	107	2	13 76-125
Chlorobenzene	50.000	48.100	96	1	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: _____

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: Laucks Testing Labs Contract: _____
 Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SDG No.: _____
 Lab File ID: B0430MVOWJ1 Lab Sample ID: B0430MVOWJ1
 Date Analyzed: 04/30/91 Time Analyzed: 11:29
 Matrix: (soil/water) WATER Level: (low/med) LOW
 Instrument ID: 1020J

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

	DOE SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	178070	04477-01	04477V01	13:18
02	178071	04477-02	04477V02	13:54
03	178071MS	04477-02MS	04477V02MS	14:31
04	178071MSD	04477-02MSD	04477V02MSD	15:09
05	178072	04477-03	04477V03	15:47
06	178073	04477-04	04477V04	16:24
07	178074	04477-05	04477V05	17:20
08	178075TB	04477-06	04477V06	17:57
09	-----	-----	-----	-----
10	-----	-----	-----	-----
11	-----	-----	-----	-----
12	-----	-----	-----	-----
13	-----	-----	-----	-----
14	-----	-----	-----	-----
15	-----	-----	-----	-----
16	-----	-----	-----	-----
17	-----	-----	-----	-----
18	-----	-----	-----	-----
19	-----	-----	-----	-----
20	-----	-----	-----	-----
21	-----	-----	-----	-----
22	-----	-----	-----	-----
23	-----	-----	-----	-----
24	-----	-----	-----	-----
25	-----	-----	-----	-----
26	-----	-----	-----	-----
27	-----	-----	-----	-----
28	-----	-----	-----	-----
29	-----	-----	-----	-----
30	-----	-----	-----	-----

COMMENTS: _____

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

DOE SAMPLE NO.

178070

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS

Case No.: _____

SAS No. _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: 04477-01

Sample wt/vol: 5.0 (g/ml)ML

Lab File ID: 04477V01

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __

Date Analyzed: 04/30/91

Column: (pack/cap) CAP

Dilution Factor: 1

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	5	U
67-64-1	-----Acetone	4	J
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethene	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-02-6	-----Trans-1,3-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Xylene (total)	5	U

000008

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

DOE SAMPLE NO.

178070

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: 04477-01

Sample wt/vol: 5.0 (g/ml)ML

Lab File ID: 04477V01

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __

Date Analyzed: 04/30/91

Column: (pack/cap) CAP

Dilution Factor: 1.0

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

Number TICs found: 0

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.				

000009

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

DOE SAMPLE NO.

178071

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS

Case No.: _____

SAS No. _____

SDG No. _____

Matrix: (soil/water)WATER

Lab Sample ID: 04477-02

Sample wt/vol: 5.0 (g/ml)ML

Lab File ID: 04477V02

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __

Date Analyzed: 04/30/91

Column: (pack/cap) CAP

Dilution Factor: 1

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	5	U
67-64-1	Acetone	4	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

000016

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

DOE SAMPLE NO.

178071

Lab Name: Laucks Testing Labs Contract: _____

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

Matrix: (soil/water)WATER Lab Sample ID: 04477-02

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 04477V02

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ Date Analyzed: 04/30/91

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

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

Number TICs found: 0

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

DOE SAMPLE NO.

178072

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: _____ SAS No.: _____ SOG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: 04477-03

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 04477V03

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ Date Analyzed: 04/30/91

Column: (pack/cap) CAP Dilution Factor: 1

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	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

DOE SAMPLE NO.

178072

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: 04477-03

Sample wt/vol: 5.0 (g/ml)ML

Lab File ID: 04477V03

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __

Date Analyzed: 04/30/91

Column: (pack/cap) CAP

Dilution Factor: 1.0

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

DOE SAMPLE NO.

178070

Lab Name: Laucks Testing Labs Contract: _____

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

Matrix: (soil/water)WATER Lab Sample ID: 04477-04

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 04477V04

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ Date Analyzed: 04/30/91

Column: (pack/cap) CAP Dilution Factor: 1

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

CAS NO.	COMPOUND	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	5 U
67-64-1	-----Acetone	10 U
75-15-0	-----Carbon Disulfide	5 U
75-35-4	-----1,1-Dichloroethene	5 U
75-34-3	-----1,1-Dichloroethane	5 U
540-59-0	-----1,2-Dichloroethene (total)	5 U
67-68-3	-----Chloroform	5 U
107-06-2	-----1,2-Dichloroethane	5 U
78-93-3	-----2-Butanone	10 U
71-55-6	-----1,1,1-Trichloroethane	5 U
56-23-5	-----Carbon Tetrachloride	5 U
108-05-4	-----Vinyl Acetate	10 U
75-27-4	-----Bromodichloromethane	5 U
78-87-5	-----1,2-Dichloropropane	5 U
10061-01-5	-----cis-1,3-Dichloropropene	5 U
79-01-6	-----Trichloroethene	5 U
124-48-1	-----Dibromochloromethane	5 U
79-00-5	-----1,1,2-Trichloroethane	5 U
71-43-2	-----Benzene	5 U
10061-02-6	-----Trans-1,3-Dichloropropene	5 U
75-25-2	-----Bromoform	5 U
108-10-1	-----4-Methyl-2-Pentanone	10 U
591-78-6	-----2-Hexanone	10 U
127-18-4	-----Tetrachloroethene	5 U
79-34-5	-----1,1,2,2-Tetrachloroethane	5 U
108-88-3	-----Toluene	5 U
108-90-7	-----Chlorobenzene	5 U
100-41-4	-----Ethylbenzene	5 U
100-42-5	-----Styrene	5 U
1330-20-7	-----Xylene (total)	5 U

000030

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

DOE SAMPLE NO.

178073

Lab Name: Laucks Testing Labs Contract: _____

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

Matrix: (soil/water)WATER Lab Sample ID: 04477-04

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 04477V04

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ Date Analyzed: 04/30/91

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

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.				

000031

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

DOE SAMPLE NO.

178074

Lab Name: Laucks Testing Labs Contract: _____

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

Matrix: (soil/water)WATER Lab Sample ID: 04477-05

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 04477V05

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ Date Analyzed: 04/30/91

Column: (pack/cap) CAP Dilution Factor: 1

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

CAS NO. COMPOUND 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	5	U
67-64-1	-----Acetone	2	J
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethene	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-02-6	-----Trans-1,3-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Xylene (total)	5	U

000036

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

DOE SAMPLE NO.

178074

Lab Name: Laucks Testing Labs Contract: _____

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

Matrix: (soil/water)WATER Lab Sample ID: 04477-05

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 04477V05

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ Date Analyzed: 04/30/91

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

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

Number TICs found: 0

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

DOE SAMPLE NO.

178075TB

Lab Name: Laucks Testing Labs Contract: _____

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

Matrix: (soil/water)WATER Lab Sample ID: 04477-06

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 04477V06

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ Date Analyzed: 04/30/91

Column: (pack/cap) CAP Dilution Factor: 1

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

CAS NO. COMPOUND 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	5	U
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethene	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-02-6	-----Trans-1,3-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Xylene (total)	5	U

000044

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

DOE SAMPLE NO.

178075TB

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: 04477-06

Sample wt/vol: 5.0 (g/ml)ML

Lab File ID: 04477V06

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __

Date Analyzed: 04/30/91

Column: (pack/cap) CAP

Dilution Factor: 1.0

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.				

000045

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

DOE SAMPLE NO.

Lab Name: Laucks Testing Labs

Contract: _____

VBLKJ1

Lab Code: LAUCKS

Case No.: _____

SAS No. _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: 80430MVOWJ1

Sample wt/vol: 5.0 (g/ml)ML

Lab File ID: 80430MVOWJ1

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __

Date Analyzed: 04/30/91

Column: (pack/cap) CAP

Dilution Factor: 1

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	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

DOE SAMPLE NO.

VBLKJ1

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: B0430MVOWJ1

Sample wt/vol: 5.0 (g/ml)ML

Lab File ID: B0430MVOWJ1

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __

Date Analyzed: 04/30/91

Column: (pack/cap) CAP

Dilution Factor: 1.0

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

Number TICs found: 0

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

DOE SAMPLE NO.

178071MS

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS

Case No.: _____

SAS No. _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: 04477-02MS

Sample wt/vol: 5.0 (g/ml)ML

Lab File ID: 04477V02MS

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __

Date Analyzed: 04/30/91

Column: (pack/cap) CAP

Dilution Factor: 1

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

CAS NO.

COMPOUND

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	5	U	
67-64-1	Acetone	3	J	
75-15-0	Carbon Disulfide	5	U	
75-35-4	1,1-Dichloroethene	5	U NR	da
75-34-3	1,1-Dichloroethane	5	U	
540-59-0	1,2-Dichloroethene (total)	5	U	
67-66-3	Chloroform	5	U	
107-06-2	1,2-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
108-05-4	Vinyl Acetate	10	U	
75-27-4	Bromodichloromethane	5	U	
78-87-5	1,2-Dichloropropane	5	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
79-01-6	Trichloroethene	5	U NR	da
124-48-1	Dibromochloromethane	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
71-43-2	Benzene	5	U NR	da
10061-02-6	Trans-1,3-Dichloropropene	5	U	
75-25-2	Bromoform	5	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	
108-88-3	Toluene	5	U NR	da
108-90-7	Chlorobenzene	5	U NR	da
100-41-4	Ethylbenzene	5	U	
100-42-5	Styrene	5	U	
1330-20-7	Xylene (total)	5	U	

NR = Not Reported

FORM I VOA

000089
1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

DOE SAMPLE NO.
178071MSD

Lab Name: Laucks Testing Labs Contract: _____

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

Matrix: (soil/water)WATER Lab Sample ID: 04477-02MSD

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 04477V02MSD

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. ___ Date Analyzed: 04/30/91

Column: (pack/cap) CAP Dilution Factor: 1

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	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5 U	NR ✓
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5 U	NR ✓
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5 U	NR ✓
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5 U	NR ✓
108-90-7	Chlorobenzene	5 U	NR ✓
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS

Case No.: 04477

SAS No.: _____

SDG No.: _____

	S1	S2	S3	S4	S5	S6	OTHER	TOT
SAMPLE NO.	(NBZ)#	(FBP)#	(TPH)#	(PHL)#	(2FP)#	(TBP)#		OUT
01: SBLKL1	65	64	61	33	44	71	57	0
02: 178070	69	67	65	34	48	70	60	0
03: 178070MS	71	67	61	35	48	70	62	0
04: 178070MSD	71	69	63	35	49	73	63	0
05: 178071	69	68	64	33	47	70	60	0
06: 178072	67	67	62	32	46	65	58	0
07: 178073	70	71	64	34	49	73	62	0
08: 178074	67	69	64	33	47	69	58	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 (10-94)
 S5 (2FP) = 2-Fluorophenol (21-100)
 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

3C
WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix Spike - Sample No.: 178070

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Phenol	200	0	65	32	12- 89
2-Chlorophenol	200	0	127	64	27-123
1,4-Dichlorobenzene	100	0	61	61	36- 97
N-Nitroso-di-n-prop. (1)	100	0	76	76	41-116
1,2,4-Trichlorobenzene	100	0	66	66	39- 98
4-Chloro-3-methylphenol	200	0	118	59	23- 97
Acenaphthene	100	0	65	65	46-118
4-Nitrophenol	200	0	63	32	10- 80
2,4-Dinitrotoluene	100	0	72	72	24- 96
Pentachlorophenol	200	0	134	67	9-103
Pyrene	100	0	73	73	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
Phenol	200	68	34	5	42 12- 89
2-Chlorophenol	200	133	66	4	40 27-123
1,4-Dichlorobenzene	100	65	65	6	28 36- 97
N-Nitroso-di-n-prop. (1)	100	80	80	6	38 41-116
1,2,4-Trichlorobenzene	100	68	68	4	28 39- 98
4-Chloro-3-methylphenol	200	126	63	6	42 23- 97
Acenaphthene	100	68	68	4	31 46-118
4-Nitrophenol	200	67	34	6	50 10- 80
2,4-Dinitrotoluene	100	76	76	6	38 24- 96
Pentachlorophenol	200	138	69	3	50 9-103
Pyrene	100	77	77	5	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: _____

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: Laucks Testing Labs Contract: _____
 Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____
 Lab File ID: >LE025::L8 Lab Sample ID: B0426MSVWLE
 Date Extracted: 04/26/91 Extraction: (SepF/Cont/Sonc) SEPF
 Date Analyzed: 05/02/91 Time Analyzed: 13:19
 Matrix: (soil/water) WATER Level: (low/med) LOW
 Instrument ID: 5970L

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

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	
01	178070	:04477-01	:>LE026::L8	:05/02/91
02	178070MS	:04477-01MS	:>LE027::L8	:05/02/91
03	178070MSD	:04477-01MSD	:>LE028::L8	:05/02/91
04	178071	:04477-02	:>LE029::L8	:05/02/91
05	178072	:04477-03	:>LE030::L8	:05/02/91
06	178073	:04477-04	:>LE031::L8	:05/02/91
07	178074	:04477-05	:>LE032::L8	:05/02/91
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178070-

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: 04477-01

Sample wt/vol: 1000.(g/ml)ML Lab File ID: >LE026::L8

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEFF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
108-95-2	Phenol	5IU	
111-44-4	bis(2-Chloroethyl)ether	5IU	
95-57-8	2-Chlorophenol	5IU	
541-73-1	1,3-Dichlorobenzene	5IU	
106-46-7	1,4-Dichlorobenzene	5IU	
100-51-6	Benzyl alcohol	5IU	
95-50-1	1,2-Dichlorobenzene	5IU	
95-48-7	2-Methylphenol	5IU	
108-60-1	bis(2-Chloroisopropyl)ether	5IU	
106-44-5	4-Methylphenol	5IU	
621-64-7	N-Nitroso-di-n-propylamine	5IU	
67-72-1	Hexachloroethane	5IU	
98-95-3	Nitrobenzene	5IU	
78-59-1	Isopharone	5IU	
88-75-5	2-Nitrophenol	5IU	
105-67-9	2,4-Dimethylphenol	5IU	
65-85-0	Benzoic acid	25IU	
111-91-1	bis(2-Chloroethoxy)methane	5IU	
120-83-2	2,4-Dichlorophenol	5IU	
120-82-1	1,2,4-Trichlorobenzene	5IU	
91-20-3	Naphthalene	5IU	
106-47-8	4-Chloroaniline	5IU	
87-68-3	Hexachlorobutadiene	5IU	
59-50-7	4-Chloro-3-methylphenol	5IU	
91-57-6	2-Methylnaphthalene	5IU	
77-47-4	Hexachlorocyclopentadiene	5IU	
28-06-2	2,4,6-Trichlorophenol	5IU	
95-95-4	2,4,5-Trichlorophenol	25IU	
91-58-7	2-Chloronaphthalene	5IU	
88-74-4	2-Nitroaniline	25IU	
131-11-3	Dimethylphthalate	5IU	
208-96-8	Acenaphthylene	5IU	
606-20-2	2,6-Dinitrotoluene	5IU	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178070

Lab Name: Laucks Testing Labs Contract: _____
 Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____
 Matrix: (soil/water)WATER Lab Sample ID: 04477-01
 Sample wt/vol: 1000.(g/ml)ML Lab File ID: >LE026::L8
 Level: (low/med) LOW Date Received: 04/25/91
 % Moisture: not dec. __ dec. __ Date Extracted: 04/26/91
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91
 GPC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)UG/L	Q
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	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	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	25	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	10	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-91-7	bis(2-Ethylhexyl)phthalate	5	U
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

(1) - Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

175070

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 04477-01

Sample wt/vol: 1000. (g/ml) ML Lab File ID: >LE026::L8

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ dec. __ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91

GFC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1.0

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

Number TICs found: 0

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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178071

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: 04477-02

Sample wt/vol: 1000.(g/ml)ML Lab File ID: >LE029::L8

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ dec. __ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91

GFC Cleanup: (Y/N)N pH:0.0 Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)UG/L	Q
108-95-2	Phenol		5IU
111-44-4	bis(2-Chloroethyl)ether		5IU
95-57-8	2-Chlorophenol		5IU
541-73-1	1,3-Dichlorobenzene		5IU
106-46-7	1,4-Dichlorobenzene		5IU
100-51-6	Benzyl alcohol		5IU
95-50-1	1,2-Dichlorobenzene		5IU
95-48-7	2-Methylphenol		5IU
108-60-1	bis(2-Chloroisopropyl)ether		5IU
106-44-5	4-Methylphenol		5IU
621-64-7	N-Nitroso-di-n-propylamine		5IU
67-72-1	Hexachloroethane		5IU
98-95-3	Nitrobenzene		5IU
78-59-1	Isophorone		5IU
88-75-5	2-Nitrophenol		5IU
105-67-9	2,4-Dimethylphenol		5IU
65-85-0	Benzoic acid		25IU
111-91-1	bis(2-Chloroethoxy)methane		5IU
120-83-2	2,4-Dichlorophenol		5IU
120-82-1	1,2,4-Trichlorobenzene		5IU
91-20-3	Naphthalene		5IU
106-47-8	4-Chloroaniline		5IU
87-68-3	Hexachlorobutadiene		5IU
59-50-7	4-Chloro-3-methylphenol		5IU
91-57-6	2-Methylnaphthalene		5IU
77-47-4	Hexachlorocyclopentadiene		5IU
88-06-2	2,4,6-Trichlorophenol		5IU
95-95-4	2,4,5-Trichlorophenol		25IU
91-58-7	2-Chloronaphthalene		5IU
88-74-4	2-Nitroaniline		25IU
131-11-3	Dimethylphthalate		5IU
208-96-8	Acenaphthylene		5IU
606-20-2	2,6-Dinitrotoluene		5IU

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178071

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDS No.: _____

Matrix: (soil/water)WATER Lab Sample ID: 04477-02

Sample wt/vol: 1000. (g/ml)ML Lab File ID: >LE029::L8

Level: (low/med) LGW Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEFF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
99-09-2	3-Nitroaniline	25:U	
83-32-9	Acenaphthene	5:U	
51-28-5	2,4-Dinitrophenol	25:U	
100-02-7	4-Nitrophenol	25: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	25:U	
534-52-1	4,6-Dinitro-2-methylphenol	25:U	
86-30-6	N-Nitrosodiphenylamine (1)	5:U	
101-55-3	4-Bromophenyl-phenylether	5:U	
118-74-1	Hexachlorobenzene	5:U	
87-86-5	Pentachlorophenol	25: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	10:U	
56-55-3	Benzo(a)anthracene	5:U	
218-01-9	Chrysene	5:U	
117-81-7	bis(2-Ethylhexyl)phthalate	5:U	
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	

(1) - Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

178071

Lab Name: Laucks Testing Labs Contract: _____
Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____
Matrix: (soil/water)WATER Lab Sample ID: 04477-02
Sample wt/vol: 1000.(g/ml)ML Lab File ID: >LE029::LB
Level: (low/med) LOW Date Received: 04/25/91
% Moisture: not dec. __ dec. __ Date Extracted: 04/26/91
Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91
GPC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1.0

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

Number TICs found: 0

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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178072

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: 04477-03

Sample wt/vol: 1000.(g/ml)ML Lab File ID: >LE030::LB

Level: (low/med) LDW Date Received: 04/25/91

% Moisture: not dec. __ dec. __ Date Extracted: 04/26/91

Extraction: (SapF/Cont/Sonc) SEFF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH:0.0 Dilution Factor: 1

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

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178072

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: 04477-03

Sample wt/vol: 1000. (g/ml)ML Lab File ID: >LE030::LB

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEFF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
99-09-2	3-Nitroaniline	25IU	
83-32-9	Acenaphthene	5IU	
51-28-5	2,4-Dinitrophenol	25IU	
100-02-7	4-Nitrophenol	25IU	
132-64-9	Dibenzofuran	5IU	
121-14-2	2,4-Dinitrotoluene	5IU	
84-66-2	Diethylphthalate	5IU	
7005-72-3	4-Chlorophenyl-phenylether	5IU	
86-73-7	Fluorene	5IU	
100-01-6	4-Nitroaniline	25IU	
534-52-1	4,6-Dinitro-2-methylphenol	25IU	
86-30-6	N-Nitrosodiphenylamine (1)	5IU	
101-55-3	4-Bromophenyl-phenylether	5IU	
118-74-1	Hexachlorobenzene	5IU	
87-86-5	Pentachlorophenol	25IU	
85-01-8	Phenanthrene	5IU	
120-12-7	Anthracene	5IU	
84-74-2	Di-n-butylphthalate	5IU	
206-44-0	Fluoranthene	5IU	
129-00-0	Pyrene	5IU	
85-68-7	Butylbenzylphthalate	5IU	
91-94-1	3,3'-Dichlorobenzidine	10IU	
56-55-3	Benzo(a)anthracene	5IU	
218-01-9	Chrysene	5IU	
117-81-7	bis(2-Ethylhexyl)phthalate	5IU	
117-84-0	Di-n-octylphthalate	5IU	
205-99-2	Benzo(b)fluoranthene	5IU	
207-08-9	Benzo(k)fluoranthene	5IU	
50-32-8	Benzo(a)pyrene	5IU	
193-39-5	Indeno(1,2,3-cd)pyrene	5IU	
53-70-3	Dibenzo(a,h)anthracene	5IU	
191-24-2	Benzo(g,h,i)perylene	5IU	

(1) - Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

178072

Lab Name: Laucks Testing Labs Contract: _____
 Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____
 Matrix: (soil/water)WATER Lab Sample ID: 04477-03
 Sample wt/vol: 1000.(g/ml)ML Lab File ID: >LE030::LB
 Level: (low/med) LOW Date Received: 04/25/91
 % Moisture: not dec. __ dec. __ Date Extracted: 04/26/91
 Extraction: (SepF/Cont/Sonc) SEFF Date Analyzed: 05/02/91
 GFC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1.0

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

Number TICs found: 0

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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178073

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: 04477-04

Sample wt/vol: 1000. (g/ml)ML Lab File ID: >LE031::L8

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ dec. __ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)UG/L	Q
108-95-2	Phenol		5IU
111-44-4	bis(2-Chloroethyl)ether		5IU
95-57-8	2-Chlorophenol		5IU
541-73-1	1,3-Dichlorobenzene		5IU
106-46-7	1,4-Dichlorobenzene		5IU
100-51-6	Benzyl alcohol		5IU
95-50-1	1,2-Dichlorobenzene		5IU
95-48-7	2-Methylphenol		5IU
108-60-1	bis(2-Chloroisopropyl)ether		5IU
106-44-5	4-Methylphenol		5IU
621-64-7	N-Nitroso-di-n-propylamine		5IU
67-72-1	Hexachloroethane		5IU
98-95-3	Nitrobenzene		5IU
78-59-1	Isophorone		5IU
88-75-5	2-Nitrophenol		5IU
105-67-9	2,4-Dimethylphenol		5IU
65-85-0	Benzoic acid		25IU
111-91-1	bis(2-Chloroethoxy)methane		5IU
120-83-2	2,4-Dichlorophenol		5IU
120-82-1	1,2,4-Trichlorobenzene		5IU
91-20-3	Naphthalene		5IU
106-47-8	4-Chloroaniline		5IU
87-68-3	Hexachlorobutadiene		5IU
59-50-7	4-Chloro-3-methylphenol		5IU
91-57-6	2-Methylnaphthalene		5IU
77-47-4	Hexachlorocyclopentadiene		5IU
88-06-2	2,4,6-Trichlorophenol		5IU
95-95-4	2,4,5-Trichlorophenol		25IU
91-58-7	2-Chloronaphthalene		5IU
88-74-4	2-Nitroaniline		25IU
131-11-3	Dimethylphthalate		5IU
208-96-8	Acenaphthylene		5IU
606-20-2	2,6-Dinitrotoluene		5IU

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178073

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: 04477-04

Sample wt/vol: 1000.(g/ml)ML Lab File ID: >LE031::L2

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ dec. __ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEFF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
99-09-2	3-Nitroaniline	25IU	
83-32-9	Acenaphthene	5IU	
51-28-5	2,4-Dinitrophenol	25IU	
100-02-7	4-Nitrophenol	25IU	
132-64-9	Dibenzofuran	5IU	
121-14-2	2,4-Dinitrotoluene	5IU	
84-66-2	Diethylphthalate	5IU	
7005-72-3	4-Chlorophenyl-phenylether	5IU	
86-73-7	Fluorene	5IU	
100-01-6	4-Nitroaniline	25IU	
534-52-1	4,6-Dinitro-2-methylphenol	25IU	
86-30-6	N-Nitrosodiphenylamine (1)	5IU	
101-55-3	4-Bromophenyl-phenylether	5IU	
118-74-1	Hexachlorobenzene	5IU	
87-86-5	Pentachlorophenol	25IU	
85-01-8	Phenanthrene	5IU	
120-12-7	Anthracene	5IU	
84-74-2	Di-n-butylphthalate	5IU	
206-44-0	Fluoranthene	5IU	
129-00-0	Pyrene	5IU	
85-68-7	Butylbenzylphthalate	5IU	
91-94-1	3,3'-Dichlorobenzidine	10IU	
56-55-3	Benzo(a)anthracene	5IU	
218-01-9	Chrysene	5IU	
117-81-7	bis(2-Ethylhexyl)phthalate	10IU	
117-84-0	Di-n-octylphthalate	5IU	
205-99-2	Benzo(b)fluoranthene	5IU	
207-08-9	Benzo(k)fluoranthene	5IU	
50-32-8	Benzo(a)pyrene	5IU	
193-39-5	Indeno(1,2,3-cd)pyrene	5IU	
53-70-3	Dibenzo(a,h)anthracene	5IU	
191-24-2	Benzo(g,h,i)perylene	5IU	

(1) - Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

178073

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS Case No.: 04477

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 04477-04

Sample wt/vol: 1000. (g/ml) ML

Lab File ID: >LE031::LB

Level: (low/med) LDW

Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___

Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEFF

Date Analyzed: 05/02/91

GPC Cleanup: (Y/N) N

pH: 0.0

Dilution Factor: 1.0

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

Number TICs found: 0

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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178074

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS Case No.: 04477

SAS No.: _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: 04477-05

Sample wt/vol: 1000.(g/ml)ML

Lab File ID: >LE032::L8

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___

Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/02/91

GFC Cleanup: (Y/N)N pH: 0.0

Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg)UG/L Q

108-95-2	Phenol	5	U
111-44-4	bis(2-Chloroethyl)ether	5	U
95-57-8	2-Chlorophenol	5	U
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	25	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	25	U
91-58-7	2-Chloronaphthalene	5	U
88-74-4	2-Nitroaniline	25	U
131-11-3	Dimethylphthalate	5	U
208-96-8	Acenaphthylene	5	U
606-20-2	2,6-Dinitrotoluene	5	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178074

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 04477-05

Sample wt/vol: 1000. (g/ml) ML Lab File ID: >LE032::L8

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	25	U
83-32-9	Acenaphthene	5	U
51-28-5	2,4-Dinitrophenol	25	U
100-02-7	4-Nitrophenol	25	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	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	N-Nitrosodiphenylamine (1)	5	U
101-55-3	4-Bromophenyl-phenylether	5	U
118-74-1	Hexachlorobenzene	5	U
87-86-5	Pentachlorophenol	25	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
95-68-7	Butylbenzylphthalate	5	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	5	U
218-01-9	Chrysene	5	U
117-81-7	bis(2-Ethylhexyl)phthalate	6	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

(1) - Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

179074

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS Case No.: 04477

SAS No.: _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: 04477-05

Sample wt/vol: 1000.(g/ml)ML

Lab File ID: >LE032::L8

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __ dec. __

Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH: 0.0

Dilution Factor: 1.0

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

Number TICs found: 0

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.				

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178070MSD

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 04477-01MSD

Sample wt/vol: 1000. (g/ml) ML Lab File ID: >LE028::L8

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N) N pH: 0.0 Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	5IU	NR L
111-44-4	bis(2-Chloroethyl) ether	5IU	
95-57-8	2-Chlorophenol	5IU	NR L
541-73-1	1,3-Dichlorobenzene	5IU	
106-46-7	1,4-Dichlorobenzene	5IU	NR L
100-51-6	Benzyl alcohol	5IU	
95-50-1	1,2-Dichlorobenzene	5IU	
95-48-7	2-Methylphenol	5IU	
108-60-1	bis(2-Chloroisopropyl) ether	5IU	
106-44-5	4-Methylphenol	5IU	
621-64-7	N-Nitroso-di-n-propylamine	5IU	NR L
67-72-1	Hexachloroethane	5IU	
98-95-3	Nitrobenzene	5IU	
78-59-1	Isophorone	5IU	
88-75-5	2-Nitrophenol	5IU	
105-67-9	2,4-Dimethylphenol	5IU	
65-85-0	Benzoic acid	25IU	
111-91-1	bis(2-Chloroethoxy) methane	5IU	
120-83-2	2,4-Dichlorophenol	5IU	
120-82-1	1,2,4-Trichlorobenzene	5IU	NR L
91-20-3	Naphthalene	5IU	
106-47-8	4-Chloroaniline	5IU	
87-68-3	Hexachlorobutadiene	5IU	
59-50-7	4-Chloro-3-methylphenol	5IU	NR L
91-57-6	2-Methylnaphthalene	5IU	
77-47-4	Hexachlorocyclopentadiene	5IU	
88-06-2	2,4,6-Trichlorophenol	5IU	
95-95-4	2,4,5-Trichlorophenol	25IU	
91-58-7	2-Chloronaphthalene	5IU	
88-74-4	2-Nitroaniline	25IU	
131-11-3	Dimethylphthalate	5IU	
208-96-8	Acenaphthylene	5IU	
606-20-2	2,6-Dinitrotoluene	5IU	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178070MSD

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS Case No.: 04477

SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: 04477-01MSD

Sample wt/vol: 1000.(g/ml)ML

Lab File ID: >LE028::L8

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___

Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH: 0.0

Dilution Factor: 1

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

CAS NO.	COMPOUND	Q
99-09-2	3-Nitroaniline	25IU
83-32-9	Acenaphthene	5IU NR L
51-28-5	2,4-Dinitrophenol	25IU
100-02-7	4-Nitrophenol	25IU NR L
132-64-9	Dibenzofuran	5IU
121-14-2	2,4-Dinitrotoluene	5IU NR L
84-66-2	Diethylphthalate	5IU
7005-72-3	4-Chlorophenyl-phenylether	5IU
86-73-7	Fluorene	5IU
100-01-6	4-Nitroaniline	25IU
534-52-1	4,6-Dinitro-2-methylphenol	25IU
86-30-6	N-Nitrosodiphenylamine (1)	5IU
101-55-3	4-Bromophenyl-phenylether	5IU
118-74-1	Hexachlorobenzene	5IU
87-86-5	Pentachlorophenol	25IU NR L
85-01-8	Phenanthrene	5IU
120-12-7	Anthracene	5IU
84-74-2	Di-n-butylphthalate	5IU
206-44-0	Fluoranthene	5IU
129-00-0	Pyrene	5IU NR L
85-68-7	Butylbenzylphthalate	5IU
91-94-1	3,3'-Dichlorobenzidine	10IU
56-55-3	Benzo(a)anthracene	5IU
218-01-9	Chrysene	5IU
117-81-7	bis(2-Ethylhexyl)phthalate	5IU
117-84-0	Di-n-octylphthalate	5IU
205-99-2	Benzo(b)fluoranthene	5IU
207-08-9	Benzo(k)fluoranthene	5IU
50-32-8	Benzo(a)pyrene	5IU
193-39-5	Indeno(1,2,3-cd)pyrene	5IU
53-70-3	Dibenzo(a,h)anthracene	5IU
191-24-2	Benzo(g,h,i)perylene	5IU

(1) - Cannot be separated from diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178070MS

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 04477-01MS

Sample wt/vol: 1000. (g/ml) ML Lab File ID: >LE027::LB

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	5IU NR	Sm
111-44-4	bis(2-Chloroethyl) ether	5IU	
95-57-8	2-Chlorophenol	5IU NR	Sm
541-73-1	1,3-Dichlorobenzene	5IU	
106-46-7	1,4-Dichlorobenzene	5IU NR	Sm
100-51-6	Benzyl alcohol	5IU	
95-50-1	1,2-Dichlorobenzene	5IU	
95-48-7	2-Methylphenol	5IU	
108-60-1	bis(2-Chloroisopropyl) ether	5IU	
106-44-5	4-Methylphenol	5IU	
621-64-7	N-Nitroso-di-n-propylamine	5IU NR	Sm
67-72-1	Hexachloroethane	5IU	
98-95-3	Nitrobenzene	5IU	
78-59-1	Isophorone	5IU	
88-75-5	2-Nitrophenol	5IU	
105-67-9	2,4-Dimethylphenol	5IU	
65-85-0	Benzoic acid	25IU	
111-91-1	bis(2-Chloroethoxy) methane	5IU	
120-83-2	2,4-Dichlorophenol	5IU	
120-82-1	1,2,4-Trichlorobenzene	5IU NR	Sm
91-20-3	Naphthalene	5IU	
106-47-8	4-Chloroaniline	5IU	
87-68-3	Hexachlorobutadiene	5IU	
59-50-7	4-Chloro-3-methylphenol	5IU NR	Sm
91-57-6	2-Methylnaphthalene	5IU	
77-47-4	Hexachlorocyclopentadiene	5IU	
88-06-2	2,4,6-Trichlorophenol	5IU	
95-95-4	2,4,5-Trichlorophenol	25IU	
91-58-7	2-Chloronaphthalene	5IU	
88-74-4	2-Nitroaniline	25IU	
131-11-3	Dimethylphthalate	5IU	
208-96-8	Acenaphthylene	5IU	
606-20-2	2,6-Dinitrotoluene	5IU	

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

178070MS

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: 04477-01MS

Sample wt/vol: 1000. (g/ml)ML Lab File ID: >LE027::L8

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91

GFC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

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

CAS NO.	COMPOUND	Q
99-09-2	3-Nitroaniline	25IU
83-32-9	Acenaphthene	5IU NR dx
51-28-5	2,4-Dinitrophenol	25IU
100-02-7	4-Nitrophenol	25IU NR dx
132-64-9	Dibenzofuran	5IU
121-14-2	2,4-Dinitrotoluene	5IU NR dx
84-66-2	Diethylphthalate	5IU
7005-72-3	4-Chlorophenyl-phenylether	5IU
86-73-7	Fluorene	5IU
100-01-6	4-Nitroaniline	25IU
534-52-1	4,6-Dinitro-2-methylphenol	25IU
86-30-6	N-Nitrosodiphenylamine (1)	5IU
101-55-3	4-Bromophenyl-phenylether	5IU
118-74-1	Hexachlorobenzene	5IU
87-86-5	Pentachlorophenol	25IU NR dx
85-01-8	Phenanthrene	5IU
120-12-7	Anthracene	5IU
84-74-2	Di-n-butylphthalate	5IU
206-44-0	Fluoranthene	5IU
129-00-0	Pyrene	5IU NR dx
85-68-7	Butylbenzylphthalate	5IU
91-94-1	3,3'-Dichlorobenzidine	10IU
56-55-3	Benzo(a)anthracene	5IU
218-01-9	Chrysene	5IU
117-81-7	bis(2-Ethylhexyl)phthalate	5IU
117-84-0	Di-n-octylphthalate	5IU
205-99-2	Benzo(b)fluoranthene	5IU
207-08-9	Benzo(k)fluoranthene	5IU
50-32-8	Benzo(a)pyrene	5IU
193-39-5	Indeno(1,2,3-cd)pyrene	5IU
53-70-3	Dibenzo(a,h)anthracene	5IU
191-24-2	Benzo(g,h,i)perylene	5IU

(1) - Cannot be separated from diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SELK1

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: B0426MSVWLE

Sample wt/vol: 1000. (g/ml)ML Lab File ID: >LE025::L8

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. ___ dec. ___ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEFF Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)UG/L	Q
108-95-2	Phenol		5IU
111-44-4	bis(2-Chloroethyl)ether		5IU
95-57-8	2-Chlorophenol		5IU
541-73-1	1,3-Dichlorobenzene		5IU
106-46-7	1,4-Dichlorobenzene		5IU
100-51-6	Benzyl alcohol		5IU
95-50-1	1,2-Dichlorobenzene		5IU
95-48-7	2-Methylphenol		5IU
108-60-1	bis(2-Chloroisopropyl)ether		5IU
106-44-5	4-Methylphenol		5IU
621-64-7	N-Nitroso-di-n-propylamine		5IU
67-72-1	Hexachloroethane		5IU
98-95-3	Nitrobenzene		5IU
78-59-1	Isophorone		5IU
88-75-5	2-Nitrophenol		5IU
105-67-9	2,4-Dimethylphenol		5IU
65-85-0	Benzoic acid		25IU
111-91-1	bis(2-Chloroethoxy)methane		5IU
120-83-2	2,4-Dichlorophenol		5IU
120-82-1	1,2,4-Trichlorobenzene		5IU
91-20-3	Naphthalene		5IU
106-47-8	4-Chloroaniline		5IU
87-68-3	Hexachlorobutadiene		5IU
59-50-7	4-Chloro-3-methylphenol		5IU
91-57-6	2-Methylnaphthalene		5IU
77-47-4	Hexachlorocyclopentadiene		5IU
88-06-2	2,4,6-Trichlorophenol		5IU
95-95-4	2,4,5-Trichlorophenol		25IU
91-58-7	2-Chloronaphthalene		5IU
88-74-4	2-Nitroaniline		25IU
131-11-3	Dimethylphthalate		5IU
208-96-8	Acenaphthylene		5IU
606-20-2	2,6-Dinitrotoluene		5IU

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

SELK1

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: LAUCKS Case No.: 04477 SAS No.: _____ SDG No.: _____

Matrix: (soil/water)WATER Lab Sample ID: B0426MSVWLE

Sample wt/vol: 1000.(g/ml)ML Lab File ID: >LE025::LB

Level: (low/med) LOW Date Received: 04/25/91

% Moisture: not dec. __ dec. __ Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/02/91

GFC Cleanup: (Y/N)N pH: 0.0 Dilution Factor: 1

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

CAS NO.	COMPOUND	0
99-09-2	3-Nitroaniline	25IU
83-32-9	Acenaphthene	5IU
51-28-5	2,4-Dinitrophenol	25IU
100-02-7	4-Nitrophenol	25IU
132-64-9	Dibenzofuran	5IU
121-14-2	2,4-Dinitrotoluene	5IU
84-66-2	Diethylphthalate	5IU
7005-72-3	4-Chlorophenyl-phenylether	5IU
86-73-7	Fluorene	5IU
100-01-6	4-Nitroaniline	25IU
534-52-1	4,6-Dinitro-2-methylphenol	25IU
86-30-6	N-Nitrosodiphenylamine (1)	5IU
101-55-3	4-Bromophenyl-phenylether	5IU
118-74-1	Hexachlorobenzene	5IU
87-86-5	Pentachlorophenol	25IU
85-01-8	Phenanthrene	5IU
120-12-7	Anthracene	5IU
84-74-2	Di-n-butylphthalate	5IU
206-44-0	Fluoranthene	5IU
129-00-0	Pyrene	5IU
85-68-7	Butylbenzylphthalate	5IU
91-94-1	3,3'-Dichlorobenzidine	10IU
56-55-3	Benzo(a)anthracene	5IU
218-01-9	Chrysene	5IU
117-81-7	bis(2-Ethylhexyl)phthalate	5IU
117-84-0	Di-n-octylphthalate	5IU
205-99-2	Benzo(b)fluoranthene	5IU
207-08-9	Benzo(k)fluoranthene	5IU
50-32-8	Benzo(a)pyrene	5IU
193-39-5	Indeno(1,2,3-cd)pyrene	5IU
53-70-3	Dibenzo(a,h)anthracene	5IU
191-24-2	Benzo(g,h,i)perylene	5IU

(1) - Cannot be separated from diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

SELKLI

Lab Name: Laucks Testing Labs

Contract: _____

Lab Code: LAUCKS Case No.: 04477

SAS No.: _____

SDG No.: _____

Matrix: (soil/water)WATER

Lab Sample ID: B0426MSVWLE

Sample wt/vol: 1000.(g/ml)ML

Lab File ID: >LE025::L8

Level: (low/med) LOW

Date Received: 04/25/91

% Moisture: not dec. __ dec. __

Date Extracted: 04/26/91

Extraction: (SepF/Cont/Sonc) SEFF

Date Analyzed: 05/02/91

GPC Cleanup: (Y/N)N

pH: 0.0

Dilution Factor: 1.0

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

Number TICs found: 0

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.				

Laucks Testing Laboratories
Surrogate Recovery Summary Report

Matrix: WATER

Lab Sample ID	Client Sample ID	Surr 1 #	Surr 2 #	Surr 3 #	Surr 4 #	
01 B04196PXWLU		80	100	89	110	in
02 B04296PXWLU	(internal blank) in	79	100	93	110	
03 9104172-17	B-13	75	110	95	120	in
04 9104172-18	B-3	77	100	100	130	in
05 9104172-19	B-1	84	120	81	140	in
06 9104172-20	B-7A	87	110	100	120	in
07 9104477-01	178070 Toftdahl	81	110	94	120	
08 9104477-02	178071 Toftdahl	81	100	99	120	
09 9104477-04	178073 Toftdahl	88	100	100	120	
10 9104477-05	178074 Toftdahl	77	110	97	120	
11 9104477-03	178072 Toftdahl	89	110	98	120	
12 9104477-03MS	178072 ToftdahlMS	85	110	100	110	
13 9104477-03MD	178072 ToftdahlMD	87	100	99	110	

} Samples from
Another project

Surr No.	Compound Name	Rec. Cont Lim
		LCL UCL
1	Isodrin	27 123
2	Dibutylchloroendate	25 140
3	Tetrachloro- <i>m</i> -xylene	50 150
4	Decachlorobiphenyl	60 150

* = values outside of recovery limits
D = surrogate diluted out

MS/MSD Report

Report on spike sample K051391_GFXW02

Description : Pesticides/PCBs
 Spike Sample: 9104477-03
 Matrix : WATER

Analyte	Matrix Spike Added	Data Sample Conc	MS Conc	% MS Rec	Recovery Limits
Lindane	0.200	0	0.100	50	20-102
Heptachlor	0.200	0	0.160	80	30-111
Aldrin	0.200	0	0.160	80	29-106
Dieldrin	0.500	0	0.450	90	45-123
Endrin	0.500	0	0.590	118	44-127
4,4'-DDT	0.500	0	0.520	104	20-160

Matrix Spike Duplicate Data

Analyte	Spike Added	MSD Conc	% MSD Rec	RFD	Control Limits Recov	RFD
Lindane	0.200	0.110	55	10	20-102	39
Heptachlor	0.200	0.160	80	0	30-111	43
Aldrin	0.200	0.170	85	6	29-106	50
Dieldrin	0.500	0.470	94	4	45-123	37
Endrin	0.500	0.620	124	5	44-127	50
4,4'-DDT	0.500	0.550	110	6	20-160	40

Work Orders Verified

9104477 1A-5A

Comments

Luucks Testing Laboratories
Organics Analysis Data Sheet

Lab Sample ID : 9104477-01
Client ID : 178070 Toftdahl

Matrix : WATER
Reporting Units: ug/L

Collection Date: 04/23/91
Date Received : 04/25/91
Ext Started : 04/29/91
Ext Completed : 04/29/91
Date Analyzed : 05/04/91
Date Confirmed : 05/04/91
Dil Factor : 1.0

Sample Size : 100 ml
Final Ext Vol : 1.0
Percent Moist : 100

CAS No.	Compound	Result	SDL	MDL	Sample CRQL Reports
319846	Alpha-BHC	0.050U	0.050	0.050	0.050
319857	Beta-BHC	0.050U	0.050	0.050	0.050
58899	Gamma-BHC	0.050U	0.050	0.050	0.050
319868	Delta-BHC	0.050U	0.050	0.050	0.050
76448	Heptachlor	0.050U	0.050	0.050	0.050
309002	Aldrin	0.050U	0.050	0.050	0.050
1024573	Heptachlor Epoxide	0.050U	0.050	0.050	0.050
5103742	Gamma-Chlordane	0.500U	0.50	0.50	0.50
959988	Endosulfan I	0.050U	0.050	0.050	0.050
5103719	Alpha-Chlordane	0.500U	0.50	0.50	0.50
72559	DDE	0.100U	0.10	0.10	0.10
60571	Dieldrin	0.100U	0.10	0.10	0.10
72208	Endrin	0.100U	0.10	0.10	0.10
33213659	Endosulfan II	0.100U	0.10	0.10	0.10
72548	DDD	0.100U	0.10	0.10	0.10
7421363	Endrin Aldehyde	0.100U	0.10	0.10	0.10
1031078	Endosulfan Sulfate	0.100U	0.10	0.10	0.10
50293	DDT	0.100U	0.10	0.10	0.10
53494705	Endrin Ketone	0.100U	0.10	0.10	0.10
72435	Methoxychlor	0.500U	0.50	0.50	0.50

Surrogate recovery report for sample 9104477-01

Surrogate	Percent Recovery	Limits:	
		Min.	Max.
Isodrin	81	27	123
Dibutylchloroendate	6 110	25	140
Tetrachloro-p-xylene	70 72	60	150
Decachlorobiphenyl	120	60	150

* = Recovery is outside control limits

Form OADS 6C

000234

Laucks Testing Laboratories
Organics Analysis Data Sheet

Lab Sample ID : 9104477-02
Client ID : 178071 Toftdahl

Matrix : WATER	Collection Date: 04/23/91
Reporting Units: ug/L	Date Received : 04/25/91
	Ext Started : 04/29/91
Sample Size : 100 ml	Ext Completed : 04/29/91
Final Ext Vol : 1.0	Date Analyzed : 05/04/91
Percent Moist : 100	Date Confirmed : 05/04/91
	Dil Factor : 1.0

CAS No.	Compound	Result	SDL	MDL	Sample CRL Reports
319846	Alpha-BHC	0.050U	0.050	0.050	0.050
319857	Beta-BHC	0.050U	0.050	0.050	0.050
58899	Gamma-BHC	0.050U	0.050	0.050	0.050
319868	Delta-BHC	0.050U	0.050	0.050	0.050
76448	Heptachlor	0.050U	0.050	0.050	0.050
309002	Aldrin	0.050U	0.050	0.050	0.050
1024573	Heptachlor Epoxide	0.050U	0.050	0.050	0.050
5103742	Gamma-Chlordane	0.500U	0.50	0.50	0.50
959988	Endosulfan I	0.050U	0.050	0.050	0.050
5103719	Alpha-Chordane	0.500U	0.50	0.50	0.50
72559	DDE	0.100U	0.10	0.10	0.10
60571	Dieldrin	0.100U	0.10	0.10	0.10
72208	Endrin	0.100U	0.10	0.10	0.10
33213659	Endosulfan II	0.100U	0.10	0.10	0.10
72548	DDD	0.100U	0.10	0.10	0.10
7421363	Endrin Aldehyde	0.100U	0.10	0.10	0.10
1031078	Endosulfan Sulfate	0.100U	0.10	0.10	0.10
50293	DDT	0.100U	0.10	0.10	0.10
53494705	Endrin Ketone	0.100U	0.10	0.10	0.10
72435	Methoxychlor	0.500U	0.50	0.50	0.50

Surrogate recovery report for sample 9104477-02

Surrogate	Percent Recovery	Limits: Min. Max.
Isodrin	81	27 123
Dibutylchloroendate	104	25 140
Tetrachloro-m-xylene	73	60 150
Decachlorobiphenyl	116	60 150

* = Recovery is outside control limits

Form OADS 6C

Laucks Testing Laboratories
Organics Analysis Data Sheet

Lab Sample ID : 9104477-03
Client ID : 178072 Toftdahl

Matrix : WATER
Reporting Units: ug/L
Collection Date: 04/23/91
Date Received : 04/25/91
Ext Started : 04/29/91
Sample Size : 100 ml
Ext Completed : 04/29/91
Final Ext Vol : 1.0
Date Analyzed : 05/04/91
Percent Moist : 100
Date Confirmed : 05/04/91
Dil Factor : 1.0

CAS No.	Compound	Result	SDL	MDL	Sample
					CRQL Reports
319846	Alpha-BHC	0.050U	0.050	0.050	0.050
319857	Beta-BHC	0.050U	0.050	0.050	0.050
58899	Gamma-BHC	0.050U	0.050	0.050	0.050
319868	Delta-BHC	0.050U	0.050	0.050	0.050
76448	Heptachlor	0.050U	0.050	0.050	0.050
309002	Aldrin	0.050U	0.050	0.050	0.050
1024573	Heptachlor Epoxide	0.050U	0.050	0.050	0.050
5103742	Gamma-Chlordane	0.500U	0.50	0.50	0.50
959980	Endosulfan I	0.050U	0.050	0.050	0.050
5103719	Alpha-Chordane	0.500U	0.50	0.50	0.50
72559	DBE	0.100U	0.10	0.10	0.10
60571	Dieldrin	0.100U	0.10	0.10	0.10
72208	Endrin	0.100U	0.10	0.10	0.10
33213659	Endosulfan II	0.100U	0.10	0.10	0.10
72548	DDD	0.100U	0.10	0.10	0.10
7421363	Endrin Aldehyde	0.100U	0.10	0.10	0.10
1031078	Endosulfan Sulfate	0.100U	0.10	0.10	0.10
50293	DDT	0.100U	0.10	0.10	0.10
53494705	Endrin Ketone	0.100U	0.10	0.10	0.10
72435	Methoxychlor	0.500U	0.50	0.50	0.50

Surrogate recovery report for sample 9104477-03

Surrogate	Percent Recovery	Limits:	
		Min.	Max.
Isodrin	89	27	123
Dibutylchloroendate	106	40	140
Tetrachloro-m-xylene	77	98	60 150
Decachlorobiphenyl	118	120	60 150

* = Recovery is outside control limits

Form OADS GC

Lauchs Testing Laboratories
Organics Analysis Data Sheet

Lab Sample ID : 9104477-04
Client ID : 178073 Toftdahl

Matrix : WATER
Reporting Units: ug/L
Sample Size : 100 al
Final Ext Vol : 1.0
Percent Moist : 100

Collection Date: 04/23/91
Date Received : 04/25/91
Ext Started : 04/29/91
Ext Completed : 04/29/91
Date Analyzed : 05/04/91
Date Confirmed : 05/04/91
Dil Factor : 1.0

CAS No.	Compound	Result	SDL	MDL	CRQL	Sample Reports
319846	Alpha-BHC	0.050U	0.050	0.050	0.050	
319857	Beta-BHC	0.050U	0.050	0.050	0.050	
58899	Gamma-BHC	0.050U	0.050	0.050	0.050	
319868	Delta-BHC	0.050U	0.050	0.050	0.050	
76448	Heptachlor	0.050U	0.050	0.050	0.050	
309002	Aldrin	0.050U	0.050	0.050	0.050	
1024573	Heptachlor Epoxide	0.050U	0.050	0.050	0.050	
5103742	Gamma-Chlordane	0.500U	0.50	0.50	0.50	
959988	Endosulfan I	0.050U	0.050	0.050	0.050	
5103719	Alpha-Chordane	0.500U	0.50	0.50	0.50	
72559	DDE	0.100U	0.10	0.10	0.10	
60571	Dieldrin	0.100U	0.10	0.10	0.10	
72208	Endrin	0.100U	0.10	0.10	0.10	
33213659	Endosulfan II	0.100U	0.10	0.10	0.10	
72548	DDD	0.100U	0.10	0.10	0.10	
7421363	Endrin Aldehyde	0.100U	0.10	0.10	0.10	
1031078	Endosulfan Sulfate	0.100U	0.10	0.10	0.10	
50293	DDT	0.100U	0.10	0.10	0.10	
53494705	Endrin Ketone	0.100U	0.10	0.10	0.10	
72435	Methoxychlor	0.500U	0.50	0.50	0.50	

Surrogate recovery report for sample 9104477-04

Surrogate	Percent Recovery		Limits:	
	Min.	Max.	Min.	Max.
Isodrin	88	27	27	123
Dibutylchlorandate	105	100	25	140
Tetrachloro-o-xylene	79	100	60	150
Decachlorobiphenyl	119	120	60	150

* = Recovery is outside control limits

Form OADS 6C

000271

Luucks Testing Laboratories
Organics Analysis Data Sheet

Lab Sample ID : 9104477-05
Client ID : 179074 Toftdahl

Matrix : WATER
Reporting Units: ug/L

Sample Size : 100 ml
Final Ext Vol : 1.0
Percent Moist : 100

Collection Date: 04/23/91
Date Received : 04/25/91
Ext Started : 04/29/91
Ext Completed : 04/29/91
Date Analyzed : 05/04/91
Date Confirmed : 05/04/91
Dil Factor : 1.0

CAS No.	Compound	Result	SDL	MDL	Sample CRQL Reports
319846	Alpha-BHC	0.050U	0.050	0.050	0.050
319857	Beta-BHC	0.050U	0.050	0.050	0.050
58899	Gamma-BHC	0.050U	0.050	0.050	0.050
319868	Delta-BHC	0.050U	0.050	0.050	0.050
76448	Heptachlor	0.050U	0.050	0.050	0.050
309002	Aldrin	0.050U	0.050	0.050	0.050
1024573	Heptachlor Epoxide	0.050U	0.050	0.050	0.050
5103742	Gamma-Chlordane	0.500U	0.50	0.50	0.50
959988	Endosulfan I	0.050U	0.050	0.050	0.050
5103719	Alpha-Chordane	0.500U	0.50	0.50	0.50
72559	DDE	0.100U	0.10	0.10	0.10
60571	Dieldrin	0.100U	0.10	0.10	0.10
72208	Endrin	0.100U	0.10	0.10	0.10
33213659	Endosulfan II	0.100U	0.10	0.10	0.10
72548	DDD	0.100U	0.10	0.10	0.10
7421363	Endrin Aldehyde	0.100U	0.10	0.10	0.10
1031078	Endosulfan Sulfate	0.100U	0.10	0.10	0.10
50293	DDT	0.100U	0.10	0.10	0.10
53494705	Endrin Ketone	0.100U	0.10	0.10	0.10
72435	Methoxychlor	0.500U	0.50	0.50	0.50

Surrogate recovery report for sample 9104477-05

Surrogate	Percent Recovery	Limits:	
		Min.	Max.
Isodrin	77	27	123
Dibutylchlorodane	109 110	25	140
Tetrachloro-m-xylene	68 97	60	150
Decachlorobiphenyl	123 120	60	150

* = Recovery is outside control limits

Form OADS GC

000284

Luucke Testing Laboratories
Organics Analysis Data Sheet

Lab Sample ID : B04296FXWLU
Client ID :

Method blank *SM*

Matrix : WATER
Reporting Units: ug/L

Collection Date:
Date Received :
Ext Started : 04/29/91
Ext Completed : 04/29/91
Date Analyzed : 05/04/91
Date Confirmed : 05/04/91
Dil Factor : 1.0

Sample Size : 100 ml
Final Ext Vol : 1.0
Percent Moist : 100

CAS No.	Compound	Result	SDL	MDL	Sample CRQL Reports
319846	Alpha-BHC	0.0500	0.050	0.050	0.050
319857	Beta-BHC	0.0500	0.050	0.050	0.050
58899	Gamma-BHC	0.0500	0.050	0.050	0.050
319868	Delta-BHC	0.0500	0.050	0.050	0.050
76448	Heptachlor	0.0500	0.050	0.050	0.050
309002	Aldrin	0.0500	0.050	0.050	0.050
1024573	Heptachlor Epoxide	0.0500	0.050	0.050	0.050
5103742	Gamma-Chlordane	0.5000	0.50	0.50	0.50
959988	Endosulfan I	0.0500	0.050	0.050	0.050
5103719	Alpha-Chordane	0.5000	0.50	0.50	0.50
72559	DDE	0.1000	0.10	0.10	0.10
60571	Dieldrin	0.1000	0.10	0.10	0.10
72208	Endrin	0.1000	0.10	0.10	0.10
33213659	Endosulfan II	0.1000	0.10	0.10	0.10
72548	DDD	0.1000	0.10	0.10	0.10
7421363	Endrin Aldehyde	0.1000	0.10	0.10	0.10
1031078	Endosulfan Sulfate	0.1000	0.10	0.10	0.10
50293	DDT	0.1000	0.10	0.10	0.10
53494705	Endrin Ketone	0.1000	0.10	0.10	0.10
72435	Methoxychlor	0.5000	0.50	0.50	0.50

Surrogate recovery report for sample B04296FXWLU

Surrogate	Percent Recovery	Limits:	
		Min.	Max.
Isodrin	79	27	123
Dibutylchloroendate	100	25	140
Tetrachloro-p-xylene	93	60	150
Decachlorobiphenyl	110	60	150

* = Recovery is outside control limits

Lauck's Testing Laboratories
Organics Analysis Data Sheet

Lab Sample ID : 9104477-03MS
Client ID : 178072 ToftdahlMS

Matrix : WATER	Collection Date: 04/23/91
Reporting Units: ug/L	Date Received : 04/25/91
	Ext Started : 04/29/91
Sample Size : 100 ml	Ext Completed : 04/29/91
Final Ext Vol : 1.0	Date Analyzed : 05/04/91
Percent Moist : 100	Date Confirmed : 05/04/91
	Dil Factor : 1.0

CAS No.	Compound	Result	SDL	MDL	Sample CRQL Reports
319846	Alpha-BHC	0.050U	0.050	0.050	0.050
319857	Beta-BHC	0.050U	0.050	0.050	0.050
58899	Gamma-BHC	0.170	0.050	0.050	0.050
319868	Delta-BHC	0.050U	0.050	0.050	0.050
76448	Heptachlor	0.230	0.050	0.050	0.050
309002	Aldrin	0.160	0.050	0.050	0.050
1024573	Heptachlor Epoxide	0.050U	0.050	0.050	0.050
5103742	Gamma-Chlordane	0.500U	0.50	0.50	0.50
959988	Endosulfan I	0.050U	0.050	0.050	0.050
5103719	Alpha-Chordane	0.500U	0.50	0.50	0.50
72559	DDE	0.100U	0.10	0.10	0.10
60571	Dieldrin	0.450	0.10	0.10	0.10
72208	Endrin	0.590	0.10	0.10	0.10
33213659	Endosulfan II	0.100U	0.10	0.10	0.10
72548	DDD	0.100U	0.10	0.10	0.10
7421363	Endrin Aldehyde	0.100U	0.10	0.10	0.10
1031078	Endosulfan Sulfate	0.100U	0.10	0.10	0.10
50293	DDT	0.520	0.10	0.10	0.10
53494705	Endrin Ketone	0.100U	0.10	0.10	0.10
72435	Methoxychlor	0.500U	0.50	0.50	0.50

Surrogate recovery report for sample 9104477-03M

Surrogate	Percent Recovery	Limits:	
		Min.	Max.
Isodrin	95	27	123
Dibutylchloroendate	110	25	140
Tetrachloro-m-xylene	100	60	150
Decachlorobiphenyl	110	60	150

* = Recovery is outside control limits

For: DADS GC

Laucks Testing Laboratories
Organics Analysis Data Sheet

Lab Sample ID : 9104477-03MD
Client ID : 176072 ToftdahlMD

Matrix : WATER
Reporting Units: ug/L

Collection Date:
Date Received : 04/25/91
Ext Started : 04/29/91
Ext Completed : 04/29/91
Date Analyzed : 05/04/91
Date Confirmed : 05/04/91
Dil Factor : 1.0

Sample Size : 100 ml
Final Ext Vol : 1.0
Percent Moist : 100

CAS No.	Compound	Result	SDL	MDL	Sample CRQL Reports
319846	Alpha-BHC	0.050U	0.050	0.050	0.050
319857	Beta-BHC	0.050U	0.050	0.050	0.050
58899	Gamma-BHC	0.180	0.050	0.050	0.050
319868	Delta-BHC	0.050U	0.050	0.050	0.050
76448	Heptachlor	0.230	0.050	0.050	0.050
309002	Aldrin	0.170	0.050	0.050	0.050
1024573	Heptachlor Epoxide	0.050U	0.050	0.050	0.050
5103742	Gamma-Chlordane	0.500U	0.50	0.50	0.50
959988	Endosulfan I	0.050U	0.050	0.050	0.050
5103719	Alpha-Chordane	0.500U	0.50	0.50	0.50
72559	DDE	0.100U	0.10	0.10	0.10
60571	Dieldrin	0.470	0.10	0.10	0.10
72208	Endrin	0.620	0.10	0.10	0.10
33213659	Endosulfan II	0.100U	0.10	0.10	0.10
72548	DDD	0.100U	0.10	0.10	0.10
7421363	Endrin Aldehyde	0.100U	0.10	0.10	0.10
1031078	Endosulfan Sulfate	0.100U	0.10	0.10	0.10
50293	DDT	0.550	0.10	0.10	0.10
53494705	Endrin Ketone	0.100U	0.10	0.10	0.10
72435	Methoxychlor	0.500U	0.50	0.50	0.50

Surrogate recovery report for sample 9104477-03M

Surrogate	Percent Recovery	Limits:	
		Min.	Max.
Isodrin	87	27	123
Dibutylchloroendate	100	25	140
Tetrachloro-m-xylene	99	60	150
Decachlorobiphenyl	110	60	150

* = Recovery is outside control limits

Form OAES BC

000470