110425

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2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 5100Z1 (CCV4)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/l	50.5 ug/l	101.0%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: Medina C. Schuyler-Bahr Date: 11/6/92

Supervisor: Earl G. Ahmadi Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 510022 (CCV5)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/l	53.5 ug/l	107.0%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

10-21-92 ASW

Blk 2966

ANALYSIS Run: 10000324 Method: F Date: 10-21-92
RUN LOG By: egs Instr.ID: 510021 Time: 14:47

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129913		ASGW	2.6000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
2	129914		ASGW	0.5000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
3	129915		ASGW	-0.4000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
4	129916		ASGW	0.2000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
5	129918		ASGW	86.9000			1.0000	1.0000	1.0000	100.0000		86.9000		UG/L
6	129919		ASGW	3.2000			1.0000	1.0000	1.0000	100.0000		3.2000		UG/L
7	129921		ASGW	0.9000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
8	129921	D	ASGW	0.8000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
9	129921	S	ASGW	40.7000			1.0000	1.0000	1.0000	100.0000	40.0000	40.7000		UG/L
10	BLKSP2966	C	ASGW	39.2000			1.0000	1.0000	1.0000	100.0000	40.0000	39.2000		UG/L
11	BLKSP2966	D	ASGW	39.4000			1.0000	1.0000	1.0000	100.0000		39.4000		UG/L
12	BLKSP2966	C	ASGW	39.4000			1.0000	1.0000	1.0000	100.0000	40.0000	39.4000		UG/L
13	BLK2966		ASGW	-1.0000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
14	129922		ASWW	3.0000			1.0000	1.0000	1.0000	100.0000		3.0000		UG/L
15	129955		ASGW	69.9000			1.0000	1.0000	11.0000	100.0000		768.9000		UG/L
16	129956		ASGW	18.4000			1.0000	1.0000	1.0000	100.0000		18.4000		UG/L
17	129957		ASGW	22.8000			1.0000	1.0000	1.0000	100.0000		22.8000		UG/L
	129970		ASGW	8.8000			1.0000	1.0000	1.0000	100.0000		8.8000		UG/L
19	130021		ASGW	1.9000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
20	130023		ASGW	0.5000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
21	130024		ASGW	3.2000			1.0000	1.0000	1.0000	100.0000		3.2000		UG/L
22	130027		ASGW	-0.3000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
23	130030		ASGW	5.0000			1.0000	1.0000	1.0000	100.0000		5.0000		UG/L
24	130031		ASGW	4.5000			1.0000	1.0000	1.0000	100.0000		4.5000		UG/L
25	130022		ASGW	0.2000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
26	130043		ASGW	-1.2000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 510022 (CCU1)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/l	51.1 ug/l	102.2%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 510021 Date: 10/21/92 S ID: 129992/S	Instrument: Date: SD ID:	Instrument: 510021 Date: 10/21/92 BS ID: BLSP29966	Instrument: 510021 Date: 10/21/92 BSD ID: BLSPDUP29966	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc					
Arsenic	101.8%		98.0%	98.5%	0.5%
Lead					
Selenium					
Mercury					

Analyst: [illegible] Date: 11/10/92

Supervisor: Carl G. [illegible] Date: 11-6-92

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2456 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 5100ZI (IC12)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	40.0 ug/l	38.4 ug/l	96.0%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: [illegible]/92

Supervisor: Earl G. Schmidt Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 5100ZL (ICU2)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	40.0ug/l	41.4 ug/l	103.5%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		2.0000			
		2.0000			
		2.0000			
		2.0000			
		2.0000			
	19	2.0000			
	520	2.0000			
	120	2.0000			
		2.0000			
		2.0000			
		2.0000			
	17	2.0000			
	19	2.0000			
		2.0000			
		2.0000			
		2.0000			
	420	2.0000			
	270	2.0000			
		2.0000			
20.4		2.0000			
91.5		2.0000			
97.5					
2.5					
100.0					

ANALYSIS Run: 10000189 Method: F Date: 10/12/92
RUN LOG By: man Instr.ID: 510022 Time: 08:52

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129842		PBGW	-0.8000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
2	129843		PBGW	-0.5000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
3	129844		PBGW	-0.2000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
4	129854		PBGW	6.9000			1.0000	1.0000	1.0000	100.0000		6.9000		UG/L
5	129860		PBGW	6.5000			1.0000	1.0000	1.0000	100.0000		6.5000		UG/L
6	129887		PBGW	19.2000			1.0000	1.0000	1.0000	100.0000		19.2000		UG/L
7	129888		PBGW	47.0000			1.0000	1.0000	11.0000	100.0000		517.0000		UG/L
8	129889		PBGW	20.5000			1.0000	1.0000	6.0000	100.0000		123.0000		UG/L
9	129890		PBGW	-0.1000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
10	129891		PBGW	9.0000			1.0000	1.0000	1.0000	100.0000		9.0000		UG/L
11	129892		PBGW	7.2000			1.0000	1.0000	1.0000	100.0000		7.2000		UG/L
12	129894		PBGW	17.0000			1.0000	1.0000	1.0000	100.0000		17.0000		UG/L
13	129913		PBGW	19.0000			1.0000	1.0000	1.0000	100.0000		19.0000		UG/L
14	129914		PBGW	3.8000			1.0000	1.0000	1.0000	100.0000		3.8000		UG/L
15	129915		PBGW	-0.2000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
16	129916		PBGW	3.8000			1.0000	1.0000	1.0000	100.0000		3.8000		UG/L
17	129918		PBGW	38.3000			1.0000	1.0000	11.0000	100.0000		421.3000		UG/L
	129919		PBGW	44.8000			1.0000	1.0000	6.0000	100.0000		268.8000		UG/L
..	129920		PBGW	5.4000			1.0000	1.0000	1.0000	100.0000		5.4000		UG/L
20	129920	D	PBGW	4.4000			1.0000	1.0000	1.0000	100.0000		4.4000		
21	129920	S	PBGW	23.7000			1.0000	1.0000	1.0000	100.0000	20.0000	23.7000		
22	Blank2954		PBGW	-0.2000			1.0000	1.0000	1.0000	100.0000		-0.2000		
23	BLKS2954	C	PBGW	19.5000			1.0000	1.0000	1.0000	100.0000	20.0000	19.5000		
24	BLKS2954	D	PBGW	20.0000			1.0000	1.0000	1.0000	100.0000		20.0000		
5	BLKS2954	C	PBGW	20.0000			1.0000	1.0000	1.0000	100.0000	20.0000	20.0000		

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2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 510022 Date: 10/12/92 S ID: 1299205	Instrument: Date: SD ID:	Instrument: 510022 Date: 10/12/92 BS ID: BLSD2954	Instrument: 510022 Date: 10/12/92 BSD ID: BLSPDUP2954	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc					
Arsenic					
Lead	91.5%		97.5%	100.0%	2.5%
Selenium					
Mercury					

Analyst: [signature] Date: 11/6/92

Supervisor: [signature] Date: 11-6-92

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2496 West Mason Street P.O. Box 12425 Green Bay, WI 54307-2435
414-498-2222
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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Method Blank Summary Report

Analyte	Instrument: 510022 Date: 10/12/92 Blank ID: 623954	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Arsenic				
Lead	-0.2 µg/L			
Selenium				
	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
Mercury				

Analyst: [signature] Date: 11/2/92

Supervisor: [signature] Date: 11-6-92

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2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 510022 (CCV5)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	30.0 ug/L	31.6 ug/L	105.3%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/10/92

Supervisor: [illegible] Date: 11-6-92

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414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 510022 (CCI/4)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	30.0 ug/l	30.8 ug/l	102.7%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

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414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 510072 (CC13)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	30.0 ug/l	31.4 ug/l	104.7%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/10/92

Supervisor: [illegible] Date: 11-6-92

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ENVIRONMENTAL LABORATORY
2496 West Mason Street · P.O. Box 12435 · Green Bay, WI 54307-2435
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FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 510072 (CCV2)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	30.0 ug/l	31.3 ug/l	104.3%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 510032 (OCU1)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	30.0ug/l	31.7ug/l	105.7%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 510022 (GFAA)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	40.0 ug/l	36.1 ug/l	90.2%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/10/92

Supervisor: [illegible] Date: 11-6-92

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		2.0000			
	130	2.0000			
		2.0000			
		2.0000			
		2.0000			
		2.0000			
		2.0000			
		2.0000			
	160	2.0000			
		2.0000			
	23	2.0000			
	140	2.0000			
	150	2.0000			
		2.0000			
0.0		2.0000			
85.0 *		2.0000			*CORRECTED SPIKE RECOVERY IS 95%
		2.0000			
		2.0000			
		2.0000			
99.5					
1.0					
98.5					

SUPPLE MENTAL GROUNDWATER INVESTIGATION

Final

00004

NL/TARACORP SUPERFUND SITE GRANITE CITY, ILLINOIS

Prepared for

U.S. Department of the Army
Corps of Engineers, Omaha District
Omaha, Nebraska

NOVEMBER, 1992

Woodward-Clyde

Woodward-Clyde Consultants
2318 Millpark Drive
St. Louis, Missouri 63043

WCC Project No. 8SMCT14V

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TABLE 2 GROUNDWATER SAMPLING SUMMARY
TABLE 3 WATER QUALITY PARAMETERS
TABLE 4 METALS RESULTS OF GROUNDWATER SAMPLING EVENTS

APPENDIX ANALYTICAL DATA

SUPPLEMENTAL GROUNDWATER INVESTIGATION
NL/TARACORP SUPERFUND SITE PREDESIGN FIELD INVESTIGATION

1.0
INTRODUCTION

The Supplemental Groundwater Investigation for the NL/Taracorp Superfund Site (NL Site), in Madison County, Illinois, was conducted as part of Woodward-Clyde Consultants (WCC) indefinite delivery contract with the United States Army Corps of Engineers, Omaha District (USACE) (Contract No. DACW45-90-D-0008).

The objective of the Supplemental Groundwater Investigation was to provide additional information on groundwater quality for the NL Site. The groundwater investigation consisted of conducting a second groundwater sampling event to attempt to confirm the results of the sampling event conducted as part of the Pre-design Field Investigation (PDFI). The groundwater samples were analyzed for priority pollutants which include metals, volatile organics, semi-volatile organics, pesticides, and polychlorinated biphenyls (PCBs). The analytical results and field observations for this sampling event are included in this report.

2.1 SAMPLING PROCEDURES

The second round of groundwater sampling was conducted by WCC personnel on October 5 - 7, 1992. Twelve of the 18 monitoring wells were purged and sampled. Eight wells which were sampled were constructed of two-inch I.D. PVC screens and risers, and were generally 25 to 35 feet in depth. Four two-inch I.D. stainless steel, 70 feet deep wells that were installed by WCC as part of the PDFI were also sampled. Four wells could not be sampled; MW-102, MW-105S, MW-106S, and MW-108S were dry with screen settings of 20 - 25 feet. Two of the existing wells, MW-103S and MW-105D, were bent and damaged and could not be sampled. Due to laboratory problems, several wells were resampled for specific constituents on October 14, and October 23, 1992. A well information summary for the sampling event is included in **Table 1**.

Prior to initiating any intrusive activities at a well site, the sampling team would don a polycoated Tyvek, latex undergloves, and neoprene outergloves. The well cover was unlocked or the flush-mount cover removed. The sampling team measured the water level and total depth of the well by using an electronic water level indicator. The indicator was decontaminated with deionized water as it was removed from the well casing. Conductivity and pH meters were calibrated with prepared standards. Both PVC and stainless steel bailers were decontaminated prior to use. The decontamination procedure consisted of a wash in Alconox soap, a tap water rinse, an alcohol rinse and a final deionized water rinse.

A new length of clean nylon rope was attached to a PVC bailer. For the shallow wells, the PVC bailer was used to purge a minimum of five well volumes from the well. The purge water was placed in a 100 gallon wastewater tank to be disposed of on the Taracorp pile. After purging, the rope attached to the PVC bailer was switched to a stainless steel bailer for sampling. Sample jars were filled for volatiles, semi-volatiles, pesticides and PCB's, and metals. If required, bottles for QA/QC were also filled. A separate jar was filled to measure field parameters (pH, conductivity, temperature, and water clarity). The sample

jars were decontaminated, dried, and labeled as specified in CDAP SOP No. 3. Samples were then packed in iced coolers to be maintained at a temperature of 4 °C. Field sampling sheets were completed for each sample. Information on sampling sheets included the time of sampling, sampling team members initials, and required analysis.

Both bailers were decontaminated in accordance with CDAP SOP No. 6. The used rope and used PPE equipment were put into plastic trash bags for proper disposal. The well was locked and where necessary the flush-mount cover replaced.

For the four 70 feet deep wells, a submersible pump was used instead of a bailer to purge the five well volumes. An electric generator was set up downwind from the well. A new length of nylon rope and Tygon tubing was attached to the pump assembly. This assembly was then lowered into the well after being connected to the pump power converter and generator. After the removal of the five well volumes, the Tygon tubing and pump cable were decontaminated and the nylon rope was switched to a decontaminated stainless steel bailer for sampling as in the previous method.

At the end of each day of sampling, chain-of-custody forms were completed and the sample jars packed in iced coolers for shipment to Ortek Laboratories, in Green Bay, Wisconsin via Federal Express priority overnight delivery. QA samples collected each day were packed in iced coolers and shipped to the USACE-MRD, via Federal Express priority overnight delivery.

2.2 LABORATORY METHODOLOGY AND QUALITY CONTROL

Groundwater samples collected from the NL Site were analyzed for priority pollutants. Specifically, samples were analyzed for the following groups of contaminants:

- Volatile organics
- Semivolatile organics
- PCBs / Pesticides
- Target Analyte List (TAL) Metals

Samples were analyzed in accordance with the CDAP and EPA SW-846 procedures and protocols. Groundwater and QC sample analyses were conducted by Ortek Environmental Laboratories (Ortek) in Green Bay, Wisconsin, in accordance with the appropriate SOP's and the Ortek QAPP. QA sample analyses were conducted at the USACE-MRD Laboratory.

The quality control level of effort for the groundwater investigation consisted of collecting and submitting to Ortek these samples:

- 2 Field duplicates
- 1 MS/MSD
- 2 Equipment rinsate blanks
- 3 Trip blanks (Volatile Organics Only)

The quality assurance level of effort for the groundwater investigation consisted of collecting and submitting to USACE these samples:

- 2 Field duplicates
- 1 MS/MSD
- 1 Equipment rinsate blank
- 2 Trip blanks (Volatile Organics Only)

The quality control and quality assurance levels of effort are summarized in **Table 2**.

The analytical method specific Data Quality Objectives (DQO's) for groundwater samples collected from the NL Site included precision, accuracy, and sensitivity criteria. The QA objective was to achieve the QC acceptance criteria required by the analytical protocols in SW-846. The initial validation of laboratory data was performed by Ortek. WCC conducted an independent validation of the laboratory data packages. A summary of data validation results is presented with the attached analytical data (**Appendix**).

Analytical data that was generated which fell within acceptable control limits were judged to be in control. Data generated which fell outside control limits are considered suspect and are reported with qualifiers. From data validation, semi-volatile samples from MW-111-92,

MW-111-92 Duplicate, MW-101, MW-108D, and MW-108D Duplicate were qualified as unusable. These samples were qualified as unusable due to low acid surrogate spike recoveries, indicating matrix interference within each sample. For groundwater samples from MW-101, MW-108D, and MW-110 taken during the previous sampling event (PDFI), the analytical data were also qualified as unusable due to low acid surrogate spike recoveries. For both sampling events, a re-extract of these samples was conducted and indicated the surrogate recoveries were out of control. The low acid surrogate recovery may be caused by oxidation of the surrogates during acid extraction. Prior to future sampling events, an alternative extraction procedure may be necessary.

Corrective action was applied when any measurement system failed to follow the laboratory QAPP or CDAP Data Quality Objectives. The laboratory QA Supervisor reviewed the data generated to verify that all quality control samples were within the established control limits. Data generated with laboratory control samples that did not fall within control limits were considered suspect, and the sample analysis was repeated or samples results were reported with qualifiers if reanalysis was not possible.

3.0
FIELD OBSERVATIONS

The water in the monitoring wells that were sampled was generally clear. Exceptions were wells MW-101, MW-104, and MW-107S. In these wells the water was reddish-brown and slightly cloudy. The pH measurements for the wells showed values ranging from 5.9 to 7.0. Groundwater temperatures ranged from 17 to 24 °C. Conductivities generally ranged from 850 to 1250 umhos/cm, except for MW-104 and MW-108D. MW-104 had a significantly lower conductivity of 310 umhos/cm, while MW-108D had a high conductivity of 4600 umhos/cm. These water quality parameters were very similar to the parameters measured during the previous sampling event. A summary of water quality parameters measured during sampling is provided in **Table 3**.

4.1 METALS

Groundwater samples were analyzed for 13 metals of concern which included lead, arsenic, cadmium, and chromium. Results of metals analyses are included in **Table 4**; the laboratory data are included in the **Appendix**. All metals except for silver were detected at concentration levels above reporting limits in at least one sample collected from the monitoring wells. The analytical results were very similar to the results from the first groundwater sampling event (**Table 4**).

Samples from eight monitoring wells had lead concentrations greater than the maximum contaminant level (MCL) of 0.015 mg/l promulgated under the Safe Drinking Water Act and which will become effective December 1, 1992. These eight wells were MW-101, MW-104, MW-104-92, MW-107S, MW-107D, MW-108D, MW-109 and MW-110. Monitoring wells located upgradient of the Taracorp pile, MW-110 and MW-111-92, had lead concentrations of 0.017 mg/l and 0.009 mg/l, respectively. The groundwater samples from MW-104 and MW-107S had the highest lead concentration at 0.42 mg/l and 0.52 mg/L, respectively. Both wells are located west of the Taracorp pile (**Figure 4, Draft PDFI**).

Samples from three monitoring wells had arsenic concentrations greater than the MCL of 0.05 mg/l: MW-101, MW-104, and MW-107S. The sample from MW-101, located near the northwest corner of the Taracorp pile (**Figure 4, Draft PDFI**), had the highest arsenic concentration level at 0.77 mg/l.

Cadmium and chromium were detected at concentrations above their respective MCLs for five monitoring wells. Groundwater samples from MW-101, MW-107S, and MW-108D had cadmium concentrations above the MCL of 0.05 mg/L. Groundwater samples from MW-104, MW-107S, MW-107D, and MW-108D had chromium concentrations above the MCL

of 0.05 mg/L. From data validation, the chromium concentrations reported for these wells were qualified as estimated because of method blank contamination.

Copper, nickel, and zinc were detected at relatively high concentrations in these five wells compared to the other monitoring wells. Groundwater samples from the five wells had metal concentration ranges of:

- Copper - 0.017 mg/l (MW-101) to 0.30 mg/l (MW-107S)
- Nickel - 0.027 mg/l (MW-101) to 0.64 mg/l (MW-108D)
- Zinc - 0.098 mg/l (MW-101) to 34.0 mg/l (MW-108D)

Quality control samples consisting of field duplicates were taken from MW-108D and MW-111-92. Constituent metal concentration levels for both duplicate samples were representative of the respective groundwater sample (**Table 4**). Rinsate samples, (MW-112 and MW-114) had metal concentrations that were below the reporting limits, except for zinc which was detected in the rinsate sample MW-114 at 0.055 mg/L. The probable cause of zinc being detected in the rinsate sample MW-114 is unknown. It does not appear to be due to field contamination, because no other metals constituents were detected in the sample. From data validation, there does not appear to be any laboratory contamination.

4.2 ORGANICS

Laboratory data from the organic analyses of the groundwater samples are included in the **Appendix**. For the volatile organics, the only constituents detected in any of the groundwater samples were acetone and methylene chloride. Several method blanks, trip blanks, and rinsate blanks had detected low concentrations of acetone and methylene chloride due to probable instrument contamination from laboratory cleaning. Due to contamination of the method blanks, groundwater samples associated with these methods were qualified as estimated.

For the semivolatile organics analyses, the only constituent detected in any of the groundwater samples was bis(2-ethylhexyl) phthalate which is a common laboratory

contaminant. A few method blanks and rinsate blanks had detected low concentrations of bis(2-ethylhexyl) phthalate. Due to contamination of the method blanks, groundwater samples associated with these methods were qualified as estimated. From data validation, semivolatile groundwater samples from MW-101, MW-108D, MW-108D Duplicate, MW-111-92, and MW-111-92 Duplicate were qualified as unusable. These samples were qualified as unusable because of low surrogate spike recoveries, indicating matrix interference within each sample.

No pesticides or polychlorinated biphenyls (PCBs) were detected above their respective reporting limits. Several samples were qualified as estimated due to low surrogate spike recoveries. For the matrix spike duplicate analyses, percent recoveries were out of control and appear to indicate a possible laboratory spiking error.

TABLE 1
WELL INFORMATION
Groundwater Sampling Event October, 1992
NL/Taracorp Superfund Site

WELL #	CURRENT TD (FEET)	DRILLED TD (FEET)	DIAM. (IN.)	SCREEN INTERVAL (FEET)	SCREEN MATERIAL	RISER ELEV. (MSL)	WATER LEVEL (FEET)	WATER ELEVATION (FEET)	WELL VOLUME (GALS.)	PURGE VOLUME (GALS.)
101	27.0	25	2	15-25	PVC	421.45	21.13	400.32	0.63	3.16
102	16.59	25	2	15-25	PVC	416.58	DRY			
103	BENT RISER	25	2	15-25	PVC	417.17				
103-91	72.52	70	2	58.71-68.71	SS	416.89	18.23	398.66	8.45	42.24
104	28.68	27	2	17-27	PVC	422.25	23.16	399.09	0.63	3.13
104-92	68.35	68.37	2	58.12-68.12	SS	418.25	19.61	398.64	7.96	39.79
105S	28.8	26.5	2	21-26	PVC	428.66	DRY			
105D	BENT RISER	41.5	2	30.3-35.3	PVC	428.74				
106S	23.47	22	2	15.79-20.79	PVC	423.71	DRY			
106D	37.35	35	2	29.91-34.91	PVC	423.79	25.12	398.67	1.61	8.06
107S	24.35	22	2	17.46-22.46	PVC	420.78	20.24	400.54	0.29	1.44
107D	37.6	35	2	30.44-35.44	PVC	421.65	23.17	398.48	1.93	9.65
108S	23.2	22	2	15.4-20.4	PVC	421.71	DRY			
108D	33.15	35	2	27.26-32.26	PVC	422.71	23.00	399.71	1.96	9.79
109	32.7	35	2	29-34	PVC	416.64	17.14	399.50	2.91	14.57
109-92	69.98	69.51	2	59.26-69.26	SS	415.71	17.95	397.76	8.41	42.07
110	33.82	35	2	30-35	PVC	418.49	20.43	398.06	2.38	11.89
111-92	67.7	67.89	2	57.64-67.64	SS	419.40	20.95	398.45	7.66	38.30

TABLE 2
GROUNDWATER SAMPLING SUMMARY
Groundwater Sampling Event October, 1992
NL/Taracorp Superfund Site

		QUALITY ASSURANCE				QUALITY CONTROL			
WELL NUMBER	FIELD SAMPLES	FIELD DUPLICATE	TRIP BLANKS	MS/MSD	RINSATE BLANKS	FIELD DUPLICATE	TRIP BLANKS	MS/MSD	RINSATE BLANKS
101	1								
103-91	1							1/1	
104	1								
104-92	1	1		1/1					
106D	1								
107S	1								
107D	1								
108D	1					1			
109	1								
109-92	1	1							
110	1								
111-92	1					1			
112							1		1
113			1		1				
114							1		1
115							1		
Total	12	2	2	1/1	1	2	3	1/1	2
Frequency (%)		17	17	8/8	8	17	25	8/8	17

Sampling included: volatile organics, semi-volatile organics, pesticides, PCBs, and metals.

Table 3
WATER QUALITY PARAMETERS
Groundwater Sampling Event October, 1992
NL/Taracorp Superfund Site

Well Number	pH	Temperature (Degree C)	Conductivity (umhos/cm)	Water Quality
101	6.7	17	1250	Red, Cloudy
103-91	7.0	20	1100	Clear
104	5.9	20	310	Semi-Clear
104-92	7.0	24	1000	Clear
106D	6.6	19	900	Cloudy
107S	7.0	22	900	Brown,Cloudy
107D	7.0	21	1050	Cloudy
108D	5.9	17	4600	Clear
109	6.7	17	850	Clear
109-92	6.9	17	900	Clear
110	6.4	21	950	Clear
111-92	6.9	22	1110	Clear

Table 4
Metals Results of Groundwater Sampling Events
NL/Taracorp Superfund Site

Parameter	Unit	MW-101		MW-103-91		MW-104		MW-104-92	
		FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT
Mercury	MG/L	0.0002	<0.0002	0.0002	<0.0002	0.0003	0.0005	<0.0002	<0.0002
Silver	MG/L	<0.0004	<0.009	<0.0004	<0.009	<0.0004	<0.009	<0.0004	<0.009
Arsenic	MG/L	4.2	0.77	<0.003	<0.003	0.086	0.087	0.0088	0.0032
Cadmium	MG/L	0.0039	0.0053	0.0017	<0.005	0.0027	<0.005	0.0033	<0.005
Chromium	MG/L	0.034	0.018 U	<0.002	0.029 U	0.047	0.098 J	0.002	0.034 J
Lead	MG/L	0.13	0.023	0.0027	0.0038	0.47	0.42	0.44	0.27
Antimony	MG/L	0.014	<0.011	<0.002	0.014	0.023	0.013	0.007	0.01
Selenium	MG/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Thallium	MG/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Beryllium	MG/L	0.0026	<0.0006	<0.0006	<0.0006	0.0019	0.00322	<0.0006	<0.0006
Copper	MG/L	0.06	0.017	<0.014	<0.014	0.064	0.097	<0.014	<0.014
Nickel	MG/L	0.13	0.027	<0.023	<0.023	0.12	0.19	<0.023	<0.023
Zinc	MG/L	0.35	0.098	0.036	0.074 J	0.24	0.38 J	0.082	0.066 J

U – The compound was analyzed for but was not detected.
The associated numerical value is attributed to contamination
and is considered to be the sample quantitation limit.
J – The associated numerical value is an estimated quantity.

Table 4
Metals Results of Groundwater Sampling Events
NL/Taracorp Superfund Site

Parameter	Unit	MW-106D		MW-107S		MW-107D		MW-108D		MW-108D QC FIELD DUPLICATE	
		FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT
Mercury	MG/L	<0.0002	<0.0002	<0.0002	0.0006	<0.0002	0.0002	<0.0002	0.0002	<0.0002	0.0002
Silver	MG/L	<0.0004	<0.009	<0.0004	<0.009	<0.0004	<0.009	<0.0004	<0.009	<0.0004	<0.009
Arsenic	MG/L	0.013	0.0032	0.044	0.1	0.065	0.04	<0.003	0.018	<0.003	0.023
Cadmium	MG/L	0.0005	<0.005	0.0032	0.01	0.0018	<0.005	8.5	9.6	9.0	9.2
Chromium	MG/L	<0.002	0.015 U	0.042	0.35 J	0.044	0.067 J	0.006	0.073 J	0.006	0.084 J
Lead	MG/L	0.019	0.019	0.14	0.52	0.11	0.12	0.023	0.14	0.026	0.15
Antimony	MG/L	0.003	<0.011	0.008	<0.011	0.005	<0.011	<0.008	0.022	<0.002	<0.011
Selenium	MG/L	0.0077	0.01	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Thallium	MG/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.046	0.046	0.048	0.051
Beryllium	MG/L	<0.0006	<0.0006	0.002	0.0079	0.0016	0.0017	<0.0006	0.00202	0.0007	0.00188
Copper	MG/L	<0.014	<0.014	0.064	0.3	0.052	0.054	<0.014	0.045	<0.014	0.044
Nickel	MG/L	<0.023	0.026	0.11	0.43	0.054	0.057	0.46	0.63	0.47	0.64
Zinc	MG/L	<0.02	0.067	0.25	0.86	0.22	0.25	28	34	28	34

U – The compound was analyzed for but was not detected.
The associated numerical value is attributed to contamination
and is considered to be the sample quantitation limit.
J – The associated numerical value is an estimated quantity.

Table 4
Metals Results of Groundwater Sampling Events
NL/Taracorp Superfund Site

Parameter	Unit	MW-109		MW-109-92		MW-110	
		FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT
Mercury	MG/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Silver	MG/L	<0.0004	<0.009	<0.0004	<0.009	<0.0004	<0.009
Arsenic	MG/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cadmium	MG/L	0.0028	<0.005	0.0018	<0.005	0.0013	<0.005
Chromium	MG/L	<0.002	<0.013	0.003	0.021 U	<0.002	<0.013
Lead	MG/L	0.0046	0.019	0.018	0.0038	0.0042	0.017
Antimony	MG/L	<0.002	<0.011	<0.002	<0.011	0.002	<0.011
Selenium	MG/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Thallium	MG/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Beryllium	MG/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
Copper	MG/L	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Nickel	MG/L	<0.023	<0.023	<0.023	<0.023	<0.023	0.033
Zinc	MG/L	0.057	0.077 J	0.081	0.057 J	0.043	0.078

U – The compound was analyzed for but was not detected.
The associated numerical value is attributed to contamination
and is considered to be the sample quantitation limit.
J – The associated numerical value is an estimated quantity.

Table 4
Metals Results of Groundwater Sampling Events
NL/Taracorp Superfund Site

Parameter	Unit	MW-111-92		MW-111-92 QC FIELD DUPLICATE		MW-112 QC RINSATE BLANK		MW-114 QC RINSATE BLANK	
		FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT	FIRST EVENT	SECOND EVENT
Mercury	MG/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0003	<0.0002
Silver	MG/L	<0.0004	<0.009	<0.0004	<0.009	<0.0004	<0.009	<0.0004	<0.009
Arsenic	MG/L	0.0046	0.0037	0.004	<0.003	0.0032	<0.003	<0.003	<0.003
Cadmium	MG/L	<0.0003	<0.005	0.0004	<0.005	<0.0003	<0.005	<0.0003	<0.005
Chromium	MG/L	<0.002	0.024 U	<0.002	0.027 U	<0.002	<0.013	<0.002	<0.013
Lead	MG/L	0.003	0.009	0.0094	0.0072	<0.002	<0.002	<0.002	<0.002
Antimony	MG/L	<0.002	<0.011	<0.002	<0.011	<0.002	<0.011	<0.002	<0.011
Selenium	MG/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Thallium	MG/L	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Beryllium	MG/L	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
Copper	MG/L	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014
Nickel	MG/L	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
Zinc	MG/L	0.043	0.073	0.059	0.068	<0.02	<0.02	<0.02	0.055

U – The compound was analyzed for but was not detected. The associated numerical value is attributed to contamination and is considered to be the sample quantitation limit.
J – The associated numerical value is an estimated quantity.

APPENDIX

ANALYTICAL DATA

METALS

DATA SUMMARY

METALS/WET CHEMISTRY DATA ASSESSMENT

PROJECT NO. 89MC114V
LABORATORY Ortek Env Lab.
LAB PROJECT NO. 92i0037
NO. OF SAMPLES/ MATRIX 16 / Groundwater

SITE NL/Tamscorp Superfund Site
REVIEWER Woodward-Clyde
REVIEWER'S NAME C. Havelk
COMPLETION DATE 10/12/92

DATA ASSESSMENT SUMMARY

	ICP	AA (Includes: Lead, Arsenic, Selenium, Thallium)	Hg (CVAA)	CN	OTHER
1. HOLDING TIMES	✓	✓	✓		
2. BLANKS	(2)(4)	✓	✓		
3. SCS	✓	✓	✓		
4. DCS	✓	✓	✓		
5. DILUTION	NA	NA	NA		
6. OTHER QC	(3)	(1) MS			
7. OVERALL ASSESSMENT	O	O	O		

O = Data had no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

ACTION ITEMS: (4) Zinc was detected in rinsate blank sample MW-114. Samples for MW-103-91, MW-104, MW-104-92, MW-109, and MW-109-92 were qualified as estimated.

COMMENTS: (1) Sample Matrix Spike for Selenium Out of Control Data for MW-103-91-MSD Data is qualified as estimated. (2) Method Blank 2958 ~~for~~ detected Chromium above the IDL = 2.0 ug/L. ~~Samples~~ Chromium for samples MW-109-92, MW-103-91, MW-103-91MS, MW-103-91MSD, MW-106D, MW-111-92 + Dup, and MW-101 are qualified as non-detects (U). Chromium for samples MW-104, MW-104-92, MW-107S, MW-107D and MW-108D + Dup are qualified as estimated (J). (3) For Continuing Calibration Check for Copper CCV 7 + CCV8 out of control. Samples rerun on 10/21/92. No qualifications to data.

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX 414-498-4067

November 3, 1992

Ms. Cynthia Pavelka
Woodward Clyde Consultants
2318 Millpark Dr.
Maryland Heights, MO 63043

Dear Ms. Pavelka:

Subject: Taracorp/Superfund (89MC114V)
Reference: 9210037

Enclosed please find a CLP data package for the samples received by ORTEK Environmental Laboratory on October 6, 1992 under the subject project.

The enclosed package does not conform to your updated requirements as set forth in your letter of October 6, 1992. Mr. John Rather, Organic Section Supervisor, and Mr. Phil Scott, Metals Section Supervisor, were not fully aware of the new package requirements at time of report assembly. In lieu of the requested package we are submitting a full CLP package for the organic results and a summary report for the metals results. A QC summary package for the metals analysis, conforming to the updated requirements, will follow within the next 10 business days.

Should you have any questions regarding this report please feel free to call me at (414) 498-2222. Please have the number referenced above available when making inquiries about this report.

Very Truly Yours,

Terry Y. Hosaka
Project Manager

Enclosure

c: file

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX 414-498-4067

- SAMPLE ANALYSIS REPORTS -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210037 Report Date: 11/04/92
Our Lab # : 129887
Your Sample ID: WMW106-DOGGW
Sample Matrix : WATER

COLLECTION INFORMATION

Date/Time/By: 10/05/92 10:25 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qualifi.
129887	Mercury	<	0.2	UG/L	10/17/92	
	Arsenic		3.2	UG/L	10/07/92	
	Lead		19	UG/L	10/12/92	
	Selenium		10	UG/L	10/07/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium	<	0.60	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		15	UG/L	10/16/92	U
	Copper	<	14	UG/L	10/16/92	
	Nickel		26	UG/L	10/16/92	
	Antimony	<	11	UG/L	10/16/92	
	Zinc		67	UG/L	10/22/92	

Signed [signature] Date 11-6-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

- SAMPLE ANALYSIS REPORTS -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210037 Report Date: 11/04/92
Our Lab # : 129888
Your Sample ID: WMW107-SOGGW
Sample Matrix : WATER

COLLECTION INFORMATION

Date/Time/By: 10/05/92 13:15 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qualifier
129888	Mercury		0.6	UG/L	10/17/92	
	Arsenic		100	UG/L	10/07/92	
	Lead		520	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/07/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium		7.9	UG/L	10/16/92	
	Cadmium		10	UG/L	10/16/92	
	Chromium		350	UG/L	10/16/92	J
	Copper		300	UG/L	10/16/92	
	Nickel		430	UG/L	10/16/92	
	Antimony	<	11	UG/L	10/16/92	
	Zinc		860	UG/L	10/22/92	

Signed Earl J. Schmidt Date 11-6-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

- SAMPLE ANALYSIS REPORTS -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210037 Report Date: 11/04/92
Our Lab # : 129889
Your Sample ID: MW107-DOGGW
Sample Matrix : ATER

COLLECTION INFORMATION

Date/Time/By: 10/05/92 11:30 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qualifier
129889	Mercury		0.2	UG/L	10/17/92	
	Arsenic		40	UG/L	10/07/92	
	Lead		120	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/07/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium		1.7	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		67	UG/L	10/16/92	J
	Copper		54	UG/L	10/16/92	
	Nickel		57	UG/L	10/16/92	
	Antimony	<	11	UG/L	10/16/92	
	Zinc		250	UG/L	10/22/92	

Signed Paul G Schmoll Date 11-6-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
414-498-2222
FAX: 414-498-406
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435

- SAMPLE ANALYSIS REPORTS -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210037 Report Date: 11/04/92
Our Lab # : 129890
Your Sample ID: WMW112-10GGWB
Sample Matrix : WATER

COLLECTION INFORMATION

Date/Time/By: 10/05/92 11:10 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date
129890	Mercury	<	0.2	UG/L	10/17/92
	Arsenic	<	3.0	UG/L	10/07/92
	Lead	<	2.0	UG/L	10/12/92
	Selenium	<	3.0	UG/L	10/07/92
	Thallium	<	2.0	UG/L	10/12/92
	Silver	<	9.0	UG/L	10/16/92
	Beryllium	<	0.60	UG/L	10/16/92
	Cadmium	<	5.0	UG/L	10/16/92
	Chromium	<	13	UG/L	10/15/92
	Copper	<	14	UG/L	10/15/92
	Nickel	<	23	UG/L	10/16/92
	Antimony	<	11	UG/L	10/16/92
	Zinc	<	20	UG/L	10/22/92

Signed Carl S Kimball Date 11-6-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

- SAMPLE ANALYSIS REPORTS -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210037 Report Date: 11/04/92
Our Lab # : 129891
Your Sample ID: ~~WMW112 10CGWB~~ WMW111920GGW 02
Sample Matrix : WATER

COLLECTION INFORMATION

Date/Time/By: 10/05/92 14:10 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Quali
129891	Mercury	<	0.2	UG/L	10/17/92	
	Arsenic		3.7	UG/L	10/07/92	
	Lead		9.0	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/07/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium	<	0.60	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		24	UG/L	10/16/92	u
	Copper	<	14	UG/L	10/15/92	
	Nickel	<	23	UG/L	10/16/92	
	Antimony	<	11	UG/L	10/16/92	
	Zinc		73	UG/L	10/22/92	

Signed Earl G. Kimball Date 11-6-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX 414-498-4067

- SAMPLE ANALYSIS REPORTS -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210037 Report Date: 11/04/92
Our Lab # : 129892
Your Sample ID: WMW111920GGWD
Sample Matrix : WATER

COLLECTION INFORMATION

Date/Time/By: 10/05/92 14:20 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qualifier
129892	Mercury	<	0.2	UG/L	10/17/92	
	Arsenic	<	3.0	UG/L	10/07/92	
	Lead		7.2	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/07/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium	<	0.60	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		27	UG/L	10/16/92	u
	Copper	<	14	UG/L	10/16/92	
	Nickel	<	23	UG/L	10/16/92	
	Antimony	<	11	UG/L	10/16/92	
	Zinc		68	UG/L	10/22/92	

Signed Paul S. Schmidt Date 11-6-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
414-498-2222
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2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435

- SAMPLE ANALYSIS REPORTS -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210037 Report Date: 11/04/92
Our Lab # : 129894
Your Sample ID: WMW110-10GGW
Sample Matrix : WATER

COLLECTION INFORMATION

Date/Time/By: 10/05/92 15:35 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date
129894	Mercury	<	0.2	UG/L	10/17/92
	Arsenic	<	3.0	UG/L	10/07/92
	Lead		17	UG/L	10/12/92
	Selenium	<	3.0	UG/L	10/07/92
	Thallium	<	2.0	UG/L	10/12/92
	Silver	<	9.0	UG/L	10/16/92
	Beryllium	<	0.60	UG/L	10/16/92
	Cadmium	<	5.0	UG/L	10/16/92
	Chromium	<	13	UG/L	10/16/92
	Copper	<	14	UG/L	10/16/92
	Nickel		33	UG/L	10/16/92
	Antimony	<	11	UG/L	10/16/92
	Zinc		78	UG/L	10/22/92

Signed Earl S. Schmoll Date 11-6-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

November 3, 1992

Ms. Cynthia Pavelka
Woodward Clyde Consultants
2318 Millpark Dr.
Maryland Heights, MO 63043

Dear Ms. Pavelka:

Subject: Taracorp/Superfund (89MC114V)
Reference: 9210046

Enclosed please find a report of analytical results and QC Summary package for the samples received by ORTEK Environmental Laboratory on October 7, 1992 under the subject project.

The Metals QC Summary package encompasses all samples analyzed under the subject project. The Organic QC Summary package encompasses only those samples listed on the cover sheet for each respective analysis.

Two batches of results remain to be reported under the subject project. These results will correspond to your well numbers 101, 108, and 115. All analyses have been completed for these samples and we are currently compiling the required QC Summary packages. We anticipate being able to provide a facsimile copy of the report to you on Friday November 13, 1992, with a fed-ex delivery scheduled for Monday November 16, 1992.

Should you have any questions regarding this report please feel free to call me at (414) 498-2222. Please have the number referenced above available when making inquiries about this report.

Very Truly Yours,

Terry Y. Hosaka
Project Manager

Enclosure

c: file

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX 414-498-4067

- SAMPLE ANALYSIS REPORT -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210046
Our lab # : 129913
Your sample ID: WMW109-10GGW
Sample Matrix : WATER

Report Date: 11/05/92

COLLECTION INFORMATION

Date/Time/By: 10/06/92 11:15 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	
129913	Mercury	<	0.2	UG/L	10/17/92	
	Arsenic	<	3.0	UG/L	10-21-92	
	Lead		19	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/21/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium	<	0.60	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium	<	13	UG/L	10/16/92	
	Copper	<	14	UG/L	10/16/92	
	Nickel	<	23	UG/L	10/16/92	
	Antimony	<	11.0	UG/L	10/16/92	
	Zinc		77	UG/L	10-22-92	J

Signed Earl G Schmoll Date 11-11-92

Signed _____ Date _____

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ENVIRONMENTAL LABORATORY
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414-498-2222
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- SAMPLE ANALYSIS REPORT -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210046
Our lab # : 129914
Your sample ID: WMW109920GGW
Sample Matrix : WATER

Report Date: 11/05/92

COLLECTION INFORMATION

Date/Time/By: 10/06/92 10:20 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qualifier
129914	Mercury	<	0.2	UG/L	10/17/92	
	Arsenic	<	3.0	UG/L	10-21-92	
	Lead		3.8	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/21/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium	<	0.60	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		21	UG/L	10/16/92	iλ
	Copper	<	14	UG/L	10/16/92	
	Nickel	<	23	UG/L	10/16/92	
	Antimony	<	11.0	UG/L	10/16/92	
	Zinc		57	UG/L	10-22-92	J

Signed Earl S Elmall Date 11-11-92

Signed _____ Date _____

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ENVIRONMENTAL LABORATORY
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414-498-2222
FAX: 414-498-406

- SAMPLE ANALYSIS REPORT -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210046
Our lab # : 129915
Your sample ID: WMW114-10GGWB
Sample Matrix : WATER

Report Date: 11/05/92

COLLECTION INFORMATION

Dat 'Time/By: 10/06/92 11:40 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date
129915	Mercury	<	0.2	UG/L	10/17/92
	Arsenic	<	3.0	UG/L	10-21-92
	Lead	<	2.0	UG/L	10/12/92
	Selenium	<	3.0	UG/L	10/21/92
	Thallium	<	2.0	UG/L	10/12/92
	Silver	<	9.0	UG/L	10/16/92
	Beryllium	<	0.60	UG/L	10/16/92
	Cadmium	<	5.0	UG/L	10/16/92
	Chromium	<	13	UG/L	10/16/92
	Copper	<	14	UG/L	10/16/92
	Nickel	<	23	UG/L	10/16/92
	Antimony	<	11.0	UG/L	10/16/92
	Zinc		55	UG/L	10-22-92

Signed Earl S Klmoll Date 11-11-92

Signed _____ Date _____

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414-498-2222
FAX: 414-498-406

- SAMPLE ANALYSIS REPORT -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210046
Our lab # : 129916
Your sample ID: WMW103910GGW
Sample Matrix : WATER

Report Date: 11/05/92

COLLECTION INFORMATION

Date/Time/By: 10/06/92 13:10 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qualifier
129916	Mercury	<	0.2	UG/L	10/17/92	
	Arsenic	<	3.0	UG/L	10-21-92	
	Lead		3.8	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/21/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium	<	0.60	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		29	UG/L	10/16/92	U
	Copper	<	14	UG/L	10/16/92	
	Nickel	<	23	UG/L	10/16/92	
	Antimony		14	UG/L	10/16/92	
	Zinc		74	UG/L	10-22-92	J

Signed Earl S. Schmoll Date 11-11-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street | P.O. Box 12435 | Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

- SAMPLE ANALYSIS REPORT -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210046
Our lab # : 129918
Your sample ID: WMW104-10GGW
Sample Matrix : WATER

Report Date: 11/05/92

COLLECTION INFORMATION

Date/Time/By: 10/06/92 14:20 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qualifier
129918	Mercury		0.5	UG/L	10/17/92	
	Arsenic		87	UG/L	10-21-92	
	Lead		420	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/21/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium		3.22	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		98	UG/L	10/16/92	J
	Copper		97	UG/L	10/16/92	
	Nickel		190	UG/L	10/16/92	
	Antimony		13	UG/L	10/16/92	
	Zinc		380	UG/L	10-22-92	J

Signed Earl G. Schmoll Date 11-11-92

Signed _____ Date _____

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ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX 414-498-4067

- SAMPLE ANALYSIS REPORT -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210046
Our lab # : 129919
Your sample ID: WMW104920GGW
Sample Matrix : WATER

Report Date: 11/05/92

COLLECTION INFORMATION

Date/Time/By: 10/06/92 15:10 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qualifier
129919	Mercury	<	0.2	UG/L	10/17/92	
	Arsenic		3.2	UG/L	10-21-92	
	Lead		270	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/21/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium	<	0.60	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		34	UG/L	10/16/92	J
	Copper	<	14	UG/L	10-21-92	
	Nickel	<	23	UG/L	10-21-92	
	Antimony		10	UG/L	10/16/92	
	Zinc		66	UG/L	10-22-92	J

Signed Paul S Kendall Date 11-11-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4066

- SAMPLE ANALYSIS REPORT -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210046
Our lab # : 129920
Your sample ID: WMW103910GGWM-MS
Sample Matrix : WATER

Report Date: 11/05/92

COLLECTION INFORMATION

Date/Time/By: 10/06/92 13:20 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qu
129920	Mercury	<	0.2	UG/L	10/30/92	
	Arsenic	<	3.0	UG/L	10/27/92	
	Lead		5.4	UG/L	10/12/92	
	Selenium	<	3.0	UG/L	10/27/92	
	Thallium	<	2.0	UG/L	10/12/92	
	Sil er	<	9.0	UG/L	10/16/92	
	Ber llium	<	0.60	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		21	UG/L	10/16/92	U
	Copper	<	14	UG/L	10-15-92	
	Nickel	<	23	UG/L	10-21-92	
	Antimony	<	11.0	UG/L	10/16/92	
	Zinc		85	UG/L	10-22-92	J

Signed Carl G Schmoll Date 11-11-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

- SAMPLE ANALYSIS REPORT -

To: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

Attn: CYNTHIA PAVELKA

Batch ID : 9210046
Our lab # : 129921
Your sample ID: WMW10391OGGWXMSD
Sample Matrix : WATER

Report Date: 11/05/92

COLLECTION INFORMATION

Date/Time/By: 10/06/92 13:30 W R
Location : 89MC114V NL/TARACORP

Lab#	Test		Result	Units	Analysis Date	Qualifier
129921	Mercury	<	0.2	UG/L	10/20/92	
	Arsenic	<	3.0	UG/L	10-21-92	
	Lead		3.8	UG/L	10/14/92	
	Selenium	<	3.0	UG/L	10/21/92	UJ
	Thallium	<	2.0	UG/L	10/12/92	
	Silver	<	9.0	UG/L	10/16/92	
	Beryllium	<	0.60	UG/L	10/16/92	
	Cadmium	<	5.0	UG/L	10/16/92	
	Chromium		18	UG/L	10/16/92	U
	Copper	<	14	UG/L	10-21-92	
	Nickel	<	23	UG/L	10-21-92	
	Antimony		14	UG/L	10/16/92	
	Zinc		61	UG/L	10-22-92	J

Signed Carl S Schmoll Date 11-11-92

Signed _____ Date _____

ORTEK
ENVIRONMENTAL LABORATORY
414-498-222[illegible]
FAX: 414-498-40[illegible]
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435

- SAMPLE ANALYSIS REPORT -

TO: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

ATTN: CYNTHIA PAVELKA

Batch ID: 9210057
Report Date: 11/11/92
Our Lab #: 129955
Your Sample ID: WMW101-10GGW
Sample Matrix: WATER

COLLECTION INFORMATION

Date/Time/By: 10/07/92 10:50 W R
Location: 89MO114V NL/TARA CORP

Lab#	Test		Result	Units	Analysis Date	Qual
129955	Silver	<	9.0	UG/L	10/16/92	
	Arsenic		770	UG/L	10/21/	
	Beryllium	<	0.60	UG/L	10/16/92	
	Cadmium		5.3	UG/L	10/16/92	
	Chromium		18	UG/L	10/16/92	U
	Copper		17	UG/L	10/21/92	
	Mercury	<	0.2	UG/L	10/17/92	
	Nickel		27	UG/L	10/21/92	
	Lead		23	UG/L	10/20/92	
	Antimony	<	11	UG/L	10/16/92	
	Selenium	<	3.0	UG/L	10/21/92	
	Thallium	<	2.0	UG/L	10/20/92	
	Zinc		98	UG/L	10/22/92	

Signed: [illegible] Date: 11-12-92

Signed: _____ Date: _____

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/30/92 Instrument: 3030B (CCU1)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 ug/l	2.83 ug/l	94.3%	Y

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/30/92 Instrument: 3030B (ICU1)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	4.00ug/l	3.68 ug/l	92%	Y

Analyst: [illegible] Date: 11/10/92

Supervisor: [illegible] Date: 11-6-92

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		3.0000			
		3.0000			
		3.0000			
		3.0000			
	87	3.0000			
		3.0000			
		3.0000			
0.0		3.0000			
94.3 *		3.0000			CORRECTED SPIKE RECOVERY IS 101.8%.
98.0		3.0000			
0.5		3.0000			
98.5		3.0000			
		3.0000			
		3.0000			
	770	3.0000			
	18	3.0000			
	23	3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			

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414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Method Blank Summary Report

Analyte	Instrument: 5/0021 Date: 10/21/92 Blank ID: BL29666	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Arsenic	-1.0 ug/l			
Lead				
Selenium				
	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: Earl E. [illegible] Date: 11-6-92

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2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 5100ZI(CCV3)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0ug/l	51.1ug/l	102.2%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 510027 (CCV2)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/l	51.3 ug/l	102.6%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 510071 (ICV1)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	40.0 ug/l	40.5 ug/l	101.2%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: Earl E. [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 510021 (CCV1)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/l	52.1 ug/l	104.2%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/4/92

Supervisor: Earl B Schmoll Date: 11-6-92

ANALYSIS Run: 10000413 Method: F Date: 10/27/92
RUN LOG By: meb Instr.ID: 510021 Time: 09:42

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	units
				0.9	*		1.0000	1.0000	1.0000	100.0000				
1	129920		ASGW	~~0.2000~~			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
2	129920	S	ASGW	~~38.5000~~ 39.0			1.0000	1.0000	1.0000	100.0000	40.0000	38.5000		
3	129923		ASTC	0.2000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
4	129923	S	ASTC	24.5000			1.0000	1.0000	100.0000	100.0000	2500.0000	2450.0000		
5	129924		ASTC	-0.1000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
6	129924	S	ASTC	23.9000			1.0000	1.0000	100.0000	100.0000	2500.0000	2390.0000		
7	129975		ASTC	-1.7000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
8	129985		ASTC	-0.6000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
9	130015		ASTC	0.0000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
10	130016		ASTC	-0.1000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
11	130016	D	ASTC	-0.5000			1.0000	1.0000	100.0000	100.0000		300.0000	U	
12	130017		ASTC	-0.6000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
13	130312		ASGW	2.2000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
14	130313		ASGW	1.0000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
15	130314		ASGW	0.8000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
16	130315		ASGW	0.7000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
17	130316		ASGW	-0.5000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
	130317		ASGW	0.6000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
19	130318		ASGW	0.9000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
20	130319		ASGW	0.3000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
21	130319	D	ASGW	0.5000			1.0000	1.0000	1.0000	100.0000		3.0000	U	
22	130320		ASGW	1.0000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
23	130320	S	ASGW	42.2000			1.0000	1.0000	1.0000	100.0000	40.0000	42.2000		
24	130321		ASGW	-0.4000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
25	BLTC		ASTC	-0.2000			1.0000	1.0000	100.0000	100.0000		300.0000	U	
26	BL2970		ASGW	0.0000			1.0000	1.0000	1.0000	100.0000		3.0000	U	
27	BLSP2970	C	ASGW	36.9000			1.0000	1.0000	1.0000	100.0000	40.0000	36.9000		
28	BLSP2970	D	ASGW	37.6000			1.0000	1.0000	1.0000	100.0000		37.6000		
29	BLSP2970	C	ASGW	37.6000			1.0000	1.0000	1.0000	100.0000	40.0000	37.6000		
30	130322		ASGW	1.7000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
31	130323		ASGW	0.4000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
32	130324		ASGW	0.8000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
33	130325		ASGW	0.5000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
34	130325	D	ASGW	1.3000			1.0000	1.0000	1.0000	100.0000		3.0000	U	
35	130326		ASGW	0.8000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
36	130326	S	ASGW	39.6000			1.0000	1.0000	1.0000	100.0000	40.0000	39.6000		
	BL2971		ASGW	0.6000			1.0000	1.0000	1.0000	100.0000		3.0000	U	
38	BLSP2971	C	ASGW	38.8000			1.0000	1.0000	1.0000	100.0000	40.0000	38.8000		
39	BLSP2971	D	ASGW	37.7000			1.0000	1.0000	1.0000	100.0000		37.7000		
40	BLSP2971	C	ASGW	37.7000			1.0000	1.0000	1.0000	100.0000	40.0000	37.7000		

* Wrong value entered

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 510021 Date: 10/27/92 S ID: 1299205	Instrument: Date: SD ID:	Instrument: 510021 Date: 10/27/92 BS ID: BLSP2971	Instrument: 510021 Date: 10/27/92 BSD ID: BLSPDUP2972	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc					
Arsenic	97.5%		97.0%	94.3%	2.8%
Lead					
Selenium					
Mercury					

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		3.0000			
88.8 *					SPIKE = ~~96.3~~ 97.5 %
		3.0000			
86.0 *					SPIKE = 98.0 %
		3.0000			
83.6 *					SPIKE = 95.6 %
		3.0000			
		3.0000			
		3.0000			
		3.0000			
0.0		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
0.0		3.0000			
		3.0000			
98.0 *					SPIKE = 105.5 %
		3.0000			
		3.0000			
		3.0000			
92.3					
1.9					
94.0					
		3.0000			
		3.0000			
		3.0000			
		3.0000			
0.0		3.0000			
		3.0000			
91.5 *					SPIKE = 99.0 %
		3.0000			
97.0					
2.9					
94.3					

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Method Blank Summary Report

Analyte	Instrument: 510021 Date: 10/27/92 Blank ID: BL2971	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Arsenic	0.6 ug/L			
Lead				
Selenium				
	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
Mercury				

Analyst: [signature] Date: 11/6/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 510027 (CC17)

GFAA Metal				
Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/L	51.6 ug/L	103.2%	Y
Lead				
Selenium				
CVAA Metal				
Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 510021 (CC116)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/l	51.0 ug/l	102.0%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/30/92 Instrument: 3030B (CCV3)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 ug/l	2.80 ug/l	93.3%	Y

Analyst: Medina A. Schuyler Baker Date: 11/6/92

Supervisor: Earl G. Rehmall Date: 11-6-92

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2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/30/92 Instrument: 3030B (CCV2)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 ug/l	2.99 ug/l	99.7%	Y

Analyst: [illegible] Date: 11/2/92

Supervisor: Earl G. Schmoll Date: 11-6-92

ANALYSIS Run: 10000301 Method: F Date: 10/20/92
RUN LOG By: meb Instr.ID: 510022 Time: 18:07

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129942		PBGW	0.9000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
2	129943		PBGW	22.0000			1.0000	1.0000	6.0000	100.0000		132.0000		UG/L
3	129944		PBGW	5.1000			1.0000	1.0000	1.0000	100.0000		5.1000		UG/L
4	129945		PBGW	0.3000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
5	129946		PBGW	0.8000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
6	129947		PBGW	7.7000			1.0000	1.0000	1.0000	100.0000		7.7000		UG/L
7	129948		PBGW	0.6000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
8	129949		PBGW	0.6000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
9	129950		PBGW	26.2000			1.0000	1.0000	6.0000	100.0000		157.2000		UG/L
10	129951		PBGW	0.9000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
11	129955		PBGW	22.7000			1.0000	1.0000	1.0000	100.0000		22.7000		UG/L
12	129956		PBGW	23.3000			1.0000	1.0000	6.0000	100.0000		139.8000		UG/L
13	129957		PBGW	24.7000			1.0000	1.0000	6.0000	100.0000		148.2000		UG/L
14	129970		PBGW	0.4000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
15	129970	D	PBGW	0.9000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
16	129970	S	PBGW	19.0000			1.0000	1.0000	1.0000	100.0000	20.0000	19.0000		UG/L
17	130058		PBGW	0.3000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
	130057		PBGW	0.7000			1.0000	1.0000	1.0000	100.0000		2.0000	U	
19	130056		PBGW	1.0000			1.0000	1.0000	1.0000	100.0000		2.0000	U	
20	BLK		PBGW	0.9000			1.0000	1.0000	1.0000	100.0000		0.9000		
21	BLKSP2965	C	PBGW	19.9000			1.0000	1.0000	1.0000	100.0000	20.0000	19.9000		
22	BLKSP2965	D	PBGW	19.7000			1.0000	1.0000	1.0000	100.0000		19.7000		
23	BLKSP2965	C	PBGW	19.7000			1.0000	1.0000	1.0000	100.0000	20.0000	19.7000		

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 510022 Date: 10/20/92 S ID: 1299705	Instrument: Date: SD ID:	Instrument: 510022 Date: 10/20/92 BS ID: BLSP0107165	Instrument: 510022 Date: 10/20/92 BSD ID: BLSP0107165	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc					
Arsenic					
Lead	95%		99.5%	98.5%	1.0%
Selenium					
Mercury					

Analyst: [signature] Date: 11/16/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Method Blank Summary Report

Analyte	Instrument: 510022 Date: 10/20/92 Blank ID: 062965	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Arsenic				
Lead	0.9 ug/l			
Selenium				
	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
Mercury				

Analyst: [signature] Date: 11/6/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 510072 (CCV4)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	30.0ug/l	32.6ug/l	108.7%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/10/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 510022 (CC113)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	30.0ug/l	30.7ug/l	102.3%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [signature] Date: 11/16/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 5100Z2(CCV2)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	30.0 ug/l	31.6 ug/l	105.3%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: Medina [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 510022 (CCU2)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	30.0 ug/l	31.6 ug/l	105.3%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 510022 (ICV1)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead	40.0 ug/L	39.0 ug/L	97.5%	Y
Selenium				

CVAA Metal

Mercury				

Analyst: [signature] Date: 11/6/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 510021 (CCV5)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/l	51.1 ug/l	102.2%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 5100Z1 (CCV4)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/l	50.7 ug/l	101.4%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: Medina C. Schmiesbach Date: 11/6/92

Supervisor: Earl Gilchrist Date: 11-6-92

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ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12433 Green Bay, WI 54307-2433
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 510022 (0013)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/L	50.4 ug/L	100.8%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/10/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 510027 (CC12)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic	50.0 ug/L	51.0 ug/L	102.0%	Y
Lead				
Selenium				

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
		3.0000			
0.0		3.0000			
57.7 *					*CORRECTED SPIKE IS 67.7%
		3.0000			
		3.0000			
		3.0000			
		3.0000			
94.0					
1.4					
95.3					

ANALYSIS Run: 10000314 Method: F Date: 10/21/92
RUN LOG By: meb Instr.ID: 5100Z1 Time: 11:07

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129913		SEGW	1.5000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
2	129914		SEGW	-1.7000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
3	129915		SEGW	-1.5000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
4	129916		SEGW	-1.4000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
5	129918		SEGW	-1.5000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
6	129919		SEGW	-2.0000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
7	129921		SEGW	-0.9000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
8	129921	D	SEGW	-1.3000			1.0000	1.0000	1.0000	100.0000		3.0000	U	
9	129921	S	SEGW	20.3000			1.0000	1.0000	1.0000	100.0000	30.0000	20.3000		
10	129955		SEGW	-2.1000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
11	129956		SEGW	-1.6000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
12	129957		SEGW	-0.6000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
13	129970		SEGW	-2.4000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
14	BLK		SEGW	-0.9000			1.0000	1.0000	1.0000	100.0000		-0.9000		
15	BLKSP2966	C	SEGW	28.2000			1.0000	1.0000	1.0000	100.0000	30.0000	28.2000		
16	BLKSP2966	D	SEGW	28.6000			1.0000	1.0000	1.0000	100.0000		28.6000		
17	BLKSP2966	C	SEGW	28.6000			1.0000	1.0000	1.0000	100.0000	30.0000	28.6000		

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 510021 Date: 10/21/92 S ID: 1299215	Instrument: Date: SD ID:	Instrument: 510021 Date: 10/21/92 BS ID: BLSP3966	Instrument: 510021 Date: 10/21/92 BSD ID: BLSPDUP3966	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc					
Arsenic					
Lead					
Selenium	67.7%		94.0%	95.3%	1.4%
Mercury					

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Method Blank Summary Report

Analyte	Instrument: 510021 Date: 10/21/92 Blank ID: BL29616	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Arsenic				
Lead				
Selenium	-0.9 ug/l			
	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
Mercury				

Analyst: [signature] Date: 11/4/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 51002Z (CCB)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium	50.0 ug/l	46.2 ug/l	92%	Y

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 5100Z1 (CCV2)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium	50.0 ug/l	48.3 ug/l	96.6%	Y

CVAA Metal

Mercury				

Analyst: Medina A. Schuyler Bahr Date: 11/6/92

Supervisor: Carl G. Schmoll Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 510021 (CCIV)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium	50.0ug/l	50.5ug/l	101.0%	Y

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: 5100Z1 (ICV1)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium	40.0 ug/l	41.7 ug/l	104.2%	Y

CVAA Metal

Mercury				

Analyst: Marina Schuyler Bahr Date: 11/11/93

Supervisor: Earl S. Klimoff Date: 11-6-92

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		3.0000			
65.3 *					*CORRECTED SPIKE RECOVERY IS 75.3%
		3.0000			
0.0		3.0000			
		3.0000			
66.0 *					*CORRECTED SPIKE RECOVERY IS 76.0%
		3.0000			
86.7					
0.0					
88.0					
		3.0000			
32.4 *					*CORRECTED MSPIKE RECOVERY IS 92.4%
		3.0000			
21.6 *					*CORRECTED SPIKE RECOVERY IS 81.6%
		3.0000			
		3.0000			
		3.0000			
		3.0000			
0.0		3.0000			
		3.0000			
		3.0000			
		3.0000			
81.7					
4.4					
85.3					

ANALYSIS Run: 10000416 Method: F Date: 10/27/92
RUN LOG By: meb Instr.ID: 510022 Time: 10:09

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129920		SEGW	-0.4000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
2	129920	S	SEGW	22.6000			1.0000	1.0000	1.0000	100.0000	30.0000	22.6000		
3	130325		SEGW	-0.4000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
4	130325	D	SEGW	0.3000			1.0000	1.0000	1.0000	100.0000		3.0000	U	
5	130326		SEGW	-0.2000			1.0000	1.0000	1.0000	100.0000		3.0000	U	UG/L
6	130326	S	SEGW	22.8000			1.0000	1.0000	1.0000	100.0000	30.0000	22.8000		
7	BL2971		SEGW	-0.4000			1.0000	1.0000	1.0000	100.0000		3.0000	U	
8	BLSP2971	C	SEGW	26.0000			1.0000	1.0000	1.0000	100.0000	30.0000	26.0000		
9	BLSP2971	D	SEGW	26.4000			1.0000	1.0000	1.0000	100.0000		26.4000		
10	BLSP2971	C	SEGW	26.4000			1.0000	1.0000	1.0000	100.0000	30.0000	26.4000		
11	129923		SETC	-0.1000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
12	129923	S	SETC	23.1000			1.0000	1.0000	20.0000	100.0000	500.0000	462.0000		
13	129924		SETC	-0.3000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
14	129924	S	SETC	20.4000			1.0000	1.0000	20.0000	100.0000	500.0000	408.0000		
15	129975		SETC	-0.2000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
16	129985		SETC	-1.0000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/
17	130015		SETC	-0.4000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG
18	130016		SETC	-0.3000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG
19	130016	D	SETC	0.0000			1.0000	1.0000	100.0000	100.0000		300.0000	U	
20	130017		SETC	-1.4000			1.0000	1.0000	100.0000	100.0000		300.0000	U	UG/L
21	BLTC		SETC	0.7000			1.0000	1.0000	100.0000	100.0000		300.0000	U	
22	BL2970		SETC	0.6000			1.0000	1.0000	1.0000	100.0000		3.0000	U	
23	BLSP2970	C	SETC	24.5000			1.0000	1.0000	1.0000	100.0000	30.0000	24.5000		
24	BLSP2970	D	SETC	25.6000			1.0000	1.0000	1.0000	100.0000		25.6000		
25	BLSP2970	C	SETC	25.6000			1.0000	1.0000	1.0000	100.0000	30.0000	25.6000		

129920 Woody

129923 + 24 GB MET

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 510022 Date: 10/27/92 S ID: 699205	Instrument: Date: SD ID:	Instrument: 510022 Date: 10/27/92 BS ID: BLSP2971	Instrument: 510022 Date: 10/27/92 BSD ID: BLSPDUB2971	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc					
Arsenic					
Lead			86.7%	88.0%	1.5%
Selenium	75.3%				
Mercury					

Analyst: [illegible] Date: [illegible]

Supervisor: Earl S. Schmidt Date: 11-6-92

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414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Method Blank Summary Report

Analyte	Instrument: 510022 Date: 10/27/92 Blank ID: BL2971	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Arsenic				
Lead				
Selenium	-0.4 ug/L			
	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
Mercury				

Analyst: [illegible] Date: 11/10/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 5100Z2 (CCV2)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium	50.0 ug/L	49.2 ug/L	98.4%	Y

CVAA Metal

Mercury				

Analyst: Molina P. Schuyler Bohr Date: 11/6/92

Supervisor: Earl S. Klimek Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 5100Z2(ACV1)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium	50.0ug/l	50.0ug/l	100.0%	Y

CVAA Metal

Mercury				

Analyst: Medina C. Schuyler Bohr Date: 11/6/92

Supervisor: Earl G. Rhenall Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/27/92 Instrument: 510032 (GFAA)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium	40.0 ug/l	43.7 ug/l	109.2%	Y

CVAA Metal

Mercury				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

Alt.Result	IDL	LoLimit	HiLimit	Comment
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
	2.0000			
0.0	2.0000			
106.0 *	2.0000			Corrected spike recovery is 111.0%
97.0				
1.0				
98.0				
	2.0000			
0.0	2.0000			
118.5 *	2.0000			Corrected spike recovery is 123.5%
106.8				
2.9				
103.8				

SIS Run: 10000194 Method: F Date: 10/12/92
Run LOG By: man Instr.ID: 5100Z Time: 07:28

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
1	129887		TLGW	0.9000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
2	129888		TLGW	1.9000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
3	129889		TLGW	0.5000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
4	129890		TLGW	0.1000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
5	129891		TLGW	-0.3000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
6	129892		TLGW	-0.7000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
7	129894		TLGW	0.1000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
8	129913		TLGW	-0.1000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
9	129914		TLGW	-0.2000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
10	129915		TLGW	-0.4000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
11	129916		TLGW	-0.3000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
12	129918		TLGW	0.6000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
13	129919		TLGW	-0.8000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
14	129920		TLGW	-0.5000			1.0000	1.0000	1.0000	100.0000		2.0000	U	
15	129920	D	TLGW	0.3000			1.0000	1.0000	1.0000	100.0000	40.0000	44.4000		
	129920	S	TLGW	44.4000			1.0000	1.0000	1.0000	100.0000		-0.3000		
17	Blank2954		TLGW	-0.3000			1.0000	1.0000	1.0000	100.0000	40.0000	38.8000		
18	BLKS2954	C	TLGW	38.8000			1.0000	1.0000	1.0000	100.0000		39.2000		
19	BLKS2954	D	TLGW	39.2000			1.0000	1.0000	1.0000	100.0000	40.0000	39.2000		
20	BLKS2954	C	TLGW	39.2000			1.0000	1.0000	1.0000	100.0000		2.0000	U	UG/L
21	129921		TLGW	-0.5000			1.0000	1.0000	1.0000	100.0000		2.0000	U	
22	129921	D	TLGW	-0.7000			1.0000	1.0000	1.0000	100.0000	40.0000	49.4000		
23	129921	S	TLGW	49.4000			1.0000	1.0000	1.0000	100.0000		-0.1000		
24	Blank2953		TLGW	-0.1000			1.0000	1.0000	1.0000	100.0000	40.0000	42.7000		
25	BLKS2953	C	TLGW	42.7000			1.0000	1.0000	1.0000	100.0000		41.5000		
26	BLKS2953	D	TLGW	41.5000			1.0000	1.0000	1.0000	100.0000	40.0000	41.5000		
27	BLKS2953	C	TLGW	41.5000										

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 5100Z1 Date: 10/12/92 S ID: 1299205	Instrument: Date: SD ID:	Instrument: 5100Z1 Date: 10/12/92 BS ID: BLSP2954	Instrument: 5100Z1 Date: 10/12/92 BSD ID: BLSPDUP2954	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium (GFAA)	111.0%		97.0%	98.0%	1.0%
Zinc					
Arsenic					
Lead					
Selenium					
Mercury					

Analyst: Medina A. Schuyler Date: 11/6/92

Supervisor: Earl Schmidt Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 510021 Date: 10/12/92 S ID: 1299215	Instrument: Date: SD ID:	Instrument: 510021 Date: 10/12/92 BS ID: BLSP2963	Instrument: 510021 Date: 10/12/92 BSD ID: BLSPDUP2963	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium (GFAA)	123.5%		106.8%	103.8%	2.8%
Zinc					
Arsenic					
Lead					
Selenium					
Mercury					

Analyst: [signature] Date: 11/6/92

Supervisor: Earl S. Schmoll Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Method Blank Summary Report

Analyte	Instrument: 510021 Date: 10/6/92 Blank ID: 62953	Instrument: 510021 Date: 10/12/92 Blank ID: 62954	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	-0.1 ug/l	-0.3 ug/l		
Zinc				

Analyst: [illegible] Date: [illegible]

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 510072 (CCV4)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	30.0 ug/l	32.3 ug/l	107.7%	Y
Zinc				

Analyst: [signature] Date: 10/12/92

Supervisor: Earl E. [signature] Date: 10-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/13/92 Instrument: 510021 (CCV3)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	30.0 ug/l	32.4 ug/l	108.0%	Y
Zinc				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 5100ZZ (CCV2)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	30.0 ug/l	31.9 ug/l	106.3%	Y
Zinc				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 510027 (CCV7)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	30.0 ug/l	31.1 ug/l	103.7%	Y
Zinc				

Analyst: [illegible] Date: [illegible]

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Initial Calibration Check Report Form

Analysis Date: 10/12/92 Instrument: 510027 (JCAP)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	40.0 ug/l	38.1 ug/l	95.2%	Y
Zinc				

Analyst: [illegible] Date: 11/11/92

Supervisor: [illegible] Date: 11-6-92

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		2.0000			
	46	2.0000			
	51	2.0000			
		2.0000			
0.0		2.0000			
83.3 *		2.0000			CORRECTED SPIKE RECOVERY IS 88.3%
100.5					
1.0					
99.5					

ANALYSIS Run: 10000302 Method: F Date: 10/20/92
RUN LOG By: meb Instr.ID: 510022 Time: 17:12

	Lab#	Q	TestID	Init Result	Std Dev	CV	ght	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							000	1.0000	1.0000	100.0000				
1	129955		TLGW	0.2000			000	1.0000	1.0000	100.0000		2.0000	U	UG/L
2	129956		TLGW	46.3000			0000	1.0000	1.0000	100.0000		46.3000		UG/L
3	129957		TLGW	51.2000			..0000	1.0000	1.0000	100.0000		51.2000		UG/L
4	129970		TLGW	0.0000			1.0000	1.0000	1.0000	100.0000		2.0000	U	
5	129970	D	TLGW	0.2000			1.0000	1.0000	1.0000	100.0000		2.0000	U	
6	129970	S	TLGW	35.3000			1.0000	1.0000	1.0000	100.0000	40.0000	35.3000		
7	BLK		TLGW	-0.6000			1.0000	1.0000	1.0000	100.0000		-0.6000		
8	BLKSP2965	C	TLGW	40.2000			1.0000	1.0000	1.0000	100.0000	40.0000	40.2000		
9	BLKSP2965	D	TLGW	39.8000			1.0000	1.0000	1.0000	100.0000		39.8000		
10	BLKSP2965	C	TLGW	39.8000			1.0000	1.0000	1.0000	100.0000	40.0000	39.8000		

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Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 510022 Date: 10/20/92 S ID: 1299705	Instrument: Date: SD ID:	Instrument: 510022 Date: 10/20/92 BS ID: BLSP9965	Instrument: 510022 Date: 10/20/92 BSD ID: BLSPMAT9965	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium (GFAA)	88.3%		100.5%	99.5%	1.0%
Zinc					
Arsenic					
Lead					
Selenium					
Mercury					

Analyst: [illegible] Date: [illegible]

Supervisor: Earl Schmidt Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Method Blank Summary Report

Analyte	Instrument: 510022 Date: 10/20/92 Blank ID: BL2965	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	-0.6 ug/l			
Zinc				

Analyst: [signature] Date: 11/6/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 5100Z2 (CCV2)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	30.0 ug/l	30.8 ug/l	102.7%	Y
Zinc				

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 510032 (CCD)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	30.0 ug/L	31.9 ug/L	106.3%	Y
Zinc				

Analyst: [illegible] Date: 11/1/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Initial Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 5100Z2 (ICV1)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium (GFAA)	40.0 ug/l	41.6 ug/l	104.0%	Y
Zinc				

Analyst: Melissa A. Schuyler-Bohn Date: 11/6/92

Supervisor: Earl S. Hammell Date: 11-6-92

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- SAMPLE ANALYSIS REPORT -

TO: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

ATTN: CYNTHIA PAVELKA

Batch ID: 9210057 Report Date: 11/11/92
Our Lab #: 129957
Your Sample ID: WMW108-D0GGWD
Sample Matrix: WATER

COLLECTION INFORMATION

Date/Time/By: 10/07/92 10:00 W R
Location: 89MO114V NL/TARA CORP

Lab#	Test		Result	Units	Analysis Date	Qual
129957	Silver	<	9.0	UG/L	10/16/92	
	Arsenic		23	UG/L	10/21/92	
	Beryllium		1.88	UG/L	10/16/92	
	Cadmium		9200	UG/L	10/16/92	
	Chromium		84	UG/L	10/16/92	J
	Copper		44	UG/L	10/21/92	
	Mercury		0.2	UG/L	10/17/92	
	Nickel		640	UG/L	10/21/92	
	Lead		150	UG/L	10/20/92	
	Antimony	<	11	UG/L	10/16/92	
	Selenium	<	3.0	UG/L	10/21/92	
	Thallium		51	UG/L	10/20/92	
	Zinc		34000	UG/L	10/22/92	

Signed: [illegible] Date: 11-17-92

Signed: _____ Date: _____

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- SAMPLE ANALYSIS REPORT -

TO: WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR
MARYLAND HEIGHTS MO 63043

ATTN: CYNTHIA PAVELKA

Batch ID: 9210057
Report Date: 11/11/92
Our Lab #: 129956
Your Sample ID: WMW108-D0GGW
Sample Matrix: WATER

COLLECTION INFORMATION

Date/Time/By: 10/07/92 09:55 W R
Location: 89MO114V NL/TARA CORP

Lab#	Test		Result	Units	Analysis Date
129956	Silver	<	9.0	UG/L	10/16/92
	Arsenic		18	UG/L	10/21/
	Beryllium		2.02	UG/L	10/16/
	Cadmium		9600	UG/L	10/16/92
	Chromium		73	UG/L	10/16/92 J
	Copper		45	UG/L	10/21/92
	Mercury		0.2	UG/L	10/17/92
	Nickel		630	UG/L	10/21/92
	Lead		140	UG/L	10/20/92
	Antimony		22	UG/L	10/16/92
	Selenium	<	3.0	UG/L	10/21/92
	Thallium		46	UG/L	10/20/92
	Zinc		34000	UG/L	10/22/92

Signed: [signature] Date: 11-17-92

Signed: _____ Date: _____

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Method Blank Summary Report

Analyte	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Arsenic				
Lead				
Selenium				
	Instrument: 30306 Date: 10/30/92 Blank ID: Blank	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
Mercury	0.04 ug/L			

Analyst: [signature] Date: 11/6/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 3030B Date: 10/30/92 S ID: 1299205	Instrument: Date: SD ID:	Instrument: 3030B Date: 10/30/92 BS ID: BS	Instrument: 3030B Date: 10/30/92 BSD ID: BSD	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc					
Arsenic					
Lead					
Selenium					
Mercury	111.0%		103.7%	100.7%	2.9%

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

ANALYSIS RUN LOG

Run: 10000473 Method: CV Date: 10/30/92

By: meb Instr.ID: 30308 Time: 08:30

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129920		HGGW	0.0800			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
2	129920	S	HGGW	3.3300			1.0000	1.0000	1.0000	100.0000	3.0000	3.3300		
3	130015		HGTC	0.1100			1.0000	1.0000	100.0000	100.0000		20.0000	U	UG/L
4	130015	D	HGTC	0.0800			1.0000	1.0000	100.0000	100.0000		20.0000	U	
5	130356		HGGW	0.0800			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
6	130357		HGGW	0.0800			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
7	130357	D	HGGW	0.0800			1.0000	1.0000	1.0000	100.0000		0.2000	U	
8	130358		HGGW	0.0800			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
9	130358	S	HGGW	3.1400			1.0000	1.0000	1.0000	100.0000	3.0000	3.1400		
10	130359		HGGW	0.1100			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
11	130360		HGGW	0.1100			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
12	130361		HGGW	0.0400			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
13	BLANK		HGGW	0.0400			1.0000	1.0000	1.0000	100.0000		0.2000	U	
14	BLSP	C	HGGW	3.1100			1.0000	1.0000	1.0000	100.0000	3.0000	3.1100		
15	BLSP	D	HGGW	3.0200			1.0000	1.0000	1.0000	100.0000		3.0200		
16	BLSP	C	HGGW	3.0200			1.0000	1.0000	1.0000	100.0000	3.0000	3.0200		

Wendy 129920

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		0.2000			
104.3 *					CORRECTED SPIKE = 111.0 %
		0.2000			
0.0		0.2000			
		0.2000			
		0.2000			
0.0		0.2000			
		0.2000			
98.0 *		0.2000			CORRECTED SPIKE = 104.7 %
		0.2000			
		0.2000			
		0.2000			
		0.2000			
103.7					
2.9					
100.7					

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 3030B (ICU1)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	4.00 ug/l	3.84 ug/l	96.0%	Y

Analyst: [illegible] Date: 11/4/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 3030B (CCV1)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 ug/l	2.98 ug/l	99.3%	Y

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/20/92 Instrument: 3030B (CCV2)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 ug/l	2.98 ug/l	99.3%	Y

Analyst: Medina P. Schuyler Date: 11/4/92

Supervisor: Earl E. Schmidt Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Method Blank Summary Report

Analyte	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Arsenic				
Lead				
Selenium				
	Instrument: 30308 Date: 10/20/92 Blank ID: Blank	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
Mercury	-0.01 ug/l			

Analyst: [signature] Date: 11/6/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 3030B Date: 10/20/92 S ID: 1299215	Instrument: Date: SD ID:	Instrument: 3030B Date: 10/20/92 BS ID: BS	Instrument: 3030B Date: 10/20/92 BSD ID: BSD	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc					
Arsenic					
Lead					
Selenium					
Mercury	96.3%		103.7%	102.7%	1.0%

Analyst: [illegible] Date: [illegible]/92

Supervisor: [illegible] Date: 11-6-92

ANALYSIS Run: 10000300 Method: CV Date: 10/20/92
RUN LOG By: meb Instr.ID: 3030B Time: 08:30

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129920		HGGW	-0.1300			1.0000	1.0000	2.0000	100.0000		0.4000	U	UG/L
2	129921		HGGW	-0.0400			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
3	129921	D	HGGW	-0.1000			1.0000	1.0000	1.0000	100.0000		0.2000	U	
4	129921	S	HGGW	2.8900			1.0000	1.0000	1.0000	100.0000	3.0000	2.8900		
5	BLANK		HGGW	-0.0100			1.0000	1.0000	1.0000	100.0000		-0.0100		
6	BLKSP	C	HGGW	3.1100			1.0000	1.0000	1.0000	100.0000	3.0000	3.1100		
7	BLKSP	D	HGGW	3.0800			1.0000	1.0000	1.0000	100.0000		3.0800		
8	BLKSP	C	HGGW	3.0800			1.0000	1.0000	1.0000	100.0000	3.0000	3.0800		

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		0.2000			
		0.2000			
0.0		0.2000			
89.7 *		0.2000			*CORRECTED SPIKE IS 96.3%
103.7					
1.0					
102.7					

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Initial Calibration Check Report Form

Analysis Date: 10/17/92 Instrument: 3030B (ICU1)

GFAA Metals

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	4.00ug/l	3.93ug/l	98.2%	Y

Analyst: Medina A. Schuyler Baker Date: 11/6/92

Supervisor: Earl S. Schmoll Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/17/92 Instrument: 3030B (CCV1)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 ug/l	3.02 ug/l	100.7%	Y

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/17/92 Instrument: 3030B (CCV2)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 ug/l	3.09 ug/l	103.0%	Y

Analyst: [illegible] Date: 11/16/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/17/92 Instrument: 3030B (CC13)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 mg/l	2.99 mg/l	99.7%	Y

Analyst: [illegible] Date: [illegible]/92

Supervisor: [illegible] Date: 10-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/17/92 Instrument: 3030B (CCV4)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 ug/l	2.78 ug/l	92.7%	Y

Analyst: Medina A. Schuyler Baker Date: 11/11/92

Supervisor: [signature] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Continuing Calibration Check Report Form

Analysis Date: 10/17/92 Instrument: 3030B (CCV5)

GFAA Metal

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Arsenic				
Lead				
Selenium				

CVAA Metal

Mercury	3.00 ug/l	3.02 ug/l	100.7%	Y

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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Woodward Clyde Taracorp Superfund Project
GFAA/CVAA Metals: Method Blank Summary Report

Analyte	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Arsenic				
Lead				
Selenium				
	Instrument: 30308 Date: 10/17/92 Blank ID: Blank	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
Mercury	0.06 ug/l J			

Analyst: [signature] Date: 11/6/92

Supervisor: [signature] Date: 11-6-92

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FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 3030B Date: 10/17/92 S ID: 1299575	Instrument: Date: SD ID:	Instrument: 3030B Date: 10/17/92 BS ID: BS	Instrument: 3030B Date: 10/17/92 BSD ID: BSD	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc					
Arsenic					
Lead					
Selenium					
Mercury	79.0%		93.7%	97.3%	3.8%

Analyst: [illegible] Date: 11/16/92

Supervisor: [illegible] Date: 11-6-92

ANALYSIS Run: 10000284 Method: CV Date: 10/17/92
RUN LOG By: man Instr.ID: 3030B Time: 13:21

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Unit
							1.0000	1.0000	1.0000	100.0000				
1	129896		HGTC	0.0200			1.0000	1.0000	100.0000	100.0000		20.0000	U	UG/L
2	129896	D	HGTC	0.0600			1.0000	1.0000	100.0000	100.0000		20.0000	U	
3	129896	S	HGTC	1.0000			1.0000	1.0000	100.0000	100.0000	100.0000	100.0000		
4	BLKTC		HGTC	0.0200			1.0000	1.0000	100.0000	100.0000		20.0000	U	
5	129908		HGWW	0.0200			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
6	129887		HGGW	0.0600			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
7	129888		HGGW	0.6200			1.0000	1.0000	1.0000	100.0000		0.6200		UG/L
8	129889		HGGW	0.2000			1.0000	1.0000	1.0000	100.0000		0.2000		UG/L
9	129890		HGGW	0.0200			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
10	129891		HGGW	0.0200			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
11	129892		HGGW	0.1600			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
12	129894		HGGW	0.0600			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
13	129913		HGGW	0.0200			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
14	129913	D	HGGW	0.0600			1.0000	1.0000	1.0000	100.0000		0.2000	U	
15	129913	S	HGGW	3.0600			1.0000	1.0000	1.0000	100.0000	3.0000	3.0600		
16	Blank		HGGW	0.0600			1.0000	1.0000	1.0000	100.0000		0.2000	U	
17	BLKS	C	HGGW	2.9200			1.0000	1.0000	1.0000	100.0000	3.0000	2.9200		
18	BLKS	D	HGGW	3.1300			1.0000	1.0000	1.0000	100.0000		3.1300		
19	BLKS	C	HGGW	3.1300			1.0000	1.0000	1.0000	100.0000	3.0000	3.1300		
20	129914		HGGW	0.0200			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
21	129915		HGGW	0.0900			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
22	129916		HGGW	0.0600			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
23	129918		HGGW	0.5100			1.0000	1.0000	1.0000	100.0000		0.5100		UG/L
24	129919		HGGW	0.0900			1.0000	1.0000	1.0000	100.0000		0.2000	U	
25	129922		HGWW	0.2000			1.0000	1.0000	1.0000	100.0000		0.2000		
26	129955		HGGW	0.0900			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG/L
27	129956		HGGW	0.2000			1.0000	1.0000	1.0000	100.0000		0.2000		UG/L
28	129957		HGGW	0.2000			1.0000	1.0000	1.0000	100.0000		0.2000		UG/L
29	129957	D	HGGW	0.2000			1.0000	1.0000	1.0000	100.0000		0.2000		
30	129957	S	HGGW	2.5700			1.0000	1.0000	1.0000	100.0000	3.0000	2.5700		
31	Blank		HGGW	0.0600			1.0000	1.0000	1.0000	100.0000		0.2000	U	
32	BLKS	C	HGGW	2.8100			1.0000	1.0000	1.0000	100.0000	3.0000	2.8100		
33	BLKS	D	HGGW	2.9200			1.0000	1.0000	1.0000	100.0000		2.9200		
34	BLKS	C	HGGW	2.9200			1.0000	1.0000	1.0000	100.0000	3.0000	2.9200		
35	129970		HGGW	0.0600			1.0000	1.0000	1.0000	100.0000		0.2000	U	UG.

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		0.2000			
0.0		0.2000			
80.0	*	0.2000			* Corrected spike recovery is 100.0%
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
0.0		0.2000			
95.3	*	0.2000			* Corrected spike recovery is 102.0%
		0.2000			
97.3					
6.9					
104.3					
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
		0.2000			
0.0		0.2000			
79.0	*	0.2000			* Corrected spike recovery is 85.7%
		0.2000			
93.7					
3.8					
97.3					
		0.2000			

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Metals: Instrument Detection Limit Report

Analyte	Instrument: 61E Date: 7-20-92 IDL [ppb]	Instrument: Plasma II Date: 7-23-92 IDL [ppb]	Instrument: 5100Z1 Date: 7-6-92 IDL [ppb]	Instrument: 5100Z2 Date: 6-29-92 IDL [ppb]
Antimony	11			
Beryllium	1.0	2.0		
Cadmium	2.0	3.0		
Chromium	2.0	5.0		
Copper	2.0	2.0		
Nickel	5.0	12		
Silver	3.0	4.0		
Thallium			1.0	1.0
Zinc	1.0	4.0		
Arsenic			1.0	1.0
Lead	14	42	~~[illegible]~~ 1.0	1.0 ~~2.0~~
Selenium			1.0	1.0
Mercury			0.2	0.2

Obtained from lab 11/19/92 telephone mem C Paulka

Analyst: Medina C. Schuyler Baker Date: 11/6/92 11-5-92

Supervisor: [signature] Date: 11-5-92

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Woodward Clyde Taracorp Superfund Project
Metals: Instrument Detection Limit Report

Analyte	Instrument: PS200 Date: 7-9-92	Instrument: 3030B Date: 7-14-92	Instrument: Date:	Instrument: Date:
	IDL [ppb]	IDL [ppb]	IDL [ppb]	IDL [ppb]
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium				
Zinc				
Arsenic				
Lead				
Selenium				
Mercury	0.2	0.2		

Analyst: Medina P. Schuyler Baker Date: 11/6/92 11-5-92

Supervisor: [signature] Date: 11-5-92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Initial Calibration Check Report Form

Analysis Date: 10/22/92 Instrument: Plasma 2 (ICV1)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium				
Zinc	1,000 ug/l	995.4 ug/l	99.5%	Y

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/22/92 Instrument: Plasma2 (CCV1)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium				
Zinc	1,000 ug/l	1003.5 ug/l	100.4%	Y

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/22/92 Instrument: Plasma2 (CV2)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium				
Zinc	1,000 ug/l	999.2 ug/l	99.9%	Y

Analyst: Earl Schmidt Date: 11-6-92

Supervisor: M A Kuehl Date: 11/6/92

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ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/22/92 Instrument: Plasma 2 (CCV3)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium				
Zinc	1000 ug/L	1012.4 ug/L	101.2%	Y

Analyst: _____ Date: _____

Supervisor: [illegible] Date: 11/6/92

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Woodward Clyde Tarecorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/22/92 Instrument: Plasma 2 (CCU4)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium				
Zinc	1,000 ug/l	984.6 ug/l	98.5%	Y

Analyst: Earl G Schmidt Date: 11-6-92

Supervisor: [illegible] Date: 11/6/92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/22/92 Instrument: Plasma 2 (CCVS)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium				
Zinc	1,000 ug/L	939.5 ug/L	93.95%	Y

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/22/92 Instrument: Plasma 2 (CCVE)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium				
Zinc	1,000 ug/l	982.5 ug/l	98.25%	Y

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Method Blank Summary Report

Analyte	Instrument: Plasma2 Date: 10/23/92 Blank ID: BLK5957	Instrument: Plasma2 Date: 10/23/92 Blank ID: BLK2958	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper				
Nickel				
Silver				
Thallium				
Zinc	3.1 ug/l	6.8 ug/l		

Analyst: Earl G Schmoll Date: 11-6-92

Supervisor: M Kuehl Date: 11/6/92

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: Plasma2 Date: 10/22/92 S ID: 1299205	Instrument: Date: SD ID:	Instrument: Plasma2 Date: 10/22/92 BS ID: [illegible]	Instrument: Plasma2 Date: 10/22/92 BSD ID: [illegible]	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc	95.2%		98.6%	98.5%	0.1%
Arsenic					
Lead					
Selenium					
Mercury					

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: Plasma2 Date: 10/22/92 S ID: 1299215	Instrument: Date: SD ID:	Instrument: Plasma2 Date: 10/22/92 BS ID: BLK29585P	Instrument: Plasma2 Date: 10/22/92 BSD ID: BLK29585D	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper					
Nickel					
Silver					
Thallium					
Zinc	93.7%		94.2%	94.7%	0.6%
Arsenic					
Lead					
Selenium					
Mercury					

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

ANALYSIS Run: 10000334 Method: P Date:

RUN LOG By: ** Instr.ID: PLASMA2 Time:

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	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129887		ZNGW	67.2000			1.0000	1.0000	1.0000	100.0000		67.2000		UG/L
2	129888		ZNGW	857.6000			1.0000	1.0000	1.0000	100.0000		857.6000		UG/L
3	129889		ZNGW	245.7000			1.0000	1.0000	1.0000	100.0000		245.7000		UG/L
4	129890		ZNGW	9.5000			1.0000	1.0000	1.0000	100.0000		20.0000	U	UG/L
5	129891		ZNGW	72.6000			1.0000	1.0000	1.0000	100.0000		72.6000		UG/L
6	129892		ZNGW	67.7000			1.0000	1.0000	1.0000	100.0000		67.7000		UG/L
7	129894		ZNGW	78.4000			1.0000	1.0000	1.0000	100.0000		78.4000		UG
8	129913		ZNGW	77.1000			1.0000	1.0000	1.0000	100.0000		77.1000		UG/L
9	129914		ZNGW	57.3000			1.0000	1.0000	1.0000	100.0000		57.3000		UG/L
10	129915		ZNGW	55.2000			1.0000	1.0000	1.0000	100.0000		55.2000		
11	129916		ZNGW	74.4000			1.0000	1.0000	1.0000	100.0000		74.4000		UG/L
12	129918		ZNGW	375.1000			1.0000	1.0000	1.0000	100.0000		375.1000		UG/L
13	129919		ZNGW	65.7000			1.0000	1.0000	1.0000	100.0000		65.7000		UG/L
14	129920		ZNGW	85.4000			1.0000	1.0000	1.0000	100.0000		85.4000		UG/L
15	129920	D	ZNGW	103.0000			1.0000	1.0000	1.0000	100.0000		103.0000		UG
16	129920	S	ZNGW	561.4000			1.0000	1.0000	1.0000	100.0000	500.0000	561.4000		UG/L
17	BLKSP2957	C	ZNGW	493.0000			1.0000	1.0000	1.0000	100.0000	500.0000	493.0000		UG/L
18	BLKSP2957	D	ZNGW	492.4000			1.0000	1.0000	1.0000	100.0000		492.4000		UG/L
19	BLKSP2957	C	ZNGW	492.4000			1.0000	1.0000	1.0000	100.0000	500.0000	492.4000		UG/L
20	BLK2957		ZNGW	3.1000			1.0000	1.0000	1.0000	100.0000		20.0000	U	UG/L
21	129921		ZNGW	61.1000			1.0000	1.0000	1.0000	100.0000		61.1000		UG/L
22	129921	D	ZNGW	54.3000			1.0000	1.0000	1.0000	100.0000		54.3000		UG/L
23	129921	S	ZNGW	529.4000			1.0000	1.0000	1.0000	100.0000	500.0000	529.4000		UG/L
24	BLKSP2958	C	ZNGW	470.9000			1.0000	1.0000	1.0000	100.0000	500.0000	470.9000		L
25	BLKSP2958	D	ZNGW	473.7000			1.0000	1.0000	1.0000	100.0000		473.7000		UG/L

BLKSP2958C ZNGW 473.7 1 1 1 100 500 473.7 UG/L

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
	67	20.0000			
	860	20.0000			
	250	20.0000			
		20.0000			
	73	20.0000			
	68	20.0000			
	78	20.0000			
	77	20.0000			
	57	20.0000			
	55	20.0000			
	74	20.0000			
	380	20.0000			
	66	20.0000			
	85	20.0000			
18.7		20.0000			
95.2		20.0000			
98.6		20.0000			
0.1		20.0000			
98.5		20.0000			
		20.0000			
	61	20.0000			
11.8		20.0000			
93.7		20.0000			
94.2		20.0000			
0.6		20.0000			

94.7

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Initial Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: Plasma 2 (ICP2)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper	1,000 ug/L	990.3 ug/L	99.03%	Y
Nickel	1,000 ug/L	984.7 ug/L	98.47%	Y
Silver				
Thallium				
Zinc				

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: Plasma 2 (ICP I)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper	1,000 ug/L	1003.5 ug/L	100.4%	Y
Nickel	1,000 ug/L	998.6 ug/L	99.9%	Y
Silver				
Thallium				
Zinc				

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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414-498-2222
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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: Plasma 2 (2012)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper	1,000 ug/L	1012.6 ug/L	101.3 %	Y
Nickel	1,000 ug/L	1028.1 ug/L	102.8 %	Y
Silver				
Thallium				
Zinc				

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: Plasma 2 (CCB)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper	1,000 µg/L	1046.9 µg/L	104.7%	Y
Nickel	1,000 µg/L	1029.8 µg/L	102.9%	Y
Silver				
Thallium				
Zinc				

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: Plasma 2 (CCV4)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper	1000 ug/L	1049.7 ug/L	104.9%	Y
Nickel	1000 ug/L	1007.5 ug/L	100.8%	Y
Silver				
Thallium				
Zinc				

Analyst: Earl Ekhmoll Date: 11-6-92

Supervisor: M A Kuehl Date: 11/6/92

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2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/21/92 Instrument: Plasma 2 (M15)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper	1,000 ug/L	1078.7 ug/L	107.9%	Y
Nickel	1000 ug/L	1039.9 ug/L	103.9%	Y
Silver				
Thallium				
Zinc				

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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Woodward Clyde Taracorp Superfund Project
ICP Metals: Method Blank Summary Report

Analyte	Instrument: Plasma2 Date: 10/21/92 Blank ID: BLK7959	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Antimony				
Beryllium				
Cadmium				
Chromium				
Copper	0.7 µg/l			
Nickel	4.7 µg/l			
Silver				
Thallium				
Zinc				

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: Plasma2 Date: 10/21/92 S ID: 1299215	Instrument: Date: SD ID:	Instrument: Plasma2 Date: 10/21/92 BS ID: BLSP2958	Instrument: Plasma2 Date: BSD ID: BLKSP2958D	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony					
Beryllium					
Cadmium					
Chromium					
Copper	96%		91.3%	93.2%	2.0%
Nickel	93.5%		91.4%	93.9%	2.7%
Silver					
Thallium					
Zinc					
Arsenic					
Lead					
Selenium					
Mercury					

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

ANALYSIS Run: 10000327 Method: P Date: 10-21-92
RUN LOG By: egs Instr.ID: PLASMA2 Time: 20:32

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	D	Un
							1.0000	1.0000	1.0000	100.0000				
1	129919		CUGW	8.8000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
2	129919		NIGW	10.3000			1.0000	1.0000	1.0000	100.0000		23.0000	U	UG/L
3	129920		NIGW	9.2893			1.0000	1.0000	1.0000	100.0000		23.0000	U	UG/L
4	129921		CUGW	6.2000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
5	129921	D	CUGW	5.0000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
6	129921	S	CUGW	239.9000			1.0000	1.0000	1.0000	100.0000	250.0000	239.9000		UG/L
7	129921		NIGW	12.8000			1.0000	1.0000	1.0000	100.0000		23.0000	U	UG/L
8	129921	D	NIGW	12.8000			1.0000	1.0000	1.0000	100.0000		23.0000	U	UG/L
9	129921	S	NIGW	467.3000			1.0000	1.0000	1.0000	100.0000	500.0000	467.3000		UG/L
10	BLKSP2958	C	NIGW	457.0000			1.0000	1.0000	1.0000	100.0000	500.0000	457.0000		UG/L
11	BLKSP2958	D	NIGW	469.6000			1.0000	1.0000	1.0000	100.0000		469.6000		UG/L
12	BLKSP2958	C	NIGW	469.6000			1.0000	1.0000	1.0000	100.0000	500.0000	469.6000		UG/L
13	BLK2958		NIGW	4.7000			1.0000	1.0000	1.0000	100.0000		23.0000	U	UG/L
14	BLKSP2958	C	CUGW	228.3000			1.0000	1.0000	1.0000	100.0000	250.0000	228.3000		UG/L
15	BLKSP2958	D	CUGW	232.9000			1.0000	1.0000	1.0000	100.0000		232.9000		UG/L
16	BLKSP2958	C	CUGW	232.9000			1.0000	1.0000	1.0000	100.0000	250.0000	232.9000		UG/L
17	BLK2958		CUGW	0.7000			1.0000	1.0000	1.0000	100.0000		14.0000	U	
18	129955		NIGW	27.0000			1.0000	1.0000	1.0000	100.0000		27.0000		
19	129955		CUGW	16.8000			1.0000	1.0000	1.0000	100.0000		16.8000		UG/L
20	129956		CUGW	44.8000			1.0000	1.0000	1.0000	100.0000		44.8000		UG/L
21	129956		NIGW	634.8000			1.0000	1.0000	1.0000	100.0000		634.8000		UG/L
22	129957		CUGW	43.7000			1.0000	1.0000	1.0000	100.0000		43.7000		UG/L
23	129957		NIGW	640.0000			1.0000	1.0000	1.0000	100.0000		640.0000		UG/L
24	129959		CUWTR	37.1000			1.0000	1.0000	1.0000	100.0000		37.1000		UG/L
25	129960		CUGW	4.6000			1.0000	1.0000	1.0000	100.0000		14.0000	U	
26	129961		CUGW	10.5000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
27	129962		CUGW	11.9000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
28	129963		CUGW	2.2000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
29	129964		CUGW	7.1000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
30	129965		CUGW	5.6000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
31	129966		CUGW	8.2000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
32	129967		CUGW	4.0000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
33	129968		CUGW	4.7000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
34	129969		CUGW	5.9000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
35	129970		CUGW	6.4000			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		14.0000			
		23.0000			
		23.0000			
		14.0000			
0.0		14.0000			
90.4 *		14.0000			CORRECTED SPIKE RECOVERY IS 96%
		23.0000			
0.0		23.0000			
88.9 *		23.0000			CORRECTED SPIKE RECOVERY IS 93.5%
91.4		23.0000			
2.7		23.0000			
93.9		23.0000			
		23.0000			
91.3		14.0000			
2.0		14.0000			
93.2		14.0000			
		14.0000			
	27	23.0000			
	17	14.0000			
	45	14.0000			
	630	23.0000			
	44	14.0000			
	640	23.0000			
	37	14.0000			
		14.0000			
		14.0000			
		14.0000			
		14.0000			
		14.0000			
		14.0000			
		14.0000			
		14.0000			
		14.0000			
		14.0000			
		14.0000			

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ENVIRONMENTAL LABORATORY
P.O. Box 12435
Green Bay, WI 54307-2435
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Woodward Clyde Taracorp Superfund Project
ICP Metals: Initial Calibration Check Report Form

Analysis Date: 10/15/92 Instrument: 61E (TCV1)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	1,000 ug/l	991.9 ug/l	99.19%	Y
Beryllium	50 ug/l	50.1 ug/l	100.2%	Y
Cadmium	1,000 ug/l	933.5 ug/l	93.35%	Y
Chromium	1,000 ug/l	939.7 ug/l	93.97%	Y
Copper	1,000 ug/l	946.2 ug/l	94.62%	Y
Nickel	1,000 ug/l	944.5 ug/l	94.45%	Y
Silver	1,000 ug/l	980.1 ug/l	98.01%	Y
Thallium				
Zinc				

Analyst: [signature] Date: 11/6/92

Supervisor: [signature] Date: 11-6-92

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ENVIRONMENTAL LABORATORY
2696 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
ICP Metals: Initial Calibration Check Report Form

Analysis Date: 10/15/92 Instrument: 61E (ICP2)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	1,000 ug/l	983.9 ug/l	98.39%	Y
Beryllium	50 ug/l	51.1 ug/l	102.2%	Y
Cadmium	1,000 ug/l	958.8 ug/l	95.88%	Y
Chromium	1,000 ug/l	964.8 ug/l	96.48%	Y
Copper	1,000 ug/l	965.4 ug/l	96.54%	Y
Nickel	1,000 ug/l	964.7 ug/l	96.47%	Y
Silver	1,000 ug/l	981.8 ug/l	98.18%	Y
Thallium				
Zinc				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/15/93 Instrument: 61E (0917)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	5,000 ug/l	4947.6 ug/l	99%	Y
Beryllium	50 ug/l	48.9 ug/l	97.8%	Y
Cadmium	1,000 ug/l	947.5 ug/l	94.75%	Y
Chromium	1,000 ug/l	962.2 ug/l	96.22%	Y
Copper	1,000 ug/l	965.9 ug/l	96.59%	Y
Nickel	1,000 ug/l	959.3 ug/l	95.93%	Y
Silver	250 ug/l	241.2 ug/l	96.48%	Y
Thallium				
Zinc				

Analyst: [illegible] Date: 11/6/92

Supervisor: Carl G. Schmidt Date: 11-6-92

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ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/15/92 Instrument: 61E (0012)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	5,000 ug/l	4845.9 ug/l	96.9%	Y
Beryllium	50 ug/l	47.6 ug/l	95.2%	Y
Cadmium	1,000 ug/l	942.2 ug/l	94.3%	Y
Chromium	1,000 ug/l	946.9 ug/l	94.7%	Y
Copper	1,000 ug/l	934.2 ug/l	93.4%	Y
Nickel	1,000 ug/l	945.4 ug/l	94.5%	Y
Silver	250 ug/l	238.7 ug/l	95.5%	Y
Thallium				
Zinc				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
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FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/15/92 Instrument: 61E (M13)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	5,000ug/l	4849.5ug/l	96.99%	Y
Beryllium	50ug/l	47.3ug/l	94.60%	Y
Cadmium	1,000ug/l	946 ug/l	94.60%	Y
Chromium	1,000ug/l	946.6ug/l	94.7%	Y
Copper	1,000ug/l	916 ug/l	91.6%	Y
Nickel	1,000ug/l	957.5ug/l	95.8%	Y
Silver	250ug/l	236.3ug/l	94.5%	Y
Thallium				
Zinc				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

ORTEK
ENVIRONMENTAL LABORATORY
2896 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/15/92 Instrument: 61E (ICP4)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	5,000ug/L	4601.2ug/L	92.0%	Y
Beryllium	50ug/L	44.3ug/L	88.6%	N
Cadmium	1,000ug/L	946.7ug/L	94.7%	Y
Chromium	1,000ug/L	904.7ug/L	90.5%	Y
Copper	1,000ug/L	847.4ug/L	84.7%	N
Nickel	1,000ug/L	915.8ug/L	91.6%	Y
Silver	250ug/L	225.8ug/L	90.3%	Y
Thallium				
Zinc				

Analyst: [illegible] Date: 11/6/92

Supervisor: [illegible] Date: 11-6-92

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ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307 2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/15/92 Instrument: 61E (0015)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	5,000 ug/L	4847.8 ug/L	96.99%	Y
Beryllium	50 ug/L	49.2 ug/L	98.49%	Y
Cadmium	1,000 ug/L	963.9 ug/L	96.49%	Y
Chromium	1,000 ug/L	974.5 ug/L	97.5%	Y
Copper	1,000 ug/L	975.8 ug/L	97.69%	Y
Nickel	1,000 ug/L	968.9 ug/L	96.99%	Y
Silver	250 ug/L	237.3 ug/L	94.99%	Y
Thallium				
Zinc				

Analyst: [illegible] Date: 11-6-92

Supervisor: [illegible] Date: 11/6/92

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ENVIRONMENTAL LABORATORY
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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/15/92 Instrument: 61E (Mike)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	5,000ug/l	4855.9ug/l	97.1%	Y
Beryllium	50ug/l	49.3ug/l	98.6%	Y
Cadmium	1,000ug/l	972 ug/l	97.2%	Y
Chromium	1,000ug/l	982.9ug/l	98.3%	Y
Copper	1,000ug/l	972.1ug/l	97.2%	Y
Nickel	1,000ug/l	989.6ug/l	98.9%	Y
Silver	250ug/l	240.2ug/l	96.1%	Y
Thallium				
Zinc				

Analyst: Earl Schlemmell Date: 11-6-92

Supervisor: MAKuehl Date: 11/6/92

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ENVIRONMENTAL LABORATORY
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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/15/92 Instrument: 6/1E (PC17)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	5,000ug/l	4581.4ug/l	91.6%	Y
Beryllium	50ug/l	45.6ug/l	91.3%	Y
Cadmium	1,000ug/l	938.2ug/l	93.8%	Y
Chromium	1,000ug/l	929.9ug/l	92.9%	Y
Copper	1,000ug/l	894.0ug/l	89.4%	N
Nickel	1,000ug/l	921.1ug/l	92.1%	Y
Silver	250ug/l	226.4ug/l	90.6%	Y
Thallium				
Zinc				

Analyst: [signature] Date: 11-6-92

Supervisor: _____ Date: _____

From telephone conversation 11/4/92. For Copper, samples were rerun on Plasma #II, 10/21/92

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2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
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Woodward Clyde Taracorp Superfund Project
ICP Metals: Continuing Calibration Check Report Form

Analysis Date: 10/15/92 Instrument: 101E (0018)

Analyte	[Expected]	[Found]	% Recovery	OK (Y/N)
Antimony	5,000 ug/L	4636.8 ug/L	92.7%	Y
Beryllium	50 ug/L	45.8 ug/L	91.6%	Y
Cadmium	1,000 ug/L	950.4 ug/L	95.0%	Y
Chromium	1,000 ug/L	940.1 ug/L	94.0%	Y
Copper	1,000 ug/L	887.3 ug/L	88.7%	N
Nickel	1,000 ug/L	939.3 ug/L	93.9%	Y
Silver	250 ug/L	227.1 ug/L	90.8%	Y
Thallium				
Zinc				

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

From telephone conversation 11/9/92. For Copper, samples were rerun on Plasma #II, 10/21/92.

ORTEK
ENVIRONMENTAL LABORATORY
2996 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
ICP Metals: Method Blank Summary Report

Analyte	Instrument: 61E Date: 10/15/92 Blank ID: BLK2957	Instrument: 61E Date: 10/15/92 Blank ID: BLK2958	Instrument: Date: Blank ID:	Instrument: Date: Blank ID:
	[ppb]	[ppb]	[ppb]	[ppb]
Antimony	-3.5 ug/l	-9.3 ug/l		
Beryllium	-0.04 ug/l	0.32 ug/l		
Cadmium	-1.6 ug/l	-1.6 ug/l		
Chromium	-1.8 ug/l	6.6 ug/l		
Copper	-1.9 ug/l			
Nickel	-2.3 ug/l			
Silver	-1.5 ug/l	0.67 ug/l		
Thallium				
Zinc				

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

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ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 61E Date: 10/15/92 S ID: 1299205	Instrument: Date: SD ID:	Instrument: 61E Date: 10/15/92 BS ID: BLKSP2957	Instrument: 61E Date: 10/15/92 BSD ID: BLKSP2957D	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony	93.6%		93.2%	95.5%	2.4%
Beryllium	84.3%		90.6%	92.0%	1.5%
Cadmium	84.7%		82.0%	85.2%	3.8%
Chromium	90.9%		89.0%	89.4%	0.5%
Copper	89.2%		90.0%	91.2%	1.3%
Nickel	87.8%		90.4%	90.7%	0.3%
Silver	81.2%		85.4%	86.2%	1.0%
Thallium					
Zinc					
Arsenic					
Lead					
Selenium					
Mercury					

Analyst: Earl S. Schmidt Date: 11-6-92

Supervisor: M. Kiehl Date: 11/6/92

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ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

Woodward Clyde Taracorp Superfund Project
Metals: Spike Recovery Summary Report
Lab Control(BS/BSD) and Matrix Spikes (S/SD)

Analyte	Instrument: 61E Date: 10/15/92 S ID: 1299215	Instrument: Date: SD ID:	Instrument: 61E Date: 10/15/92 BS ID: BLKSP9958	Instrument: 61E Date: 10/15/92 BSD ID: BLKSP9958D	RPD for BS/BSD
	% Recovery	% Recovery	% Recovery	% Recovery	
Antimony	93.7%		91.8%	93.2%	1.6%
Beryllium	89.6%		88.5%	88.5%	0.1%
Cadmium	92.6%		86.6%	90.3%	4.2%
Chromium	93.3%		89.2%	89.5%	0.4%
Copper					
Nickel					
Silver	87.6%		87.3%	88.2%	1.0%
Thallium					
Zinc					
Arsenic					
Lead					
Selenium					
Mercury					

Analyst: [signature] Date: 11-6-92

Supervisor: [signature] Date: 11/6/92

ANALYSIS Run: 10000329 Method: P Date: 10-15-92
RUN LOG By: egs Instr.ID: 61E Time: 12:54

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129920		CUGW	5.6392			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
2	129920	D	CUGW	5.8560			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
3	129920	S	CUGW	223.0300			1.0000	1.0000	1.0000	100.0000	250.0000	223.0300		UG/L

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		14.0000			CORRECTED SPIKE RECOVERY IS 89.2%.
		14.0000			
0.0		14.0000			
83.6 *					

ANALYSIS Run: 10000270 Method: P Date: 10/16/92
RUN LOG By: mmn Instr.ID: P2 Time: 16:26

	Lab#	Q	TestID	Init Result	Std Dev	CV	Weight	Volume	Dil	%Solid	Spk/Ref	Calc Result	C	Units
							1.0000	1.0000	1.0000	100.0000				
1	129887		CDGWP	-1.5742			1.0000	1.0000	1.0000	100.0000		5.0000	U	UG/L
2	129887		SBGW	-15.8320			1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
3	129887		BEGW	0.0258			1.0000	1.0000	1.0000	100.0000		0.6000	U	UG/L
4	129887		CRGWP	14.6030			1.0000	1.0000	1.0000	100.0000		14.6030		UG/L
5	129887		CUGW	8.0814			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
6	129887		NIGW	25.8050			1.0000	1.0000	1.0000	100.0000		25.8050		UG/L
7	129887		AGGWP	-3.4980			1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
8	129888		SBGW	10.5340			1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
9	129888		BEGW	7.8920			1.0000	1.0000	1.0000	100.0000		7.8920		UG/L
10	129888		CDGWP	10.2280			1.0000	1.0000	1.0000	100.0000		10.2280		UG/L
11	129888		CRGWP	345.3700			1.0000	1.0000	1.0000	100.0000		345.3700		UG/L
12	129888		CUGW	296.2100			1.0000	1.0000	1.0000	100.0000		296.2100		UG/L
13	129888		NIGW	428.1700			1.0000	1.0000	1.0000	100.0000		428.1700		UG/L
14	129888		AGGWP	-3.0450			1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
15	129889		SBGW	-4.3168			1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
16	129889		BEGW	1.7310			1.0000	1.0000	1.0000	100.0000		1.7310		UG/L
17	129889		CDGWP	2.1526			1.0000	1.0000	1.0000	100.0000		5.0000	U	UG/L
18	129889		CRGWP	66.9830			1.0000	1.0000	1.0000	100.0000		66.9830		UG/L
19	129889		CUGW	54.3910			1.0000	1.0000	1.0000	100.0000		54.3910		UG/L
20	129889		NIGW	57.1090			1.0000	1.0000	1.0000	100.0000		57.1090		UG/L
21	129889		AGGWP	-2.3490			1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
22	129890		SBGW	-7.0072			1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
23	129890		BEGW	-0.1112			1.0000	1.0000	1.0000	100.0000		0.6000	U	UG/L
24	129890		CDGWP	-0.3202			1.0000	1.0000	1.0000	100.0000		5.0000	U	UG/L
25	129890		CUGW	3.2138			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
26	129890		NIGW	0.5116			1.0000	1.0000	1.0000	100.0000		23.0000	U	UG/L
27	129890		AGGWP	-1.5230			1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
28	129891		SBGW	-10.2920			1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
29	129891		BEGW	-0.1120			1.0000	1.0000	1.0000	100.0000		0.6000	U	UG/L
30	129891		CDGWP	-1.3275			1.0000	1.0000	1.0000	100.0000		5.0000	U	UG/L
31	129891		CRGWP	24.1800			1.0000	1.0000	1.0000	100.0000		24.1800		UG/L
32	129891		CUGW	11.9090			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
33	129891		NIGW	11.1190			1.0000	1.0000	1.0000	100.0000		23.0000	U	UG/L
34	129891		AGGWP	-4.2470			1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
35	129892		SBGW	-10.2950			1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
36	129892		BEGW	-0.1234			1.0000	1.0000	1.0000	100.0000		0.6000	U	UG/L
37	129892		CDGWP	-0.5606			1.0000	1.0000	1.0000	100.0000		5.0000	U	UG/L
38	129892		CRGWP	26.5350			1.0000	1.0000	1.0000	100.0000		26.5350		UG/L
39	129892		CUGW	7.6254			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
40	129892		NIGW	13.2770			1.0000	1.0000	1.0000	100.0000		23.0000	U	UG/L
41	129892		AGGWP	-2.7210			1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
42	129894		SBGW	-13.1170			1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
43	129894		BEGW	0.0152			1.0000	1.0000	1.0000	100.0000		0.6000	U	UG/L
44	129894		CDGWP	-0.8373			1.0000	1.0000	1.0000	100.0000		5.0000	U	UG/L
45	129894		CRGWP	12.2760			1.0000	1.0000	1.0000	100.0000		13.0000	U	UG/L
46	129894		CUGW	3.5294			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
47	129894		NIGW	33.1500			1.0000	1.0000	1.0000	100.0000		33.1500		UG/L
48	129894		AGGWP	-2.0180			1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
49	129913		SBGW	-20.1280			1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
50	129913		BEGW	-0.0355			1.0000	1.0000	1.0000	100.0000		0.6000	U	UG/L
51	129913		CDGWP	-0.7404			1.0000	1.0000	1.0000	100.0000		5.0000	U	UG/L
52	129913		CRGWP	8.2529			1.0000	1.0000	1.0000	100.0000		13.0000	U	UG/L
53	129913		CUGW	3.3579			1.0000	1.0000	1.0000	100.0000		14.0000	U	UG/L
54	129913		NIGW	17.9070			1.0000	1.0000	1.0000	100.0000		23.0000	U	UG/L
55	129913		AGGWP	-5.0340			1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L

Rec/Diff	Alt.Result	IDL	LoLimit	HiLimit	Comment
		5.0000			
		11.0000			
		0.6000			
		13.0000			
	15	14.0000			
		23.0000			
	26	9.0000			
		11.0000			
		0.6000			
		5.0000			
	10	13.0000			
	350	14.0000			
	300	23.0000			
	430	9.0000			
		11.0000			
		0.6000			
		5.0000			
		13.0000			
	67	14.0000			
	54	23.0000			
	57	9.0000			
		11.0000			
		0.6000			
		5.0000			
		14.0000			
		23.0000			
		9.0000			
		11.0000			
		0.6000			
		5.0000			
		13.0000			
	24	14.0000			
		23.0000			
		9.0000			
		11.0000			
		0.6000			
		5.0000			
		13.0000			
	27	14.0000			
		23.0000			
		9.0000			
		11.0000			
		0.6000			
		5.0000			
		13.0000			
		14.0000			
		23.0000			
	33	9.0000			
		11.0000			
		0.6000			
		5.0000			
		13.0000			
		14.0000			
		23.0000			

56	129914		SBGW	2.0735	1.0000	1.0000	1.0000	100.0000		11.0000	U UG/L
57	129914		BEGW	-0.2084	1.0000	1.0000	1.0000	100.0000		0.6000	U UG/L
58	129914		CDGWP	-0.5934	1.0000	1.0000	1.0000	100.0000		5.0000	U UG/L
59	129914		CRGWP	21.0580	1.0000	1.0000	1.0000	100.0000		21.0580	UG/L
60	129914		CUGW	8.9003	1.0000	1.0000	1.0000	100.0000		14.0000	U UG/L
61	129914		NIGW	6.8440	1.0000	1.0000	1.0000	100.0000		23.0000	U UG/L
62	129914		AGGWP	0.5071	1.0000	1.0000	1.0000	100.0000		9.0000	U UG/L
63	129915		SBGW	-4.3684	1.0000	1.0000	1.0000	100.0000		11.0000	U UG/L
64	129915		BEGW	-0.0851	1.0000	1.0000	1.0000	100.0000		0.6000	U UG/L
65	129915		CDGWP	0.0223	1.0000	1.0000	1.0000	100.0000		5.0000	U UG/L
66	129915		CRGWP	-2.8657	1.0000	1.0000	1.0000	100.0000		13.0000	U UG/L
67	129915		CUGW	3.6419	1.0000	1.0000	1.0000	100.0000		14.0000	U UG/L
68	129915		NIGW	-0.7945	1.0000	1.0000	1.0000	100.0000		23.0000	U UG/L
69	129915		AGGWP	-0.6491	1.0000	1.0000	1.0000	100.0000		9.0000	U UG/L
70	129916		SBGW	13.5300	1.0000	1.0000	1.0000	100.0000		13.5300	UG/L
71	129916		BEGW	0.1122	1.0000	1.0000	1.0000	100.0000		0.6000	U UG/L
72	129916		CDGWP	0.2395	1.0000	1.0000	1.0000	100.0000		5.0000	U UG/L
73	129916		CRGWP	28.7290	1.0000	1.0000	1.0000	100.0000		28.7290	UG/L
74	129916		CUGW	9.1606	1.0000	1.0000	1.0000	100.0000		14.0000	U UG/L
75	129916		NIGW	16.7720	1.0000	1.0000	1.0000	100.0000		23.0000	U UG/L
76	129916		AGGWP	-0.0833	1.0000	1.0000	1.0000	100.0000		9.0000	U UG/L
77	129918		SBGW	13.1450	1.0000	1.0000	1.0000	100.0000		13.1450	UG/L
78	129918		BEGW	3.2200	1.0000	1.0000	1.0000	100.0000		3.2200	UG/L
79	129918		CDGWP	4.9328	1.0000	1.0000	1.0000	100.0000		5.0000	U UG/L
80	129918		CRGWP	97.9910	1.0000	1.0000	1.0000	100.0000		97.9910	UG/L
81	129918		CUGW	96.9610	1.0000	1.0000	1.0000	100.0000		96.9610	UG/L
82	129918		NIGW	194.7900	1.0000	1.0000	1.0000	100.0000		194.7900	UG/L
83	129918		AGGWP	-0.5147	1.0000	1.0000	1.0000	100.0000		9.0000	U UG/L
84	129919		SBGW	10.0950	1.0000	1.0000	1.0000	100.0000		11.0000	U UG/L
85	129919		BEGW	0.2435	1.0000	1.0000	1.0000	100.0000		0.6000	U UG/L
86	129919		CDGWP	1.2177	1.0000	1.0000	1.0000	100.0000		5.0000	U UG/L
87	129919		CRGWP	33.8980	1.0000	1.0000	1.0000	100.0000		33.8980	UG/L
88	129919		AGGWP	-1.6340	1.0000	1.0000	1.0000	100.0000		9.0000	U UG/L
89	129920		SBGW	-4.2392	1.0000	1.0000	1.0000	100.0000		11.0000	U UG/L
90	129920	D	SBGW	-1.6031	1.0000	1.0000	1.0000	100.0000		11.0000	U UG/L
91	129920	S	SBGW	467.8900	1.0000	1.0000	1.0000	100.0000	500.0000	467.8900	UG/L
92	129920		BEGW	-0.0525	1.0000	1.0000	1.0000	100.0000		0.6000	U UG/L
93	129920	D	BEGW	-0.0458	1.0000	1.0000	1.0000	100.0000		0.6000	U UG/L
94	129920	S	BEGW	42.1700	1.0000	1.0000	1.0000	100.0000	50.0000	42.1700	UG/L
95	129920		CDGWP	-0.8244	1.0000	1.0000	1.0000	100.0000		5.0000	U UG/L
96	129920	D	CDGWP	0.8916	1.0000	1.0000	1.0000	100.0000		5.0000	U UG/L
97	129920	S	CDGWP	42.3450	1.0000	1.0000	1.0000	100.0000	50.0000	42.3450	UG/L
98	129920		CRGWP	20.6340	1.0000	1.0000	1.0000	100.0000		20.6340	UG/L
99	129920	D	CRGWP	23.1170	1.0000	1.0000	1.0000	100.0000		23.1170	UG/L
100	129920	S	CRGWP	202.4300	1.0000	1.0000	1.0000	100.0000	200.0000	202.4300	UG/L
101	129920		NIGW	9.2893	1.0000	1.0000	1.0000	100.0000		23.0000	U UG/L
102	129920	D	NIGW	12.1290	1.0000	1.0000	1.0000	100.0000		23.0000	U UG/L
103	129920	S	NIGW	439.0200	1.0000	1.0000	1.0000	100.0000	500.0000	439.0200	UG/L
104	129920		AGGWP	-2.6870	1.0000	1.0000	1.0000	100.0000		9.0000	U UG/L
105	129920	D	AGGWP	-2.6890	1.0000	1.0000	1.0000	100.0000		9.0000	U UG/L
106	129920	S	AGGWP	40.6000	1.0000	1.0000	1.0000	100.0000	50.0000	40.6000	UG/L
107	129921		SBGW	14.4990	1.0000	1.0000	1.0000	100.0000		14.4990	UG/L
108	129921	D	SBGW	3.7117	1.0000	1.0000	1.0000	100.0000		11.0000	U UG/L
109	129921	S	SBGW	483.1600	1.0000	1.0000	1.0000	100.0000	500.0000	483.1600	UG/L
110	129921		BEGW	-0.0072	1.0000	1.0000	1.0000	100.0000		0.6000	U UG/L
111	129921	D	BEGW	0.1992	1.0000	1.0000	1.0000	100.0000		0.6000	U UG/L
112	129921	S	BEGW	44.7800	1.0000	1.0000	1.0000	100.0000	50.0000	44.7800	UG/L
113	129921		CDGWP	-0.9409	1.0000	1.0000	1.0000	100.0000		5.0000	U UG/L
114	129921	D	CDGWP	-0.2237	1.0000	1.0000	1.0000	100.0000		5.0000	U UG/L
115	129921	S	CDGWP	46.3150	1.0000	1.0000	1.0000	100.0000	50.0000	46.3150	UG/L

		11.0000	
		0.6000	
		5.0000	
	21	13.0000	
		14.0000	
		23.0000	
		9.0000	
		11.0000	
		0.6000	
		5.0000	
		13.0000	
		14.0000	
		23.0000	
		9.0000	
	14	11.0000	
		0.6000	
		5.0000	
	29	13.0000	
		14.0000	
		23.0000	
		9.0000	
	13	11.0000	
		0.6000	
		5.0000	
	98	13.0000	
	97	14.0000	
	190	23.0000	
		9.0000	
	10	11.0000	
		0.6000	
		5.0000	
	34	13.0000	
		9.0000	
		11.0000	
0.0		11.0000	
91.4	*	11.0000	* Corrected spike recovery is 93.6%
		0.6000	
0.0		0.6000	
83.1	*	0.6000	* Corrected spike recovery is 84.3%
		5.0000	
0.0		5.0000	
74.7	*	5.0000	* Corrected spike recovery is 84.7%
	21	13.0000	
11.4		13.0000	
90.9		13.0000	
		23.0000	
0.0		23.0000	
83.2	*	23.0000	* Corrected spike recovery is 87.8%
		9.0000	
0.0		9.0000	
63.2	*	9.0000	
	14	11.0000	
27.4		11.0000	
93.7		11.0000	
		0.6000	
0.0		0.6000	
88.4	*	0.6000	* Corrected spike recovery is 89.6%
		5.0000	
0.0		5.0000	
82.6	*	5.0000	* Corrected spike recovery is 92.6

116129921		CRGWP	18.2130	1.0000	1.0000	1.0000	100.0000		18.2130		UG/L
117129921	D	CRGWP	19.4990	1.0000	1.0000	1.0000	100.0000		19.4990		UG/L
118129921	S	CRGWP	204.9000	1.0000	1.0000	1.0000	100.0000	200.0000	204.9000		UG/L
119129921		AGGWP	-0.5289	1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
120129921	D	AGGWP	-0.9777	1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
121129921	S	AGGWP	43.8200	1.0000	1.0000	1.0000	100.0000	50.0000	43.8200		UG/L
122129955		SBGW	5.1544	1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
123129955		BEGW	0.5145	1.0000	1.0000	1.0000	100.0000		0.6000	U	UG/L
124129955		CDGWP	5.3263	1.0000	1.0000	1.0000	100.0000		5.3263		UG/L
125129955		CRGWP	17.6290	1.0000	1.0000	1.0000	100.0000		17.6290		UG/L
126129955		AGGWP	-0.2912	1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
127129956		SBGW	21.8410	1.0000	1.0000	1.0000	100.0000		21.8410		UG/L
128129956		BEGW	2.0230	1.0000	1.0000	1.0000	100.0000		2.0230		UG/L
129129956		CDGWP	9550.1000	1.0000	1.0000	1.0000	100.0000		9550.1000		UG/L
130129956		CRGWP	72.8310	1.0000	1.0000	1.0000	100.0000		72.8310		UG/L
131129956		AGGWP	-4.3700	1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
132129957		SBGW	-20.5840	1.0000	1.0000	1.0000	100.0000		11.0000	U	UG/L
133129957		BEGW	1.8780	1.0000	1.0000	1.0000	100.0000		1.8780		UG/L
134129957		CDGWP	9154.2000	1.0000	1.0000	1.0000	100.0000		9154.2000		UG/L
135129957		CRGWP	83.3560	1.0000	1.0000	1.0000	100.0000		83.3560		UG/L
136129957		AGGWP	-3.3620	1.0000	1.0000	1.0000	100.0000		9.0000	U	UG/L
137Blank2957		AGGW	-1.5190	1.0000	1.0000	1.0000	100.0000		-1.5190		
138Blank2957		BEGW	-0.0420	1.0000	1.0000	1.0000	100.0000		-0.0420		
139Blank2957		CDGW	-1.5737	1.0000	1.0000	1.0000	100.0000		-1.5737		
140Blank2957		CRGW	-1.7840	1.0000	1.0000	1.0000	100.0000		-1.7840		
141Blank2957		CUGW	-1.9297	1.0000	1.0000	1.0000	100.0000		-1.9297		
142Blank2957		NIGW	-2.2719	1.0000	1.0000	1.0000	100.0000		-2.2719		
143Blank2957		PBGW	-9.8742	1.0000	1.0000	1.0000	100.0000		-9.8742		
144Blank2957		SBGW	-3.5127	1.0000	1.0000	1.0000	100.0000		-3.5127		
145BLKS2957	C	AGGW	42.6800	1.0000	1.0000	1.0000	100.0000	50.0000	42.6800		
146BLKS2957	D	AGGW	43.1200	1.0000	1.0000	1.0000	100.0000		43.1200		
147BLKS2957	C	AGGW	43.1200	1.0000	1.0000	1.0000	100.0000	50.0000	43.1200		
148BLKS2957	C	BEGW	45.3100	1.0000	1.0000	1.0000	100.0000	50.0000	45.3100		
149BLKS2957	D	BEGW	45.9800	1.0000	1.0000	1.0000	100.0000		45.9800		
150BLKS2957	C	BEGW	45.9800	1.0000	1.0000	1.0000	100.0000	50.0000	45.9800		
151BLKS2957	C	CDGW	40.9810	1.0000	1.0000	1.0000	100.0000	50.0000	40.9810		
152BLKS2957	D	CDGW	42.5800	1.0000	1.0000	1.0000	100.0000		42.5800		
153BLKS2957	C	CDGW	42.5800	1.0000	1.0000	1.0000	100.0000	50.0000	42.5800		
154BLKS2957	C	CRGW	177.9200	1.0000	1.0000	1.0000	100.0000	200.0000	177.9200		
155BLKS2957	D	CRGW	178.7500	1.0000	1.0000	1.0000	100.0000		178.7500		
156BLKS2957	C	CRGW	178.7500	1.0000	1.0000	1.0000	100.0000	200.0000	178.7500		
157BLKS2957	C	CUGW	225.1000	1.0000	1.0000	1.0000	100.0000	250.0000	225.1000		
158BLKS2957	D	CUGW	228.1000	1.0000	1.0000	1.0000	100.0000		228.1000		
159BLKS2957	C	CUGW	228.1000	1.0000	1.0000	1.0000	100.0000	250.0000	228.1000		
160BLKS2957	C	NIGW	452.0600	1.0000	1.0000	1.0000	100.0000	500.0000	452.0600		
161BLKS2957	D	NIGW	453.2600	1.0000	1.0000	1.0000	100.0000		453.2600		
162BLKS2957	C	NIGW	453.2600	1.0000	1.0000	1.0000	100.0000	500.0000	453.2600		
163BLKS2957	C	PBGW	443.2700	1.0000	1.0000	1.0000	100.0000	500.0000	443.2700		
164BLKS2957	D	PBGW	440.2000	1.0000	1.0000	1.0000	100.0000		440.2000		
165BLKS2957	C	PBGW	440.2000	1.0000	1.0000	1.0000	100.0000	500.0000	440.2000		
166BLKS2957	C	SBGW	466.2000	1.0000	1.0000	1.0000	100.0000	500.0000	466.2000		
167BLKS2957	D	SBGW	477.6100	1.0000	1.0000	1.0000	100.0000		477.6100		
168BLKS2957	C	SBGW	477.6100	1.0000	1.0000	1.0000	100.0000	500.0000	477.6100		
169Blank2958		AGGW	0.6719	1.0000	1.0000	1.0000	100.0000		0.6719		
170Blank2958		BEGW	0.3177	1.0000	1.0000	1.0000	100.0000		0.3177		
171Blank2958		CDGW	-1.6377	1.0000	1.0000	1.0000	100.0000		-1.6377		
172Blank2958		CRGW	6.5980	1.0000	1.0000	1.0000	100.0000		6.5980		
173Blank2958		CUGW	3.0207	1.0000	1.0000	1.0000	100.0000		3.0207		
174Blank2958		NIGW	65.9040	1.0000	1.0000	1.0000	100.0000		65.9040		
175Blank2958		PBGW	9.1737	1.0000	1.0000	1.0000	100.0000		9.1737		

	13.0000
18	13.0000
6.8	13.0000
93.3	9.0000
	9.0000
0.0	9.0000
69.6 *	11.0000
	0.6000
	5.0000
	13.0000
18	9.0000
	11.0000
22	0.6000
	5.0000
9600	13.0000
73	9.0000
	11.0000
	0.6000
	5.0000
9200	13.0000
84	9.0000

* Corrected spike recovery is 87.6%

85.4
1.0
86.2
90.6
1.5
92.0
82.0
3.8
85.2
89.0
0.5
89.4
90.0
1.3
91.2
90.4
0.3
90.7
88.7
0.7
88.0
93.2
2.4
95.5

176Blank2958	SBGW	-9.3271	1.0000	1.0000	1.0000	100.0000		-9.3271
177BLKS2958	C AGGW	43.6700	1.0000	1.0000	1.0000	100.0000	50.0000	43.6700
178BLKS2958	D AGGW	44.1200	1.0000	1.0000	1.0000	100.0000		44.1200
179BLKS2958	C AGGW	44.1200	1.0000	1.0000	1.0000	100.0000	50.0000	44.1200
180BLKS2958	C BEGW	44.2700	1.0000	1.0000	1.0000	100.0000	50.0000	44.2700
181BLKS2958	D BEGW	44.2300	1.0000	1.0000	1.0000	100.0000		44.2300
182BLKS2958	C BEGW	44.2300	1.0000	1.0000	1.0000	100.0000	50.0000	44.2300
183BLKS2958	C CDGW	43.2980	1.0000	1.0000	1.0000	100.0000	50.0000	43.2980
184BLKS2958	D CDGW	45.1670	1.0000	1.0000	1.0000	100.0000		45.1670
185BLKS2958	C CDGW	45.1670	1.0000	1.0000	1.0000	100.0000	50.0000	45.1670
186BLKS2958	C CRGW	178.4100	1.0000	1.0000	1.0000	100.0000	200.0000	178.4100
187BLKS2958	D CRGW	179.0700	1.0000	1.0000	1.0000	100.0000		179.0700
188BLKS2958	C CRGW	179.0700	1.0000	1.0000	1.0000	100.0000	200.0000	179.0700
189BLKS2958	C CUGW	223.2000	1.0000	1.0000	1.0000	100.0000	250.0000	223.2000
190BLKS2958	D CUGW	221.1100	1.0000	1.0000	1.0000	100.0000		221.1100
191BLKS2958	C CUGW	221.1100	1.0000	1.0000	1.0000	100.0000	250.0000	221.1100
192BLKS2958	C NIGW	444.0500	1.0000	1.0000	1.0000	100.0000	500.0000	444.0500
193BLKS2958	D NIGW	449.9700	1.0000	1.0000	1.0000	100.0000		449.9700
194BLKS2958	C NIGW	449.9700	1.0000	1.0000	1.0000	100.0000	500.0000	449.9700
195BLKS2958	C PBGW	463.5400	1.0000	1.0000	1.0000	100.0000	500.0000	463.5400
196BLKS2958	D PBGW	462.1200	1.0000	1.0000	1.0000	100.0000		462.1200
197BLKS2958	C PBGW	462.1200	1.0000	1.0000	1.0000	100.0000	500.0000	462.1200
198BLKS2958	C SBGW	458.8600	1.0000	1.0000	1.0000	100.0000	500.0000	458.8600
199BLKS2958	D SBGW	466.0800	1.0000	1.0000	1.0000	100.0000		466.0800
200BLKS2958	C SBGW	466.0800	1.0000	1.0000	1.0000	100.0000	500.0000	466.0800

87.3
1.0
88.2
88.5
0.1
88.5
86.6
4.2
90.3
89.2
0.4
89.5
89.3
0.9
88.4
88.8
1.3
90.0
92.7
0.3
92.4
91.8
1.6
93.2

VOLATILE

ORGANICS

DATA SUMMARY

ORGANIC DATA ASSESSMENT

PROJECT NO. 89MC114V
LABORATORY Ortek
LAB PROJECT NO. 9210176, 9210057
NO. OF SAMPLES/ 9210046
MATRIX 16 / Groundwater

SITE NL Taracorp Superfund Site
REVIEWER Woodward - Clyde
REVIEWER'S NAME Cynthia Havelka
COMPLETION DATE

DATA ASSESSMENT SUMMARY

	VOA (14 days)	BNA	PEST	HERB	OTHER
1. HOLDING TIMES	✓				
2. BLANKS	(1)				
3. SURROGATES	✓				
4. SCS	NA				
5. DCS	NA				
6. MATRIX SPIKE/DUP	✓				
7. DILUTION	NA				
8. OVERALL ASSESSMENT	O				

O = Data had no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

ACTION ITEMS:

COMMENTS: (1) Acetone detected in Method Blanks VBLK04 and VBLK06: acetone concentrations for MW-110 and MW-112 (Rinsate Blank) should be ~~qu~~ qualified as estimated. (2) Methylene detected in Method Blank VBLK01: methylene concentrations for MW-101, MW-108D, MW-108D Dup, and MW115 & Trip Blank should be qualified as estimated.

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street | P.O. Box 12435 | Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

GC/MS VOLATILE ORGANIC ANALYSIS

Client :	Woodward-Clyde Consultants	Project Name/Desc.:	NL/Taracorp
Address:	2318 Millpark Drive	Project Number:	89MC114V
	Maryland Heights, Missouri 63043	Batch Number:	9210037
Phone:	(314) 429-0100	COC Number:	460220
FAX:	( )		
		Case No.:	89MC114V
Contact:	Cynthia Pavelka	SDG No.:	06-DOGGW

SAMPLE SUMMARY

Client Sample No.	EPA Sample No.	Ortek Lab Sample ID
TRIP BLANK	TRIP BLANK	VTB1014-02 (129885)
WMW106-DOGGW	06-DOGGW	129887
WMW107-DOGGW	07-DOGGW	129889
WMW107-SOGGW	07-SOGGW	129888
WMW110-10GGW	10-10GGW	129894
WMW110-10GGWMS	10-10GGWMS	129894MS
WMW110-10GGWMSD	10-10GGWMSD	129894MSD
WMW11192OGGW	11192OGGW	129891
WMW11192OGGWD	11192OGGWD	129892
WMW11192OGGWDMS	11192OGGWDMS	129892MS
WMW11192OGGWDMSD	11192OGGWDMSD	129892MSD
WMW112-10GGWB	12-10GGWB	129890

COMMENTS: VOLATILE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8240 ON A DB624 CAPILLARY COLUMN

1.) The instrument ID for Volatile Organic Analysis is MSD1.

2.) Please disregard EPA Sample No. 11 GGWM (129893) on all form's 2,4,5, and 8. This sample was provided as additional ample only and is the same sample as EPA Sample No. 11920GGW (129891).

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature."

Signed: Marcia A. Kuehl Name: MARCIA KUEHL

Title: LAB DIRECTOR Date: 11/3/92

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIP BLANK

Lab Name: OPTEK Contract:

Lab Code: OPTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: VTB1014-02

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AHE01

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

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	5	BJ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-I

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRIP BLANK

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC1140 SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: VTB1014-02

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAE01

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRIP BLANK

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: VTB1014-02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAE01

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ Date Analyzed: 10/14/92

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

1H

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06-DOGGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129887

Sample wt/vol: 5 (g/ml) ML Lab File ID: AAE02

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

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	BJ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06-DOGGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MCI14V SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129887

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAE02

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

EPA SAMPLE NO.

06-DOGGW

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Contract: _____

Lab Name: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Lab Code: ORTEK Lab Sample ID: 129887

Matrix: (soil/water) WATER Lab File ID: >AAE02

Sample wt/vol: 5.0 (g/mL) ML Date Received: 10/06/92

Level: (low/med) LOW Date Analyzed: 10/14/92

% Moisture: not dec. _____ Dilution Factor: 1.0

Column (pack/cap) CAP

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

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.04	120	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

07-DOGGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129889

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAE04

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

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	5	BJ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

07-DOGGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129889

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAE04

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

07-DOGGW

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129889

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAE04

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ Date Analyzed: 10/14/92

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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

07-SDGGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129888

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAE07

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

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	BJ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

07-SDGGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DDGGW

Matrix: (soil/water) WATER Lab Sample ID: 129888

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAE03

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

FORM I VOA-2 1/87 Rev

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

07-SOGGW

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129888

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAE03

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ Date Analyzed: 10/14/92

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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10-10GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114W SAS No.: SDG No.: 06-00GGW

Matrix: (soil/water) WATER Lab Sample ID: 129894

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAE09

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

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	89	B J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10-10GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC1140 SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129894

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAE09

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/14/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

10-10GGW

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129894

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAE09

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ Date Analyzed: 10/14/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.07	64	J

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

11920GGW

Contract:

SDG No.: 06-DOGGW

Lab Name: OPTEK

Case No.: 89MC114U SAS No.:

Lab Sample ID: 129891

Lab Code: ORTEK

Matrix: (soil/water) WATER

Lab File ID: >AAF02

Sample wt/vol: 5 (g/ml) ML

Date Received: 10/06/92

Level: (low/med) LOW

Date Analyzed: 10/15/92

% Moisture: not dec.

Dilution Factor: 1.0

Column: (pack/cap) CAP

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	IU
74-83-9	Bromomethane	10	IU
75-01-4	Vinyl Chloride	10	IU
75-00-3	Chloroethane	10	IU
75-09-2	Methylene Chloride	5	IU
67-64-1	Acetone	11	IB U
75-15-0	Carbon Disulfide	5	IU
75-35-4	1,1-Dichloroethene	5	IU
75-34-3	1,1-Dichloroethane	5	IU
156-60-5	1,2-Dichloroethene (TRANS)	5	IU
156-59-2	1,2-Dichloroethene (CIS)	5	IU
67-66-3	Chloroform	5	IU
107-06-2	1,2-Dichloroethane	5	IU
78-93-3	2-Butanone	5	IU
71-55-6	1,1,1-Trichloroethane	5	IU
56-23-5	Carbon Tetrachloride	10	IU
108-05-4	Vinyl Acetate	5	IU
75-27-4	Bromodichloromethane	5	IU
78-87-5	1,2-Dichloropropane	10	IU
10061-01-5	cis-1,3-Dichloropropene	5	IU
79-01-6	Trichloroethene	5	IU
124-48-1	Dibromochloromethane	5	IU
79-00-5	1,1,2-Trichloroethane	5	IU
71-43-2	Benzene	5	IU
10061-02-6	trans-1,3-Dichloropropene	5	IU
75-25-2	Bromoform	5	IU
108-10-1	4-Methyl-2-Pentanone	5	IU
591-78-6	2-Hexanone	5	IU
127-18-4	Tetrachloroethene	5	IU
79-34-5	1,1,2,2-Tetrachloroethane	5	IU
108-88-3	Toluene	10	IU
108-90-7	Chlorobenzene	10	IU
100-41-4	Ethylbenzene	5	IU
100-42-5	Styrene	5	IU
		5	IU
		5	IU
		5	IU
		5	J

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

119200GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129891

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAF02

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/15/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

11920GGW

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129891

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAF02

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ Date Analyzed: 10/15/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.12	180	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

119200GGWC

Lab Name: OPTEK Contract:

Lab Code: OPTEK Case No.: 89MC114U SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129892

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAF03

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/15/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/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	BJ U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

119200GGWD

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 06-00GGW

Matrix: (soil/water) WATER Lab Sample ID: 129892

Sample wt/vol: 5 (g/ml) ML Lab File ID: 1AAF03

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/15/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

11920GGWD

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129892

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAF03

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ Date Analyzed: 10/15/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.13	150	J

1-
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12-1033.B

Lab Name: OPTEX Contract:

Lab Code: OPTEX Case No.: 89M0114 SAS No.: SDG No.: 06-0033

Matrix: (soil/water) WATER Lab Sample ID: 129890

Sample wt/vol: 5 (g/ml) ML Lab File ID: HF01

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/15/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/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	63	B	J
75-15-0	Carbon Disulfide	5	U	
75-35-4	1,1-Dichloroethene	5	U	
75-34-3	1,1-Dichloroethane	5	U	
156-60-5	1,2-Dichloroethene (TRANS)	5	U	
156-59-2	1,2-Dichloroethene (CIS)	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	

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

12-10GGWB

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129890

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAF01

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. Date Analyzed: 10/15/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MG/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

12-10GGWB

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: 129890

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAF01

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. _____ Date Analyzed: 10/15/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.12	54	J

2A

WATER VOLATILE SURROGATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114 SAS No.: SDG No.: 06-DOGGW

	EPA SAMPLE NO.	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	S4 ( )#	TOT OUT
01	VBLK04	93	95	97		0
02	TRIP BLANK	91	98	88		0
03	06-DOGGW	97	94	92		0
04	07-SOGGW	103	101	92		0
05	07-DOGGW	101	100	94		0
06	11920GGWM	98	91	88		0
07	10-10GGW	98	91	86		0
08	10-10GGWMS	94	96	87		0
09	10-10GGWMSD	94	92	91		0
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		QC LIMITS
S1 (DCE)	= 1,2-DICHLOROETHANE-d4	(76-114)
S2 (TOL)	= TOLUENE-d8	(88-110)
S3 (BFB)	= BROMOFLUOROBENZENE	(86-115)

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

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

	EPA SAMPLE NO.	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	S4 ( )#	TOT OUT
01	VBLK06	95	103	95		0
02	12-10GGOWB	99	99	95		0
03	11920GGW	100	102	97		0
04	11920GGWD	98	104	100		0
05	11920GGWDMS	101	100	92		0
06	11920GGWDMSD	102	100	96		0
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		QC LIMITS
S1 (DCE)	= 1,2-DICHLOROETHANE-d4	(76-114)
S2 (TOL)	= TOLUENE-d8	(88-110)
S3 (BFB)	= BROMOFLUOROBENZENE	(86-115)

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

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114 SAS No.: SDG No.: 06-DOGGW

Matrix Spike - EPA Sample No.: 10-10GGW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0	58	116	61-145
Trichloroethene	50	0	46	93	71-120
Benzene	50	0	48	96	75-130
Toluene	50	0	48	96	76-125
Chlorobenzene	50	0	45	91	76-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	57	115	2	14	61-145
Trichloroethene	50	45	89	4	14	71-120
Benzene	50	46	93	3	11	75-130
Toluene	50	43	86	11	13	76-125
Chlorobenzene	50	46	92	1	13	76-127

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: _____

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3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89M1C114V SAS No.: SDG No.: 06-DOGGW

Matrix Spike - EPA Sample No.: 11920GGWD

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0	57	114	61-145
Trichloroethene	50	0	48	96	71-120
Benzene	50	0	48	96	75-130
Toluene	50	0	45	91	76-125
Chlorobenzene	50	0	44	88	76-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	60	119	4	14	61-145
Trichloroethene	50	51	102	6	14	71-120
Benzene	50	51	102	6	11	75-130
Toluene	50	44	89	2	13	76-125
Chlorobenzene	50	46	93	5	13	76-127

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: _____

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4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114 SAS No.: SDG No.: 06-DOGGW

Lab File ID: >AAEB2 Lab Sample ID: VBLK04

Date Analyzed: 10/14/92 Time Analyzed: 14:46

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

Instrument ID: MSD1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	TRIP BLANK	VTB1014-02	>AAE01	15:44
2	06-DOGGW	129887	>AAE02	16:26
3	07-SOGGW	129888	>AAE03	17:10
4	07-DOGGW	129889	>AAE04	17:52
5	11920GGWM	129893	>AAE08	21:15
6	10-10GGW	129894	>AAE09	22:05
7	10-10GGWMS	129894MS	>AAE10	22:55
8	10-10GGWMS	129894MSD	>AAE11	23:44
10				
11				
12				
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COMMENTS: _____

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK04

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: VBLK04

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAEB2

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/14/92

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

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	5	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK04

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: VBLK04

Sample wt/vol: 5 (g/ml) ML Lab File ID: :AAEB2

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/14/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK04

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: VBLK04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAEB2

Level: (low/med) LOW Date Received:

% Moisture: not dec. ____ Date Analyzed: 10/14/92

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

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

Lab File ID: >AAFB2 Lab Sample ID: VBLK06

Date Analyzed: 10/15/92 Time Analyzed: 17:52

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

Instrument ID: MSD1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	12-10GGOWB	129890	>AAF01	18:41
2	11920GGW	129891	>AAF02	19:31
3	11920GGWD	129892	>AAF03	20:21
4	11920GGWDM	129892MS	>AAF04	21:08
5	11920GGWDM	129892MSD	>AAF05	21:54
7				
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30				

COMMENTS: _____

Page __ of __.

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1H

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK06

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: VBLK06

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAFB2

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/15/92

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

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
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK06

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: VBLK06

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAFB2

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/15/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK06

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 06-DOGGW

Matrix: (soil/water) WATER Lab Sample ID: VBLK06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAFB2

Level: (low/med) LOW Date Received:

% Moisture: not dec. ____ Date Analyzed: 10/15/92

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

8H

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114 SAS No.: SDG No.: 06-DOGGW

Lab File ID (Standard): >AAEC1 Date Analyzed: 10/14/92

Instrument ID: MSD1 Time Analyzed: 12:48

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CHL) AREA #	RT
	12 HOUR STD	34670	15.05	143194	16.78	129333	21.19
	UPPER LIMIT	69340	15.55	286388	17.28	258666	21.69
	LOWER LIMIT	17335	14.55	71597	16.28	64666	20.69
	EPA SAMPLE NO.						
1	VBLK04	34791	15.05	137860	16.78	124463	21.19
2	TRIP BLANK	34103	15.06	133308	16.79	115966	21.20
3	06-DOGGW	31254	14.99	124468	16.72	115644	21.17
4	07-SOGGW	29514	15.05	123193	16.78	108729	21.19
5	07-DOGGW	29726	15.05	120489	16.78	105803	21.18
6	11920GGWM	32696	15.04	135339	16.76	123208	21.17
7	10-10GGW	31987	15.02	132353	16.75	113269	21.15
8	10-10GGWMS	33678	15.02	134194	16.75	113689	21.15
9	10-10GGWMSD	32440	15.04	131307	16.76	115580	21.17
10							
11							
12							
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20							
21							
22							

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

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

3A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 06-DOGGW

Lab File ID (Standard): >AAFC1 Date Analyzed: 10/15/92

Instrument ID: MSD1 Time Analyzed: 15:53

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

	IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CHL) AREA #	RT
12 HOUR STD	32528	15.02	145399	16.75	128083	21.16
UPPER LIMIT	65056	15.52	290798	17.25	256166	21.66
LOWER LIMIT	16264	14.52	72700	16.25	64041	20.66
EPA SAMPLE NO.						
1 VBLK06	33471	15.07	132479	16.75	113304	21.16
2 12-10GGOWB	32876	15.03	135061	16.76	122417	21.16
3 11920GGW	32827	15.03	132296	16.76	117307	21.16
4 11920GGWD	30322	15.03	120340	16.76	109115	21.17
5 11920GGWDMS	30575	15.02	128304	16.75	112595	21.16
6 11920GGWDMSD	30177	15.04	127348	16.77	117910	21.17
7						
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20						
21						
22						

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

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

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FORM VIII VOA 1/87 Rev

ORTEK
ENVIRONMENTAL LABORATORY
414-498-2222
FAX: 414-498-4067
2496 West Mason Street | P.O. Box 12415 | Green Bay, WI 54307-2415

GC/MS VOLATILE ORGANIC ANALYSIS

Client:	Woodward-Clyde Consultants	Project Name/Desc.:	NL/Taracorp
Address:	2318 Millpark Drive	Project Number:	89MC114V
	Maryland Heights, Missouri 63043	Batch Number:	9210046
Phone:	(314) 429-0100	COC Number:	460221
FAX:	(314) 429-0462		
		Case No.:	89MC114V
Contact:	Cynthia Pavelka	SDG No.:	03910GGW

SAMPLE SUMMARY

Client Sample No.	EPA Sample No.	Ortek Lab Sample ID
WMW103910GGW	03910GGW	129916
WMW103910GGWMMS	03910GGWMMS	129920MS
WMW103910GGWXMSD	03910OGWXMSD	129921MSD
WMW104-10GGW	04-10GGW	129918
WMW104920GGW	04920GGW	129919
WMW109-10GGW	09-10GGW	129913
WMW109920GGW	09920GGW	129914
WMW114-10GGTB	14-10GGTB	VTB1016-01 (129917)
WMW114-10GGWB	14-10GGWB	129915

COMMENTS: VOLATILE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8240 ON A DB624 CAPILLARY COLUMN

1.) The instrument ID for Volatile Organic Analysis is MSD1. The blank associated with the samples was VBLK08.

2.) Please disregard EPA Sample No.'s 03910GGWM and 03910GGWX on Form's 2,4,5, and 8. These samples were provided as additional sample for QC purposes (MS/MSD) for EPA Sample No. 03910GGW.

"Q" COLUMN QUALIFIERS:
- U - Compound analyzed for but not detected
- B - Indicates the analyte is found in the associated method blank
- J - Estimated value, concentration of analyte below quantitation limit
- E - Compound exceeds calibration range, but did not saturate the detector; actual concentrations could be higher than reported
- D - Compound identified in the analysis at a secondary dilution
- N - Indicates presumptive evidence of a compound (identified based on mass spectral library search)

Signed: John C Rother Name: John C Rother

Title: GC/MS/EC Supervisor Date: 11/11/92

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

03910GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129916

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG05

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

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	15	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

03910GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129916

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG05

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

03910GGW

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129916

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAG05

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. _____ Date Analyzed: 10/16/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.07	35	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

03910GGWMMS

b Name: ORTEK Contract:

b Code: ORTEK Case No.: 89MC114 SAS No.: SDG No.: 03910GGW

trix: (soil/water) WATER Lab Sample ID: 129920MS

mple wt/vol: 5 (g/ml) ML Lab File ID: >AAG10

vel: (low/med) LOW Date Received: 10/07/92

Moisture: not dec. Date Analyzed: 10/16/92

lumn: (pack/cap) CAP Dilution Factor: 1.00

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
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

03910GGWMMS

.b Name: ORTEK Contract:

.b Code: ORTEK Case No.: 89MC114 SAS No.: SDG No.: 03910GGW

.trix: (soil/water) WATER Lab Sample ID: 129920MS

.mple wt/vol: 5 (g/ml) ML Lab File ID: >AAG10

:vel: (low/med) LOW Date Received: 10/07/92

Moisture: not dec. Date Analyzed: 10/16/92

›lumn: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

03910GGWXMSD

.b Name: ORTEK Contract:

:b Code: ORTEK Case No.: 89MC114 SAS No.: SDG No.: 03910GGW

:trix: (soil/water) WATER Lab Sample ID: 129921MSD

:mple wt/vol: 5 (g/ml) ML Lab File ID: >AAG11

:vel: (low/med) LOW Date Received: 10/07/92

Moisture: not dec. Date Analyzed: 10/16/92

:lumn: (pack/cap) CAP Dilution Factor: 1.00

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
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

03910GGWXMSD

.b Name: ORTEK Contract:

.b Code: ORTEK Case No.: 89MC114 SAS No.: SDG No.: 03910GGW

.trix: (soil/water) WATER Lab Sample ID: 129921MSD

ımple wt/vol: 5 (g/ml) ML Lab File ID: >AAG11

:vel: (low/med) LOW Date Received: 10/07/92

Moisture: not dec. Date Analyzed: 10/16/92

›lumn: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

04-10GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129918

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG06

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

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	11	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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	2	J
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

04-10GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129918

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG06

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

04-10GGW

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129918

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAG06

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. ____ Date Analyzed: 10/16/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.02	530	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

04920GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129919

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG07

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

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	11	
75-15-0	Carbon Disulfide	4	J
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

04920GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129919

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG07

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

04920GGW

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129919

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAG07

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. ____ Date Analyzed: 10/16/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.11	25	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

09-10GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129913

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG02

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

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	5	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

09-10GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129913

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG02

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

09-10GGW

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129913

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAG02

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. _____ Date Analyzed: 10/16/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.13	160	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

09920GGW

Contract:

SDG No.: 03910GGW

Lab Name: ORTEK

Case No.: 89MC114U SAS No.:

Lab Sample ID: 129914

Lab Code: ORTEK

Lab File ID: >AAG03

Matrix: (soil/water) WATER

Date Received: 10/07/92

Sample wt/vol: 5 (g/ml) ML

Date Analyzed: 10/16/92

Level: (low/med) LOW

Dilution Factor: 1.00

% Moisture: not dec.

Column: (pack/cap) CAP

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	13	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	10	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	10	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	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
		5	U
		5	U
		5	U

1A-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

09920GGW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129914

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG03

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

09920GGW

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129914

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAG03

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. ____ Date Analyzed: 10/16/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.12	220	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

14-10GGTB

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: VTB1016-01

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG01

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

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	17	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

14-10GGTB

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: VTB1016-01

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG01

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

14-10GGT3

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: VTB1016-01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAG01

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. ____ Date Analyzed: 10/16/92

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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

14-10GGWB

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 039100GW

Matrix: (soil/water) WATER Lab Sample ID: 129915

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG04

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

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	32	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	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

1A-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

14-10GGWB

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 039100GW

Matrix: (soil/water) WATER Lab Sample ID: 129915

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAG04

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

14-10GGW3

Lab Name: ORTEK Contract: _____

Lab Code: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: 129915

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >AAG04

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. _____ Date Analyzed: 10/16/92

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	UNKNOWN	11.04	920	J

WATER VOLATILE SURROGATE RECOVERY

Lab Name: ORTEK

Contract:

Lab code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

	EPA SAMPLE NO.	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	S4 ( )#	TOT OUT
01	VBLK08	99	100	98		0
02	14-10GGTB	100	102	94		0
03	09-10GGW	97	101	97		0
04	09920GGW	99	99	96		0
05	14-10GGWB	104	103	96		0
06	03910GGW	99	99	95		0
07	04-10GGW	104	102	95		0
08	04920GGW	99	99	94		0
09	03910GGWM	103	101	98		0
10	03910GGWX	104	98	96		0
11	03910GGWMMS	98	99	96		0
12	03910GGWXMSD	99	99	95		0
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
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		QC LIMITS
S1 (DCE)	= 1,2-DICHLOROETHANE-d4	(76-114)
S2 (TOL)	= TOLUENE-d6	(88-110)
S3 (BFB)	= BROMOFLUOROBENZENE	(86-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

FORM II VOA-1

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix Spike - EPA Sample No.: 03910GGWX

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0	60	121	61-145
Trichloroethene	50	0	49	97	71-120
Benzene	50	0	50	100	75-130
Toluene	50	0	45	90	76-125
Chlorobenzene	50	0	46	93	76-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	58	117	3	14	61-145
Trichloroethene	50	47	95	3	14	71-120
Benzene	50	48	96	4	11	75-130
Toluene	50	44	87	3	13	76-125
Chlorobenzene	50	45	89	4	13	76-127

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: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Lab File ID: >AAGB2 Lab Sample ID: VBLK08

Date Analyzed: 10/16/92 Time Analyzed: 12:35

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

Instrument ID: MSD1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	14-10GGTB	VTB1016-01	>AAG01	13:20
2	09-10GGW	129913	>AAG02	14:09
3	09920GGW	129914	>AAG03	14:56
4	14-10GGWB	129915	>AAG04	15:42
5	03910GGW	129916	>AAG05	16:30
6	04-10GGW	129918	>AAG06	17:15
7	04920GGW	129919	>AAG07	18:03
8	03910GGWM	129920	>AAG08	18:48
9	03910GGWX	129921	>AAG09	19:34
10	03910GGWMM	129920MS	>AAG10	20:20
11	03910GGWXM	129921MSD	>AAG11	21:07
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COMMENTS: _____

_____

Page ___ of ___.

FORM IV VOA 1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK08

Contract:

SDG No.: 03910GGW

Lab Name: ORTEK

Case No.: 89MC114U SAS No.:

Lab Sample ID: VBLK08

Lab Code: ORTEK

Lab File ID: >AAGB2

Matrix: (soil/water) WATER

Sample wt/vol: 5 (g/ml) ML

Date Received:

Level: (low/med) LOW

Date Analyzed: 10/16/92

Moisture: not dec.

Dilution Factor: 1.00

Column: (pack/cap) CAP

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
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	5	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	10	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	5	U
591-78-6	2-Hexanone	5	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

1A-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK08

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: VBLK08

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAGB2

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK08

Contract: _____

Lab Name: ORTEK SAS No.: _____ SDG No.: 03910GGW

Lab Code: ORTEK Case No.: 89MC114V Lab Sample ID: VBLK08

Matrix: (soil/water) WATER Lab File ID: >AAGB2

Sample wt/vol: 5.0 (g/mL) ML Date Received: _____

Level: (low/med) LOW Date Analyzed: 10/16/92

% Moisture: not dec. _____ Dilution Factor: 1.0

Column (pack/cap) CAP

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

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

ıb Name: ORTEK Contract:

ıb code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

ıb File ID: >A9AF2 BFB Injection Date: 9/10/92

ıstrument ID: MSD1 BFB Injection Time: 11:10

ıtrix: (soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	25.4
75	30.0 - 60.0% of mass 95	49.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
74	Greater than 50% of mass 95	80.4
175	5.0 - 9.0% of mass 174	4.8 (6.0)1
176	95.0 - 101.0% of mass 174	81.1 (100.8)1
177	5.0 - 9.0% of mass 176	4.3 (5.3)2

1-Value is % of mass 174 2-Value is % of mass 176

IIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	20VOA	20VOA	>A9AI1	09/10/92	12:48
	50VOA	50VOA	>A9AI2	09/10/92	13:34
03	100VOA	100VOA	>A9AI3	09/10/92	14:21
04	150VOA	150VOA	>A9AI4	09/10/92	15:09
05	200VOA	200VOA	>A9AI5	09/10/92	15:55
06					
07					
08					
09					
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19					
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21					
22					

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

ıb Name: ORTEK Contract:

ıb code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 0391OGGW

ıb File ID: >AAGF1 BFB Injection Date: 10/16/92

ıstrument ID: MSD1 BFB Injection Time: 10:03

ıtrix: (soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.3
75	30.0 - 60.0% of mass 95	43.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	.6 (.8)1
174	Greater than 50% of mass 95	80.3
175	5.0 - 9.0% of mass 174	6.3 (7.8)1
176	95.0 - 101.0% of mass 174	76.7 (95.5)1
177	5.0 - 9.0% of mass 176	4.8 (6.3)2

1-Value is % of mass 174 2-Value is % of mass 176

ɜIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD050	>AAGC1	10/16/92	10:44
02	VBLK08	VBLK08	>AAGB2	10/16/92	12:35
03	14-1OGGTB	VTB1016-01	>AAG01	10/16/92	13:20
04	09-1OGGW	129913	>AAG02	10/16/92	14:09
05	0992OGGW	129914	>AAG03	10/16/92	14:56
06	14-1OGGWB	129915	>AAG04	10/16/92	15:42
07	0391OGGW	129916	>AAG05	10/16/92	16:30
08	04-1OGGW	129918	>AAG06	10/16/92	17:15
09	0492OGGW	129919	>AAG07	10/16/92	18:03
10	0391OGGWM	129920	>AAG08	10/16/92	18:48
11	0391OGGWX	129921	>AAG09	10/16/92	19:34
12	0391OGGWMM	129920MS	>AAG10	10/16/92	20:20
13	0391OGGWXM	129921MSD	>AAG11	10/16/92	21:07
14					
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ɔage __ of __.

FORM V VOA 1/87 Rev.

OA

VOLATILE ORGANICS INITIAL CALIBRATION DATA

:b Name: ORTEK Contract:

:b Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

:strument ID: MSD1 Calibration Date(s): 09/10/92

:trix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

:n $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0

:HB FILE ID: RRF020= >A9AI1 RRF050= >A9AI2
RRF100= >A9AI3 RRF150= >A9AI4 RRF200= >A9AI5

COMPOUND	RRF020	RRF050	RRF100	RRF150	RRF200	$\overline{RRF}$	RSD
:hloromethane	# 1.106	1.242	1.184	1.230	1.097	1.172	5.8#
Bromomethane	.130	.279	.279	.254	.204	.229	27.6
:nyl Chloride	* .645	.771	.758	.788	.693	.731	8.2*
:hloroethane	.307	.802	.774	.790	.727	.680	31.0
'ethylene Chloride	1.873	1.648	1.523	1.509	1.350	1.581	12.3
Acetone	1.513	.710	.515	.625	.471	.767	55.8
Carbon Disulfide	2.664	2.555	2.509	2.589	2.354	2.534	4.6
,1-Dichloroethene	* 1.159	1.149	1.119	1.128	.969	1.105	7.0*
,1-Dichloroethane	# 3.460	3.554	3.499	3.608	3.339	3.492	2.9#
,2-Dichloroethene (TRANS)	.736	.789	.751	.786	.703	.753	4.8
,2-Dichloroethene (CIS)	.850	.906	.894	.886	.829	.873	3.7
:loroform	* 3.540	3.609	3.535	3.554	3.283	3.504	3.6*
,2-Dichloroethane	2.733	2.924	2.799	2.772	2.546	2.755	5.0
-Butanone	.044	.033	.030	.033	.027	.033	19.1
,1,1-Trichloroethane	.551	.556	.539	.533	.475	.531	6.1
Carbon Tetrachloride	.391	.364	.392	.419	.352	.384	6.8
'inyl Acetate	.047	.058	.062	.062	.067	.060	12.6
Bromodichloromethane	.677	.702	.694	.704	.643	.684	3.7
,2-Dichloropropane	* .501	.528	.512	.521	.489	.510	3.0*
cis-1,3-Dichloropropene	.587	.668	.622	.639	.603	.624	5.1
Trichloroethene	.435	.435	.414	.407	.364	.411	7.1
:bromochloromethane	.537	.585	.561	.566	.524	.555	4.4
,1,2-Trichloroethane	.363	.370	.358	.350	.324	.353	5.0
Benzene	1.251	1.257	1.194	1.162	1.076	1.188	6.2
trans-1,3-Dichloropropene	.587	.668	.622	.639	.603	.624	5.1
Bromoform	# .396	.467	.441	.437	.431	.435	5.9#
-Methyl-2-Pentanone	.462	.457	.478	.547	.443	.477	8.6
-Hexanone	.412	.326	.320	.366	.312	.347	12.0
Tetrachloroethene	.415	.429	.421	.442	.345	.410	9.2
,1,2,2-Tetrachloroethane	# .494	.586	.629	.665	.528	.581	12.1#
Toluene	* .779	.785	.810	.843	.689	.781	7.4*
Chlorobenzene	# 1.035	1.018	.965	1.003	.845	.973	7.8#
Ethylbenzene	* .465	.453	.468	.471	.382	.448	8.3*
Styrene	.881	.897	.874	.892	.701	.849	9.8

VOLATILE ORGANICS INITIAL CALIBRATION DATA

ab Name: ORTEK Contract:

ab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

strument ID: MED1 Calibration Date(s): 09/10/92

atrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

n $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0

LAB FILE ID: RRF020= >A9AI1 RRF050= >A9AI2
RRF100= >A9AI3 RRF150= >A9AI4 RRF200= >A9AI5

COMPOUND	RRF020	RRF050	RRF100	RRF150	RRF200	$\overline{RRF}$	RSD
xylene (o)	.560	.531	.502	.490	.390	.495	13.0
xylene (m,p)	1.130	1.084	1.025	1.023	.778	1.008	13.5
1,2-DICHLOROETHANE-d4	2.387	2.447	2.451	2.466	2.425	2.435	1.3
TOLUENE-d8	1.184	1.193	1.157	1.252	1.069	1.171	5.7
BROMOFLUOROBENZENE	.789	.768	.714	.738	.687	.739	5.5

VOLATILE CONTINUING CALIBRATION CHECK

:: Name: ORTEK Contract:

:: Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

strument ID: MSD1 Calibration Date: 10/16/92 Time: 10:44

:: File ID: :AAGC1 Init. Calib. Date(s): 09/10/92

:trix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

.n RRF050 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D
Chloromethane	#	1.172	1.164	.6#
Bromomethane		.229	.166	27.5
Vinyl Chloride	*	.731	.624	14.6*
Chloroethane		.680	.374	45.0
Methylene Chloride		1.581	1.497	5.3
Acetone		.767	1.061	38.3
Carbon Disulfide		2.534	2.679	5.7
1,1-Dichloroethene	*	1.105	1.154	4.4*
1,1-Dichloroethane	#	3.492	3.407	2.4#
1,2-Dichloroethene (TRANS)		.753	.759	.8
1,2-Dichloroethene (CIS)		.873	.853	2.3
Chloroform	*	3.504	3.434	2.0*
1,2-Dichloroethane		2.755	2.751	.2
2-Butanone		.033	.046	40.2
1,1,1-Trichloroethane		.531	.606	14.2
Carbon Tetrachloride		.384	.377	1.8
Vinyl Acetate		.060	.030	49.6
Bromodichloromethane		.684	.714	4.4
1,2-Dichloropropane	*	.510	.519	1.8*
cis-1,3-Dichloropropene		.624	.638	2.4
Trichloroethene		.411	.459	11.7
Dibromochloromethane		.555	.582	4.9
1,1,2-Trichloroethane		.353	.353	.0
Benzene		1.188	1.298	9.2
trans-1,3-Dichloropropene		.624	.638	2.4
Bromoform	#	.435	.434	.2#
4-Methyl-2-Pentanone		.477	.380	20.5
2-Hexanone		.347	.416	19.8
Tetrachloroethene		.410	.461	12.5
1,1,2,2-Tetrachloroethane	#	.581	.516	11.2#
Toluene	*	.781	.828	6.0*
Chlorobenzene	#	.973	1.060	8.9#
Ethylbenzene	*	.448	.468	4.5*
Styrene		.849	.946	11.4
Xylene (o)		.495	.578	16.9

VOLATILE CONTINUING CALIBRATION CHECK

ab Name: ORTEK Contract:

ab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

strument ID: MSD1 Calibration Date: 10/16/92 Time: 10:44

ab File ID: >AAGC1 Init. Calib. Date(s): 09/10/92

atrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

in RRF050 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25%

COMPOUND	$\overline{RRF}$	RRF050	%D
Xylene (m,p)	1.008	1.175	16.6
1,2-DICHLOROETHANE-d4	2.435	2.210	9.2
TOLUENE-d8	1.171	1.198	2.3
BROMOFLUOROBENZENE	.739	.750	1.4

SA

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Lab File ID (Standard): >AAGC1 Date Analyzed: 10/16/92

Instrument ID: MSD1 Time Analyzed: 10:44

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CHL) AREA #	RT
	12 HOUR STD	33203	15.04	135500	16.76	123378	21.17
	UPPER LIMIT	66406	15.54	271000	17.26	246756	21.67
	LOWER LIMIT	16601	14.54	67750	16.26	61689	20.67
	EPA SAMPLE NO.						
1	VBLK08	32942	15.03	130973	16.76	121174	21.16
2	14-10GGTB	32028	15.02	130510	16.75	115166	21.15
3	09-10GGW	33067	15.04	130009	16.77	119039	21.17
4	09920GGW	29953	15.03	120119	16.76	111094	21.16
5	14-10GGWB	24847	14.99	103853	16.71	96875	21.17
6	03910GGW	30717	15.02	126777	16.75	113357	21.15
7	04-10GGW	30703	14.97	125440	16.70	115764	21.15
8	04920GGW	30679	15.02	125191	16.75	113074	21.15
9	03910GGWM	29523	15.02	121422	16.75	108651	21.15
10	03910GGWX	30118	15.02	124820	16.75	116165	21.15
11	03910GGWMMS	30995	15.02	126169	16.75	112331	21.15
12	03910GGWXMSD	30951	15.02	127647	16.75	114229	21.15
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20							
21							
22							

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

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

Page __ of __.

CHAIN OF CUSTODY RECORD

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

460221

SHEET 1 of ___

COOLER 1 OF 4

PROJECT NO:	PROJECT NAME:
89MC114V	NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabott

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	CONTAINER DESCRIPTION / ANALYSES REQUESTED: VOLATILE ORGANICS 40 ml vials, Teflon lids HCL + 2 pH, 4°C	SEMI-VOLATILE ORGANICS; 1 L AMBER GLASS, TEFLON LID 4°C	PESTICIDES & PCB'S 1 L AMBER GLASS, TEFLON LID 4°C	METALS 1 L POLY BOTTLE NITRIC ACID + 2 pH, 4°C		REMARKS
10/6/92	~~1020~~	~~WMW109920GGW~~	~~8~~	~~3~~	~~2~~	~~2~~	~~1~~		~~WER~~
↓	~~1030~~	~~WMW10992DGGWMD~~	~~8~~	~~3~~	~~2~~	~~2~~	~~1~~		~~WER~~
↓	1115	WMW109-10GGW 129913	8	3	2	2	1		
↓	1020	WMW109920GGW 129914	8	3	2	2	1		

Nothing Follows Wendy Rabott

Date Due: 10/24/92

0, Q1, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy Rabott	10/6/92 1730		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Rep Due: 10/28/92		Gloria Doptator	10-7-92 10:15

METHOD SHIPMENT: FED EX

AIRBILL NO: 5[illegible] 4153950 0.3°C Cooler Secure

CHAIN OF CUSTODY RECORD

SHEET 1 of ___

460221
COOLER 2 OF 7

WOODWARD-CLYDE CONSULTANTS
[redacted] MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 89MC114V

PROJECT NAME: NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	CONTAINER DESCRIPTION / ANALYSES REQUESTED: Volatile Organics 40 ml vial, Teflon lid, HCl < 2 pH, 4°C	Semi-volatile Organics 1 L Amber Glass Teflon lid, 4°C	Pesticides & PCB's 1 L Amber Glass Teflon lid, 4°C	Metals 1 L Poly Bottle Nitric Acid < 2 pH, 4°C		REMARKS
10/6/92	1140	WMW114-10GGWB 129915	8	3	2	2	1		1-40 ml VIAL BROKEN IN SHIPMENT
↓	1310	WMW103910GGW 129916	8	3	2	2	1		
10/6/92	1730	WMW114-10GGTB 129917	2	2					W/BUBBLES prepared by/ab TRIP BLANKS

Nothing Follows

Wendy E Rabolt

Date Due: 10/24/92

O, Q1, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy E Rabolt	10/6/92 1730		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Prop Due: 10/28/92		Gloria Daytaton	10-7-92 10:15
METHOD OF SHIPMENT: FED EX		AIRBILL NO: 5384153950	1.6°C Cooler Sense

CHAIN OF CUSTODY RECORD

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

SHEET 1 of ___

460221

COOLER 3 OF 4

PROJECT NO: 89MC114V

PROJECT NAME: NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	VOLATILE ORGANICS 40 ml vials, teflon lids HCL < 2 pH 4°C	SEMI-VOLATILE ORGANICS 1 L Amber Glass 4°C	PESTICIDE & PCB'S 1 L Amber Glass 4°C	METALS 1 L POLY BOTTLE NITRIC ACID < 2 pH 4°C		REMARKS
10/6/92	1420	WMW104-10GGW 1.29918	8	3	2	2	1		
↓	1510	WMW104920GGW 1.29919	8	3	2	2	1		VIALS W/BUBBLES

Nothing Follows Wendy Rabolt

Date Due: 10/24/92

C, G1, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy Rabolt	10/6/92 17:30		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Pre Due: 10/28/92		Gloria Doxtator	10-7-92 10:15

METHOD OF SHIPMENT: FED EX

RBILL NO: 53 153950 1.4°C Cooler Seal

CHAIN OF CUSTODY RECORD

SHEET 1 of ___

460221

COOLER 4 OF 4

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 89MC114V

PROJECT NAME: NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	VOLATILE ORGANICS 40 ml vials, teflon-lite HCL<2pH, 4°C	SEMI-VOLATILE ORGANICS 1L Amber Glass, teflon ind, 4°C	Pesticides & PCB's 1L Amber Glass, teflon ind, 4°C	METALS 1L POLY BOTTLE NITRIC ACID<2pH 4°C		REMARKS
10/6/92	~~10~~ 1320	WMW103910GGWM 129920	8	3	2	2	1		
	1330 ~~1310~~	~~WMW10~~ WMW103910GGWX 129921	8	3	2	2	1		VIAL W/BUBBLE 1-LITER AMBER BROKEN IN SHIPMENT

Mitchell Follows Wendy Rabolt

Date Due: 10/24/92

O, G1, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy E Rabolt	10/6/92 1730		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Pro Due: 10/28/92		Gloria Dayton	10-7-92 10:15

METHOD OF SHIPMENT: FED EX

AIRBILL NO: 5384153950 0.7°C Cooler Seam

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

November 17, 1992

Ms. Cynthia Pavelka
Woodward Clyde Consultants
2318 Millpark Dr.
Maryland Heights, MO 63043

Dear Ms. Pavelka:

Subject: Taracorp/Superfund (89MC114V)
Reference: 9210176, 9210057

Enclosed please find a CLP data package for the samples received by ORTEK Environmental Laboratory on October 8, 1992 under the subject project.

The Metals QC summary data was submitted with batch number 9210046. The Organic QC Summary data is enclosed herewith.

Should you have any questions regarding this report please feel free to call your new project manager, Jennifer Fazio, at (414) 498-2222. Please have the number referenced above available when making inquiries about this report.

Very Truly Yours,

Terry Y. Hosaka
Project Manager

Enclosure

c: file

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 1243 Green Bay, WI 54307-1243
414-498-2222
FAX: 414-498-4067

GC/MS VOLATILE ORGANIC ANALYSIS

Client:	Woodward-Clyde	Project Name/Desc.:	NL/Taracorp
Address:	2318 Millpark Dr.	Project Number:	89MC114V
	Maryland Heights, Missouri 63043	Batch Number:	9210176
Phone:	(314) 429-0100	COC Number:	406231
FAX:	(314) 429-0462		
		Case No.:	WOOD1
Contact:	Cynthia Pavelka	SDG No.:	10110W

SAMPLE SUMMARY

Client Sample No.	EPA Sample No.	Ortek Lab Sample ID
TRIP BLANK	TBLK0921-13	130460
WMW101-10GGOOW	10110W	130459
WMW108-DOGGOOW	108DOW	130456
WMW108-DOGGOOWD	108DWD	130457
WMW115-10GGOOTB	1151TB	130458

COMMENTS: VOLATILE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8240 ON A DB624 CAPILLARY COLUMN

1.) The instrument ID for Volatile Organic Analysis is 50BB. The blanks associated with the samples is VBLK01.

"Q" COLUMN QUALIFIERS:
- U - Compound analyzed for but not detected
- B - Indicates the analyte is found in the associated method blank
- J - Estimated value, concentration of analyte below quantitation limit
- E - Compound exceeds calibration range, but did not saturate the detector; actual concentrations could be higher than reported
- D - Compound identified in the analysis at a secondary dilution
- N - Indicates presumptive evidence of a compound (identified based on mass spectral library search)

Signed: John C. Rather Name: John C. Rather

Title: GC/MS/EC Supervisor Date: 11/13/92

OODWARD YDE CONSULTAN
2318 LPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

406231

PROJECT NO:	PROJECT NAME:
89MC114V-446	NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Dongfeng Zhang

DATE	TIME	SAMPLE I.D. NUMBER	NO. OF CONTAINERS	VOLATILE ORGANICS (8240) 40 ML VIALS, <4°C PRESERVATION, HCL TO pH<2	CONTAINER DESCRIPTION / ANALYSES REQUESTED				REMARKS
									9210176
10-23-92	1040	WMW108-DOGGOOW	3	3					130456
10-23-92	40	WMV108-DOGGOOWD	3	3					130459
10-23-92	1050	WMW115-10GG00TB	3	3					130458
10-23-92	1110	WMW101-10GGOOW	3	3					130459
10-23-92	1340	TRIP BLANKS TBLK 0921-13/14	2	2					130460

D Zhang

Date Due 11/7/92

3.6°C 0

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dongfeng Zhang	10-23-92 14:00		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
		[signature]	10-24-92 11:30AM
METHOD OF SHIPMENT: FEDERAL EXPRESS		AIRBILL NO: 5277845156	10-26-92 14:00

proj. due 11/1/92

406231

ORTEX
SAMPLE RECEIVING OUT OF CONTROL FORM

Company Name WOOD WARD CLYDE Contact Person Cynthia Pavelka

Project Name TARP CORP Reported By Gloria Dortator

Batch Number _____ Sample Numbers _____

Date 10-26-92 Time 09:17 Phone Number 314-429-0100

[✓] Hold Time [ ] Sample Temperature ____ °F [ ] Improper Container

[ ] Improper Preservative [✓] Methodology [ ] Insufficient Volume

[ ] Paperwork Discrepancy [ ] Other

Description: VOC By WMT METHOD 8240
Trip Blanks dated 9-21-92

* Please confirm correct contact name (Cynthia Pavelka)

Person responsible for resolution: _____

Client Response:
go ahead and run trip blank - per phone
conv w/ Cynthia Pavelka.

Date 10-26-92 Time 4:02 Signature [signature]

cc: Working File Mary Jo Doxtator Phil Scott Marcia Kuehl
Terry Hosaka Nancy Cook Tori Cook John Rather Chris Groh
John Wallace Bill Jackson

Form 0004

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TBLK0921-13

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130460

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV003

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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	4	BJ 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

EPA SAMPLE NO.

TBLK0921-13

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130460

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV003

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10110W

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130459

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV009

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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

EPA SAMPLE NO.

1011OW

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130459

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV009

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/cap) _____ Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 78-92-2	2-BUTANOL (ACN)	4.05	1400	JN

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DOW

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130456

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV004

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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	1	BJ 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

EPA SAMPLE NO.

108DOW

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130456

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV004

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DOWMS

Contract: 89MC114V

Lab Name: ORTEK

SAS No.: _____

SDG No.: 10110W

Lab Code: ORTEK

Case No.: WOOD1

Lab Sample ID: 130456MS

Matrix: (soil/water) WATER

Lab File ID: 211CV005

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

Date Received: 10/24/92

Level: (low/med) LOW

Date Analyzed: 11/05/92

% Moisture: not dec. ____

Dilution Factor: 1.0

Column: (pack/cap) ____

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	3	BJ 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	10	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	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	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DOWMSD

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130456MSD

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV006

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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	3	BJ 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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWD

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130457

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV007

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	BJ
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

EPA SAMPLE NO.

108DWD

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130457

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV007

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1151TB

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130458

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV008

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	2	J
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

EPA SAMPLE NO.

1151TB

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130458

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV008

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: WBLK110592

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV002

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

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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	1	J
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

EPA SAMPLE NO.

VBLK01

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: WBLK110592

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV002

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

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	10110W	89	100	77	0	0
02	108DOW	88	103	80	0	0
03	108DWD	89	98	83	0	0
04	1151TB	94	100	77	0	0
05	TBLK0921-13	93	107	84	0	0
06	108DOWMS	93	93	85	0	0
07	108DOWMSD	94	91	83	0	0
08	VBLK01	94	105	80	0	0

		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

D Surrogates diluted out

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3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix Spike - EPA Sample No.: 108DOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	45.6	91	61-145
Trichloroethene	50.0	0	45.9	92	71-120
Benzene	50.0	0	42.7	85	76-127
Toluene	50.0	0	43.6	87	76-125
Chlorobenzene	50.0	0	45.7	91	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.0	50.3	101	-10	14	61-145
Trichloroethene	50.0	47.9	96	-4	14	71-120
Benzene	50.0	42.7	85	0	11	76-127
Toluene	50.0	44.4	89	-2	13	76-125
Chlorobenzene	50.0	46.6	93	-2	13	75-130

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

* Values outside of QC limits

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

COMMENTS: 130456 8240-W
-10-10,10,10-10,3,10-90,5,90-110,10,34-300U,1.51S/S,1045EV,50CV

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Lab File ID: 211CV002 Lab Sample ID: WBLK110592

Date Analyzed: 11/05/92 Time Analyzed: 1822

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

Instrument ID: 50CV

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	10110W	130459	211CV009	2225
02	108DOW	130456	211CV004	1942
03	108DWD	130457	211CV007	2120
04	1151TB	130458	211CV008	2153
05	TBLK0921-13	130460	211CV003	1911
06	108DOWMS	130456MS	211CV005	2015
07	108DOWMSD	130456MSD	211CV006	2048

COMMENTS: VBLK01 WATER
-10-10,10,10-10,3,10-90,5,90-110,10,34-300U,1.5S/S,1045EV,50CV

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Lab File ID: BFB091592 BFB Injection Date: 09/15/92

Instrument ID: 50CV BFB Injection Time: 0904

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.5
75	30.0 - 60.0% of mass 95	69.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	Greater than 50.0% of mass 95	70.6
175	5.0 - 9.0% of mass 174	5.1 (7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	70.4 (99.7)1
177	5.0 - 9.0% of mass 176	4.8 (6.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	920019-2	209CV001	09/15/92	951
02	VSTD020	920019-2	209CV002	09/15/92	1038
03	VSTD100	920019-2	209CV003	09/15/92	1110
04	VSTD150	920019-2	209CV004	09/15/92	1143
05	VSTD200	920019-2	209CV005	09/15/92	1215

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Contract: 89MC114V

Lab Name: ORTEK SAS No.: _____ SDG No.: 1011OW

Lab Code: ORTEK Case No.: WOOD1 BFB Injection Date: 11/05/92

Lab File ID: BFB110592 BFB Injection Time: 1735

Instrument ID: 50CV

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.6
75	30.0 - 60.0% of mass 95	37.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.1 (0.2)1
174	Greater than 50.0% of mass 95	69.3
175	5.0 - 9.0% of mass 174	5.1 (7.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	66.7 (96.2)1
177	5.0 - 9.0% of mass 176	4.6 (6.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	920019-2	211CV001	11/05/92	1742
02	VBLK01	WBLK110592	211CV002	11/05/92	1822
03	TBLK0921-13	130460	211CV003	11/05/92	1911
04	108DOW	130456	211CV004	11/05/92	1942
05	108DOWMS	130456MS	211CV005	11/05/92	2015
06	108DOWMSD	130456MSD	211CV006	11/05/92	2048
07	108DWD	130457	211CV007	11/05/92	2120
08	1151TB	130458	211CV008	11/05/92	2153
09	1011OW	130459	211CV009	11/05/92	2225

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Instrument ID: 50CV Calibration Date(s): 09/15/92 09/15/92

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 209CV002 RRF50 = 209CV001
RRF100= 209CV003 RRF150= 209CV004 RRF200= 209CV005

COMPOUND		RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane	#	1.198	1.398	0.882	0.950	0.949	1.075	20.2#
Bromomethane		1.700	1.553	1.271	1.252	1.203	1.396	15.6
Vinyl Chloride	*	1.501	1.547	1.145	1.162	1.164	1.304	15.5*
Chloroethane		1.055	0.982	0.795	0.792	0.762	0.877	15.1
Methylene Chloride		1.878	1.825	1.592	1.554	1.445	1.659	11.2
Acetone		0.476	0.279	0.205	0.129	0.123	0.242	60.0
Carbon Disulfide		3.205	2.861	2.397	2.384	2.234	2.616	15.5
1,1-Dichloroethene	*	1.744	1.622	1.352	1.337	1.235	1.458	14.7*
1,1-Dichloroethane	#	3.368	3.301	3.086	3.121	3.007	3.177	4.8#
1,2-Dichloroethene (total)		0.646	0.645	0.620	0.646	0.648	0.641	1.8
Chloroform	*	4.038	3.729	3.494	3.405	3.175	3.568	9.2*
1,2-Dichloroethane		1.946	1.816	1.954	1.994	1.913	1.925	3.5
2-Butanone		0.145	0.142	0.191	0.159	0.168	0.161	12.3
1,1,1-Trichloroethane		0.703	0.613	0.571	0.650	0.616	0.631	7.8
Carbon Tetrachloride		0.559	0.507	0.528	0.627	0.619	0.568	9.4
Vinyl Acetate		0.007	0.006	0.011	0.013	0.019	0.011	47.4
Bromodichloromethane		0.738	0.657	0.683	0.789	0.785	0.730	8.1
1,2-Dichloropropane	*	0.509	0.519	0.503	0.563	0.557	0.530	5.3*
cis-1,3-Dichloropropene		0.466	0.421	0.543	0.655	0.686	0.554	20.8
Trichloroethene		0.520	0.472	0.457	0.515	0.514	0.496	5.8
Dibromochloromethane		0.597	0.519	0.597	0.694	0.678	0.617	11.5
1,1,2-Trichloroethane		0.475	0.393	0.386	0.420	0.392	0.413	8.9
Benzene		1.317	1.212	1.147	1.312	1.250	1.248	5.7
trans-1,3-Dichloropropene		0.232	0.222	0.316	0.412	0.442	0.325	31.0
Bromoform	#	0.392	0.310	0.418	0.502	0.496	0.424	18.8#
4-Methyl-2-Pentanone		0.134	0.134	0.228	0.253	0.242	0.198	29.9
2-Hexanone		0.047	0.065	0.090	0.100	0.103	0.081	29.8
Tetrachloroethene		0.595	0.541	0.492	0.555	0.541	0.545	6.8
1,1,2,2-Tetrachloroethane	#	0.766	0.567	0.667	0.662	0.605	0.653	11.6#
Toluene	*	0.798	0.787	0.759	0.866	0.834	0.809	5.2*
Chlorobenzene	#	1.093	0.984	0.947	0.976	0.937	0.987	6.3#
Ethylbenzene	*	0.469	0.383	0.394	0.426	0.399	0.414	8.3*
Styrene		1.225	0.791	0.828	0.872	0.813	0.906	20.0
Xylene (total)		0.813	0.694	0.638	0.635	0.576	0.671	13.4
Toluene-d8		1.173	1.164	1.130	1.119	1.045	1.126	4.5
Bromofluorobenzene		0.694	0.670	0.674	0.681	0.649	0.674	2.4
1,2-Dichloroethane-d4		1.782	1.748	1.839	1.778	1.707	1.771	2.7

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Instrument ID: 50CV Calibration date: 11/05/92 Time: 1742

Lab File ID: 211CV001 Init. Calib. Date(s): 09/15/92 09/15/92

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND		$\overline{RRF}$	RRF50	%D	
Chloromethane	#	1.075	1.322	-23.0	#
Bromomethane		1.396	1.651	-18.3	
Vinyl Chloride	*	1.304	1.475	-13.1	*
Chloroethane		0.877	1.047	-19.4	
Methylene Chloride		1.659	1.891	-14.0	
Acetone		0.242	0.141	41.7	
Carbon Disulfide		2.616	2.969	-13.5	
1,1-Dichloroethene	*	1.458	1.754	-20.3	*
1,1-Dichloroethane	#	3.177	3.149	0.9	#
1,2-Dichloroethene (total)		0.641	0.638	0.5	
Chloroform	*	3.568	3.741	-4.8	*
1,2-Dichloroethane		1.925	1.620	15.8	
2-Butanone		0.161	0.023	85.7	
1,1,1-Trichloroethane		0.631	0.699	-10.8	
Carbon Tetrachloride		0.568	0.622	-9.5	
Vinyl Acetate		0.011	0.006	45.4	
Bromodichloromethane		0.730	0.746	-2.2	
1,2-Dichloropropane	*	0.530	0.551	-4.0	*
cis-1,3-Dichloropropene		0.554	0.433	21.8	
Trichloroethene		0.496	0.494	0.4	
Dibromochloromethane		0.617	0.616	0.2	
1,1,2-Trichloroethane		0.413	0.452	-9.4	
Benzene		1.248	1.313	-5.2	
trans-1,3-Dichloropropene		0.325	0.230	29.2	
Bromoform	#	0.424	0.376	11.3	#
4-Methyl-2-Pentanone		0.198	0.128	35.4	
2-Hexanone		0.081	0.030	63.0	
Tetrachloroethene		0.545	0.559	-2.6	
1,1,2,2-Tetrachloroethane	#	0.653	0.650	0.5	#
Toluene	*	0.809	0.853	-5.4	*
Chlorobenzene	#	0.987	0.958	2.9	#
Ethylbenzene	*	0.414	0.354	14.5	*
Styrene		0.906	0.784	13.5	
Xylene (total)		0.671	0.763	-13.7	
Toluene-d8		1.126	1.185	-5.2	
Bromofluorobenzene		0.674	0.668	0.9	
1,2-Dichloroethane-d4		1.771	1.548	12.6	

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Lab File ID (Standard): 211CV001 Date Analyzed: 11/05/92

Instrument ID: 50CV Time Analyzed: 1742

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	65671	7.10	292605	9.62	327727	16.12
	UPPER LIMIT	131342		585210		655454	
	LOWER LIMIT	32836		146302		163864	
	EPA SAMPLE NO.						
01	1011OW	64814	7.15	264016	9.64	271071	16.12
02	108DOW	43615	7.15	194327	9.67	209682	16.12
03	108DWD	49869	7.12	248189	9.62	262038	16.09
04	1151TB	53066	7.15	234895	9.64	248182	16.09
05	TBLK0921-13	52854	7.15	256273	9.67	262181	16.14
06	108DOWMS	55419	7.15	265595	9.64	305347	16.12
07	108DOWMSD	49831	7.17	260233	9.67	296667	16.12
08	VBLK01	57097	7.15	256044	9.64	264718	16.12

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

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA 1/87 Rev.

WATER VOLATILE SURROGATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 03910GGW

	EPA SAMPLE NO.	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	S4 ( )#	TOT OUT
01	VBLK08	99	100	98		0
02	14-10GGTB	100	102	94		0
03	09-10GGW	97	101	97		0
04	09920GGW	99	99	96		0
05	14-10GGWB	104	103	96		0
06	03910GGW	99	99	95		0
07	04-10GGW	104	102	95		0
08	04920GGW	99	99	94		0
09	03910GGWM	103	101	98		0
10	03910GGWX	104	98	96		0
11	03910GGWMMS	98	99	96		0
12	03910GGWXMSD	99	99	95		0
13						
14						
15						
16						
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29						
30						

		QC LIMITS
S1 (DCE)	= 1,2-DICHLOROETHANE-d4	(76-114)
S2 (TOL)	= TOLUENE-d8	(88-110)
S3 (BFB)	= BROMOFLUOROBENZENE	(86-115)

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

FORM II VOA-1

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 03910GGW

Matrix Spike - EPA Sample No.: 03910GGWX

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0	60	121	61-145
Trichloroethene	50	0	49	97	71-120
Benzene	50	0	50	100	75-13
Toluene	50	0	45	90	76-12
Chlorobenzene	50	0	46	93	76-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	58	117	3	14	61-145
Trichloroethene	50	47	95	3	14	71-120
Benzene	50	48	96	4	11	75-130
Toluene	50	44	87	3	13	76-12
Chlorobenzene	50	45	89	4	13	76-12

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: _____

VOLATILE METHOD BLANK SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 03910GGW

Lab File ID: >AAGB2 Lab Sample ID: VBLK08

Date Analyzed: 10/16/92 Time Analyzed: 12:35

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

Instrument ID: MSD1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	14-10GGTB	VTB1016-01	>AAG01	13:20
2	09-10GGW	129913	>AAG02	14:09
3	09920GGW	129914	>AAG03	14:56
4	14-10GGWB	129915	>AAG04	15:42
5	03910GGW	129916	>AAG05	16:30
6	04-10GGW	129918	>AAG06	17:15
7	04920GGW	129919	>AAG07	18:03
8	03910GGWM	129920	>AAG08	18:48
9	03910GGWX	129921	>AAG09	19:34
10	03910GGWMM	129920MS	>AAG10	20:20
11	03910GGWXM	129921MSD	>AAG11	21:07
12				
13				
14				
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27				
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29				
30				

COMMENTS: _____

Page ___ of ___.

EPA SAMPLE NO.

VBLK08

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Contract:

SDG No.: 03910GGW

Lab Name: ORTEK

Case No.: 89MC114U SAS No.:

Lab Sample ID: VBLK08

Lab Code: ORTEK

Lab File ID: >AAGB2

Matrix: (soil/water) WATER

Date Received:

Sample wt/vol: 5 (g/ml) ML

Date Analyzed: 10/16/92

Level: (low/med) LOW

Dilution Factor: 1.00

Moisture: not dec.

Column: (pack/cap) CAP

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
156-60-5	1,2-Dichloroethene (TRANS)	5	U
156-59-2	1,2-Dichloroethene (CIS)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	10	U
108-05-4	Vinyl Acetate	5	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	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	5	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

1A-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK08

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Matrix: (soil/water) WATER Lab Sample ID: VBLK08

Sample wt/vol: 5 (g/ml) ML Lab File ID: >AAGB2

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 10/16/92

Column: (pack/cap) CAP Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
95-47-6	Xylene (o)	5	U
108-38-3	Xylene (m,p)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK08

Contract: _____

Lab Name: ORTEK Case No.: 89MC114V SAS No.: _____ SDG No.: 03910GGW

Lab Code: ORTEK Lab Sample ID: VBLK08

Matrix: (soil/water) WATER Lab File ID: >AAGB2

Sample wt/vol: 5.0 (g/mL) ML Date Received: _____

Level: (low/med) LOW Date Analyzed: 10/16/92

% Moisture: not dec. _____ Dilution Factor: 1.0

Column (pack/cap) CAP

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

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

ıb Name: ORTEK Contract:

ıb code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

ıb File ID: >A9AF2 BFB Injection Date: 9/10/92

ıstrument ID: MSD1 BFB Injection Time: 11:10

ıtrix: (soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	25.4
75	30.0 - 60.0% of mass 95	49.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50% of mass 95	80.4
175	5.0 - 9.0% of mass 174	4.8 (6.0)1
176	95.0 - 101.0% of mass 174	81.1 (100.8)1
177	5.0 - 9.0% of mass 176	4.3 (5.3)2

1-Value is % of mass 174 2-Value is % of mass 176

ıIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	20VOA	20VOA	>A9AI1	09/10/92	12:48
02	50VOA	50VOA	>A9AI2	09/10/92	13:34
03	100VOA	100VOA	>A9AI3	09/10/92	14:21
04	150VOA	150VOA	>A9AI4	09/10/92	15:09
05	200VOA	200VOA	>A9AI5	09/10/92	15:55
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

ıb Name: ORTEK Contract:

ıb code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

ıb File ID: >AAGF1 BFB Injection Date: 10/16/92

ıstrument ID: MSD1 BFB Injection Time: 10:03

ıtrix: (soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.3
75	30.0 - 60.0% of mass 95	43.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	.6 (.8)1
174	Greater than 50% of mass 95	80.3
175	5.0 - 9.0% of mass 174	6.3 (7.8)1
176	95.0 - 101.0% of mass 174	76.7 (95.5)1
177	5.0 - 9.0% of mass 176	4.8 (6.3)2

1-Value is % of mass 174 2-Value is % of mass 176

ıIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	VSTD050	>AAGC1	10/16/92	10:44
02	VBLK08	VBLK08	>AAGB2	10/16/92	12:35
03	14-10GGTB	VTB1016-01	>AAG01	10/16/92	13:20
04	09-10GGW	129913	>AAG02	10/16/92	14:09
05	09920GGW	129914	>AAG03	10/16/92	14:56
06	14-10GGWB	129915	>AAG04	10/16/92	15:42
07	03910GGW	129916	>AAG05	10/16/92	16:30
08	04-10GGW	129918	>AAG06	10/16/92	17:15
09	04920GGW	129919	>AAG07	10/16/92	18:03
10	03910GGWM	129920	>AAG08	10/16/92	18:48
11	03910GGWX	129921	>AAG09	10/16/92	19:34
12	03910GGWMM	129920MS	>AAG10	10/16/92	20:20
13	03910GGWXM	129921MSD	>AAG11	10/16/92	21:07
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA 1/87 Rev.

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Instrument ID: MSD1 Calibration Date(s): 09/10/92

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0

LAB FILE ID: RRF020= >A9AI1 RRF050= >A9AI2
RRF100= >A9AI3 RRF150= >A9AI4 RRF200= >A9AI5

COMPOUND	RRF020	RRF050	RRF100	RRF150	RRF200	$\overline{RRF}$	RSD
Chloromethane	# 1.106	1.242	1.184	1.230	1.097	1.172	5.8#
Bromomethane	.130	.279	.279	.254	.204	.229	27.6
Vinyl Chloride	* .645	.771	.758	.788	.693	.731	8.2*
Chloroethane	.307	.802	.774	.790	.727	.680	31.0
Methylene Chloride	1.873	1.648	1.523	1.509	1.350	1.581	12.3
Acetone	1.513	.710	.515	.625	.471	.767	55.8
Carbon Disulfide	2.664	2.555	2.509	2.589	2.354	2.534	4.6
1,1-Dichloroethene	* 1.159	1.149	1.119	1.128	.969	1.105	7.0*
1,1-Dichloroethane	# 3.460	3.554	3.499	3.608	3.339	3.492	2.9#
1,2-Dichloroethene (TRANS)	.736	.789	.751	.786	.703	.753	4.8
1,2-Dichloroethene (CIS)	.850	.906	.894	.886	.829	.873	3.7
Chloroform	* 3.540	3.609	3.535	3.554	3.283	3.504	3.6*
1,2-Dichloroethane	2.733	2.924	2.799	2.772	2.546	2.755	5.0
2-Butanone	.044	.033	.030	.033	.027	.033	19.1
1,1,1-Trichloroethane	.551	.556	.539	.533	.475	.531	6.1
Carbon Tetrachloride	.391	.364	.392	.419	.352	.384	6.8
Vinyl Acetate	.047	.058	.062	.062	.067	.060	12.6
Bromodichloromethane	.677	.702	.694	.704	.643	.684	3.7
1,2-Dichloropropane	* .501	.528	.512	.521	.489	.510	3.0*
cis-1,3-Dichloropropene	.587	.668	.622	.639	.603	.624	5.1
Trichloroethene	.435	.435	.414	.407	.364	.411	7.1
Dibromochloromethane	.537	.585	.561	.566	.524	.555	4.4
1,1,2-Trichloroethane	.363	.370	.358	.350	.324	.353	5.0
Benzene	1.251	1.257	1.194	1.162	1.076	1.188	6.2
trans-1,3-Dichloropropene	.587	.668	.622	.639	.603	.624	5.1
Bromoform	# .396	.467	.441	.437	.431	.435	5.9#
4-Methyl-2-Pentanone	.462	.457	.478	.547	.443	.477	8.6
2-Hexanone	.412	.326	.320	.366	.312	.347	12.0
Tetrachloroethene	.415	.429	.421	.442	.345	.410	9.2
1,1,2,2-Tetrachloroethane	# .494	.586	.629	.665	.523	.581	12.1#
Toluene	* .779	.785	.810	.843	.689	.781	7.6*
Chlorobenzene	# 1.035	1.018	.965	1.003	.945	.973	3.8#
Ethylbenzene	* .465	.453	.468	.471	.382	.448	8.3*
Styrene	.881	.897	.874	.892	.701	.849	9.8

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

Instrument ID: MED1 Calibration Date(s): 09/10/92

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0

LAB FILE ID: RRF020= >A9AI1 RRF050= >A9AI2
RRF100= >A9AI3 RRF150= >A9AI4 RRF200= >A9AI5

COMPOUND	RRF020	RRF050	RRF100	RRF150	RRF200	$\overline{RRF}$	RSD
Xylene (o)	.560	.531	.502	.490	.390	.495	13.0
Xylene (m,p)	1.130	1.084	1.025	1.023	.778	1.008	13.5
1,2-DICHLOROETHANE-d4	2.387	2.447	2.451	2.466	2.425	2.435	1.3
TOLUENE-d8	1.184	1.193	1.157	1.252	1.069	1.171	5.7
BROMOFLUOROBENZENE	.789	.768	.714	.738	.687	.739	5.5

VOLATILE CONTINUING CALIBRATION CHECK

:: Name: ORTEK Contract:

:: Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

strument ID: MSD1 Calibration Date: 10/16/92 Time: 10:44

:: File ID: AAGC1 Init. Calib. Date(s): 09/10/92

trix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

n RRF050 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D
Chloromethane	#	1.172	1.164	.6#
Bromomethane		.229	.166	27.5
Vinyl Chloride	*	.731	.624	14.6*
Chloroethane		.080	.374	45.0
Methylene Chloride		1.581	1.497	5.3
Acetone		.767	1.061	38.3
Carbon Disulfide		2.534	2.679	5.7
1,1-Dichloroethene	*	1.105	1.154	4.4*
1,1-Dichloroethane	#	3.492	3.407	2.4#
1,2-Dichloroethene (TRANS)		.753	.759	.8
1,2-Dichloroethene (CIS)		.873	.853	2.3
Chloroform	*	3.504	3.434	2.0*
1,2-Dichloroethane		2.755	2.751	.2
2-Butanone		.033	.046	40.2
1,1,1-Trichloroethane		.531	.606	14.2
Carbon Tetrachloride		.384	.377	1.8
Vinyl Acetate		.060	.030	49.6
Bromodichloromethane		.684	.714	4.4
1,2-Dichloropropane	*	.510	.519	1.8*
cis-1,3-Dichloropropene		.624	.638	2.4
Trichloroethene		.411	.459	11.7
Dibromochloromethane		.555	.582	4.9
1,1,2-Trichloroethane		.353	.353	.0
Benzene		1.188	1.298	9.2
trans-1,3-Dichloropropene		.624	.638	2.4
Bromoform	#	.435	.434	.2#
4-Methyl-2-Pentanone		.477	.380	20.5
2-Hexanone		.347	.416	19.8
Tetrachloroethene		.410	.461	12.5
1,1,2,2-Tetrachloroethane	#	.581	.516	11.2#
Toluene	*	.781	.828	6.0*
Chlorobenzene	#	.973	1.060	8.9#
Ethylbenzene	*	.448	.468	4.5*
Styrene		.849	.946	11.4
Xylene (o)		.495	.578	16.9

7A-1

VOLATILE CONTINUING CALIBRATION CHECK

ab Name: ORTEK Contract:

ab Code: ORTEK Case No.: 89MC114V SAS No.: SDG No.: 03910GGW

strument ID: MSD1 Calibration Date: 10/16/92 Time: 10:44

ab File ID: >AAGC1 Init. Calib. Date(s): 09/10/92

atrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

in RRF050 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25%

COMPOUND	RRF	RRF050	%D
Xylene (m,p)	1.008	1.175	16.6
1,2-DICHLOROETHANE-d4	2.435	2.210	9.2
TOLUENE-d8	1.171	1.198	2.3
BROMOFLUOROBENZENE	.739	.750	1.4

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: 89MC114U SAS No.: SDG No.: 03910GGW

Lab File ID (Standard): >AAGC1 Date Analyzed: 10/16/92

Instrument ID: MSD1 Time Analyzed: 10:44

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

	IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CHL) AREA #	RT
12 HOUR STD	33203	15.04	135500	16.76	123378	21.17
UPPER LIMIT	66406	15.54	271000	17.26	246756	21.67
LOWER LIMIT	16601	14.54	67750	16.26	61689	20.67
EPA SAMPLE NO.						
1 VBLK08	32942	15.03	130973	16.76	121174	21.16
2 14-10GGTB	32028	15.02	130510	16.75	115166	21.15
3 09-10GGW	33067	15.04	130009	16.77	119039	21.17
4 09920GGW	29953	15.03	120119	16.76	111094	21.16
5 14-10GGWB	24847	14.99	103853	16.71	96875	21.17
6 03910GGW	30717	15.02	126777	16.75	113357	21.15
7 04-10GGW	30703	14.97	125440	16.70	115764	21.15
8 04920GGW	30679	15.02	125191	16.75	113074	21.15
9 03910GGWM	29523	15.02	121422	16.75	108651	21.15
10 03910GGWX	30118	15.02	124820	16.75	116165	21.15
11 03910GGWMMS	30995	15.02	126169	16.75	112331	21.15
12 03910GGWXMSD	30951	15.02	127647	16.75	114229	21.15
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

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

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

\# Column used to flag internal standard area values with an asterisk

Page __ of __.

CHAIN OF CUSTODY RECORD

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

460221

SHEET 1 of __

COOLER 1 OF 4

PROJECT NO:	PROJECT NAME:
89MC114V	NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	VOLATILE ORGANICS 40 ml vials, Teflon lids HCL < 2 pH, 4°C	SEMI-VOLATILE ORGANICS: 1 L AMBER GLASS, TEFLON LID 4°C	PESTICIDES & PCB'S 1 L AMBER GLASS, TEFLON LID 4°C	METALS 1 L POLY BOTTLE HNO3 < 2 pH, 4°C		REMARKS
10/6/92	~~1020~~	~~WMW109920GGW~~	~~8~~	~~3~~	~~2~~	~~2~~	~~1~~		~~WER~~
↓	~~1030~~	~~WMW109920GGWMD~~	~~8~~	~~3~~	~~2~~	~~2~~	~~1~~		~~WER~~
↓	1115	WMW109-10GGW 129913	8	3	2	2	1		
↓	1020	WMW109920GGW 129914	8	3	2	2	1		

Nothing Follows Wendy Rabolt

Date Due: 10/24/92

C, Q1, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy Rabolt	10/6/92 1730		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
[illegible] 10/28/92		Gloria Dostatni	10-7-92 5

METHOD SHIPMENT: FED EX

BILL NO: [illegible]

CHAIN OF CUSTODY RECORD

SHEET 1 of __

460221
COOLER 2 OF 7

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 89MC114V

PROJECT NAME: NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	CONTAINER DESCRIPTION / ANALYSES REQUESTED: Volatile Organics 40 ml vial, Teflon lid HCl < 2 pH, 4°C	Semi-volatile Organics 1 L Amber Glass Teflon lid, 4°C	Pesticides & PCB's 1 L Amber Glass Teflon lid, 4°C	Metals 1 L Poly Bottle Nitric Acid < 2 pH, 4°C		REMARKS
10/6/92	1140	WMW114-10GGWB 129915	8	3	2	2	1		1-40 ml VIAL BROKEN IN SHIPMENT
↓	1310	WMW103910GGW 129916	8	3	2	2	1		
10/6/92	1730	WMW114-10GGTB 129917	2	2					W/BUBBLES prepared by/ab TRIP BLANKS

Nothing Follows

Wendy E Rabolt

Date Due: 10/24/92

O, Q1, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy E Rabolt	10/6/92 1730		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Prop Due: 10/28/92		Gloria Daytaton	10-7-92 10:15
METHOD OF SHIPMENT: FED EX		AIRBILL NO: 5384153950	1.6°C Cooler Seal

CHAIN OF CUSTODY RECORD

SHEET 1 of —

460221

COOLER 3 OF 4

WOODWARD-CLYDE CONSULTANTS
2[redacted]PARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 89MC114V

PROJECT NAME: NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	CONTAINER DESCRIPTION / ANALYSES REQUESTED: VOLATILE ORGANICS 40 ml vials, yellow lids HCL < 2 pH, 4°C	SEMI-VOLATILE ORGANICS 1 L Amber Glass 4°C	Pesticide & PCB's 1 L Amber Glass 4°C	METALS 1 L Poly Bottle Nitric Acid < 2 pH 4°C		REMARKS
10/6/92	1420	WMW104-10GGW 1.29918	8	3	2	2	1		
↓	1510	WMW104920GGW 1.29919	8	3	2	2	1		VIALS W/BUBBLES

Nothing Follows Wendy Rabolt

Date Due: 10/24/92

0, 91, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy Rabolt	10/6/92 17:30		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
[illegible] 10/28/92		Gloria Doxtator	10-7-92 10:15

METHOD OF SHIPMENT: [illegible]

BILL NO: 53[illegible] 153950 1.4°C Cooler [illegible]

CHAIN OF CUSTODY RECORD

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

SHEET 1 of __
460221
COOLER 4 OF 4

PROJECT NO: 89MC114V

PROJECT NAME: AL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rubolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	VOLATILE ORGANICS 40 ml vials, teflon-lids HCL<2pH, 4°C	SEMI-VOLATILE ORGANICS 1L Amber Glass, teflon lid, 4°C	Pesticides & PCB's 1L Amber Glass, teflon lid, 4°C	METALS 1L Poly Bottle Nitric Acid<2pH 4°C		REMARKS
10/6/92	~~10~~ 1320	WMW103910GGWM 129920	8	3	2	2	1		
	1330 ~~1310~~	~~WMW10~~ WMW103910GGWX 129921	8	3	2	2	1		VIAL W/BUBBLE 1 LITER AMBER BROKEN IN SHIPMENT

Wendy Rubolt

Mitchell Fallows

Date Due: 10/24/92

O, G1, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy E Rubolt	10/6/92 1730		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Kay Due: 10/28/92		Gloria Dayton	10-7-92 10:15

METHOD OF SHIPMENT: FED EX

AIRBILL NO: 5384153950

0.7°C Cooler Seam

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

November 17, 1992

Ms. Cynthia Pavelka
Woodward Clyde Consultants
2318 Millpark Dr.
Maryland Heights, MO 63043

Dear Ms. Pavelka:

Subject: Taracorp/Superfund (89MC114V)
Reference: 9210176, 9210057

Enclosed please find a CLP data package for the samples received by ORTEK Environmental Laboratory on October 8, 1992 under the subject project.

The Metals QC summary data was submitted with batch number 9210046. The Organic QC Summary data is enclosed herewith.

Should you have any questions regarding this report please feel free to call your new project manager, Jennifer Fazio, at (414) 498-2222. Please have the number referenced above available when making inquiries about this report.

Very Truly Yours,

Terry Y. Hosaka
Project Manager

Enclosure

c: file

ORTEK
ENVIRONMENTAL LABORATORY
414-498-2222
FAX: 414-498-4067
2496 West Mason Street | P.O. Box 12435 | Green Bay, WI 54307-2435

GC/MS VOLATILE ORGANIC ANALYSIS

Client:	Woodward-Clyde	Project Name/Desc.:	NL/Taracorp
Address:	2318 Millpark Dr.	Project Number:	89MC114V
	Maryland Heights, Missouri 63043	Batch Number:	9210176
Phone:	(314) 429-0100	COC Number:	406231
FAX:	(314) 429-0462		
		Case No.:	WOOD1
Contact:	Cynthia Pavelka	SDG No.:	10110W

SAMPLE SUMMARY

Client Sample No.	EPA Sample No.	Ortek Lab Sample ID
TRIP BLANK	TBLK0921-13	130460
WMW101-10GGOOW	10110W	130459
WMW108-DOGGOOW	108DOW	130456
WMW108-DOGGOOWD	108DWD	130457
WMW115-10GGOOTB	1151TB	130458

COMMENTS: VOLATILE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8240 ON A DB624 CAPILLARY COLUMN

1.) The instrument ID for Volatile Organic Analysis is 50BB. The blanks associated with the samples is VBLK01.

"Q" COLUMN QUALIFIERS:
- U - Compound analyzed for but not detected
- B - Indicates the analyte is found in the associated method blank
- J - Estimated value, concentration of analyte below quantitation limit
- E - Compound exceeds calibration range, but did not saturate the detector; actual concentrations could be higher than reported
- D - Compound identified in the analysis at a secondary dilution
- N - Indicates presumptive evidence of a compound (identified based on mass spectral library search)

Signed: John C. Rother Name: John C. Rother

Title: GC/MS/EC Supervisor Date: 11/13/92

WOODWARD-CLYDE CONSULTANTS
2318 [illegible] PARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

406231

PROJECT NO:	PROJECT NAME:
89MC114V-446	NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Dongfeng Zhang

DATE	TIME	SAMPLE I.D. NUMBER	NO. OF CONTAINERS	VOLATILE ORGANICS (8240) 40 ML VIALS, 4°C PRESERVATION, HCL TO pH 2					REMARKS 9210176
10-23-92	1040	WMW108-DOGGOOW	3	3					130456
10-23-92	1040	WMV108-DOGGOOWD	3	3					130457
10-23-92	1050	WMW115-10GG00TB	3	3					130458
10-23-92	1110	WMW101-10GG00W	3	3					130459
10-23-92	1340	TRIP BLANKS TBLK0921-13/14	2	2					130460

D Zhang

Date Due 11/7/92

3.6°C 0

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Dongfeng Zhang	10-23-92 14:00		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
		[signature]	10-24-92 11:30AM
METHOD OF SHIPMENT: FEDERAL EXPRESS		AIRBILL NO: 5277845156	10-26-92 14:00

proj file 11/9/92

406231

ORTEK
SAMPLE RECEIVING OUT OF CONTROL FORM

Company Name WOOD WARD CLYDE Contact Person Cynthia Pawelka

Project Name TARP CORP Reported By Gloria Dortator

Batch Number _____ Sample Numbers _____

Date 10-26-92 Time 09:17 Phone Number 314-429-0100

[✓] Hold Time [ ] Sample Temperature ____ °F [ ] Improper Container

[ ] Improper Preservative [✓] Methodology [ ] Insufficient Volume

[ ] Paperwork Discrepancy [ ] Other

Description: VOC By What METHOD 5240
Trip Blanks dated 9-21-92

* Please confirm correct contact name (Cynthia Pawelka)

Person responsible for resolution: _____

Client Response:
go ahead and run trip blank - per phone
conv w/ Cynthia Pawelka.

Date 10-26-92 Time 4:02 Signature [illegible]

cc: Working File Mary Jo Doxtator Phil Scott Marcia Kuehl
Terry Hosaka Nancy Cook Tori Cook John Rather Chris Groh
John Wallace Bill Jackson

Form 0004

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TBLK0921-13

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130460

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV003

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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	4	BJ 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

EPA SAMPLE NO.

TBLK0921-13

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130460

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV003

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1011OW

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130459

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV009

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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

EPA SAMPLE NO.

10110W

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130459

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV009

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/cap) _____ Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 78-92-2	2-BUTANOL (ACN)	4.05	1400	JN

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DOW

Contract: 89MC114V

Lab Name: ORTEK

SAS No.: _____

SDG No.: 10110W

Case No.: WOOD1

Lab Sample ID: 130456

Lab Code: ORTEK

Lab File ID: 211CV004

Matrix: (soil/water) WATER

Date Received: 10/24/92

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

Date Analyzed: 11/05/92

Level: (low/med) LOW

Dilution Factor: 1.0

% Moisture: not dec. ____

Column: (pack/cap) ____

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	1	BJ
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	10	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	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	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	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

EPA SAMPLE NO.

108DOW

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130456

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV004

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

EPA SAMPLE NO.

108DOWMS

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

Contract: 89MC114V

Lab Name: ORTEK

SAS No.: _____

SDG No.: 1011OW

Lab Code: ORTEK

Case No.: WOOD1

Lab Sample ID: 130456MS

Matrix: (soil/water) WATER

Lab File ID: 211CV005

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

Date Received: 10/24/92

Level: (low/med) LOW

Date Analyzed: 11/05/92

% Moisture: not dec. ____

Dilution Factor: 1.0

Column: (pack/cap) ____

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	3	BJ
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	10	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	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	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DOWMSD

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130456MSD

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV006

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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	3	BJ 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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWD

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130457

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV007

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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	1	BJ
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

EPA SAMPLE NO.

108DWD

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130457

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV007

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1151TB

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Matrix: (soil/water) WATER Lab Sample ID: 130458

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV008

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

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

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	1	BJ U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	2	J
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

EPA SAMPLE NO.

1151TB

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: 130458

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV008

Level: (low/med) LOW Date Received: 10/24/92

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

Contract: 89MC114V

Lab Name: ORTEK

SAS No.: _____

SDG No.: 1011OW

Lab Code: ORTEK

Case No.: WOOD1

Lab Sample ID: WBLK110592

Matrix: (soil/water) WATER

Lab File ID: 211CV002

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

Date Received: _____

Level: (low/med) LOW

Date Analyzed: 11/05/92

% Moisture: not dec. ____

Dilution Factor: 1.0

Column: (pack/cap) _____

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	1	J
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	5	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	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	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		
1330-20-7	Xylene (total)		

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK01

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix: (soil/water) WATER Lab Sample ID: WBLK110592

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 211CV002

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

% Moisture: not dec. ____ Date Analyzed: 11/05/92

Column (pack/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

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	10110W	89	100	77	0	0
02	108DOW	88	103	80	0	0
03	108DWD	89	98	83	0	0
04	1151TB	94	100	77	0	0
05	TBLK0921-13	93	107	84	0	0
06	108DOWMS	93	93	85	0	0
07	108DOWMSD	94	91	83	0	0
08	VBLK01	94	105	80	0	0

		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

D Surrogates diluted out

FORM II VOA-1 1/87 Rev.

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Matrix Spike - EPA Sample No.: 108DOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	45.6	91	61-145
Trichloroethene	50.0	0	45.9	92	71-120
Benzene	50.0	0	42.7	85	76-127
Toluene	50.0	0	43.6	87	76-125
Chlorobenzene	50.0	0	45.7	91	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.0	50.3	101	-10	14	61-145
Trichloroethene	50.0	47.9	96	-4	14	71-120
Benzene	50.0	42.7	85	0	11	76-127
Toluene	50.0	44.4	89	-2	13	76-125
Chlorobenzene	50.0	46.6	93	-2	13	75-130

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

* Values outside of QC limits

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

COMMENTS: 130456 8240-W
-10-10,10,10-10,3,10-90,5,90-110,10,34-300U,1.51S/S,1045EV,50CV

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Lab File ID: 211CV002 Lab Sample ID: WBLK110592

Date Analyzed: 11/05/92 Time Analyzed: 1822

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

Instrument ID: 50CV

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	1011OW	130459	211CV009	2225
02	108DOW	130456	211CV004	1942
03	108DWD	130457	211CV007	2120
04	1151TB	130458	211CV008	2153
05	TBLK0921-13	130460	211CV003	1911
06	108DOWMS	130456MS	211CV005	2015
07	108DOWMSD	130456MSD	211CV006	2048

COMMENTS: VBLK01 WATER
-10-10,10,10-10,3,10-90,5,90-110,10,34-300U,1.5S/S,1045EV,50CV

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 10110W

Lab File ID: BFB091592 BFB Injection Date: 09/15/92

Instrument ID: 50CV BFB Injection Time: 0904

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.5
75	30.0 - 60.0% of mass 95	69.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	Greater than 50.0% of mass 95	70.6
175	5.0 - 9.0% of mass 174	5.1 (7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	70.4 (99.7)1
177	5.0 - 9.0% of mass 176	4.8 (6.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	920019-2	209CV001	09/15/92	951
02	VSTD020	920019-2	209CV002	09/15/92	1038
03	VSTD100	920019-2	209CV003	09/15/92	1110
04	VSTD150	920019-2	209CV004	09/15/92	1143
05	VSTD200	920019-2	209CV005	09/15/92	1215

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Contract: 89MC114V

Lab Name: ORTEK SAS No.: _____ SDG No.: 1011OW

Lab Code: ORTEK Case No.: WOOD1 BFB Injection Date: 11/05/92

Lab File ID: BFB110592 BFB Injection Time: 1735

Instrument ID: 50CV

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.6
75	30.0 - 60.0% of mass 95	37.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.1 (0.2)1
174	Greater than 50.0% of mass 95	69.3
175	5.0 - 9.0% of mass 174	5.1 (7.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	66.7 (96.2)1
177	5.0 - 9.0% of mass 176	4.6 (6.9)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	920019-2	211CV001	11/05/92	1742
02	VBLK01	WBLK110592	211CV002	11/05/92	1822
03	TBLK0921-13	130460	211CV003	11/05/92	1911
04	108DOW	130456	211CV004	11/05/92	1942
05	108DOWMS	130456MS	211CV005	11/05/92	2015
06	108DOWMSD	130456MSD	211CV006	11/05/92	2048
07	108DWD	130457	211CV007	11/05/92	2120
08	1151TB	130458	211CV008	11/05/92	2153
09	1011OW	130459	211CV009	11/05/92	2225

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Instrument ID: 50CV Calibration Date(s): 09/15/92 09/15/92

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = 209CV002 RRF50 = 209CV001
RRF100= 209CV003 RRF150= 209CV004 RRF200= 209CV005

COMPOUND		RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane	#	1.198	1.398	0.882	0.950	0.949	1.075	20.2#
Bromomethane		1.700	1.553	1.271	1.252	1.203	1.396	15.6
Vinyl Chloride	*	1.501	1.547	1.145	1.162	1.164	1.304	15.5*
Chloroethane		1.055	0.982	0.795	0.792	0.762	0.877	15.1
Methylene Chloride		1.878	1.825	1.592	1.554	1.445	1.659	11.2
Acetone		0.476	0.279	0.205	0.129	0.123	0.242	60.0
Carbon Disulfide		3.205	2.861	2.397	2.384	2.234	2.616	15.5
1,1-Dichloroethene	*	1.744	1.622	1.352	1.337	1.235	1.458	14.7*
1,1-Dichloroethane	#	3.368	3.301	3.086	3.121	3.007	3.177	4.8#
1,2-Dichloroethene (total)		0.646	0.645	0.620	0.646	0.648	0.641	1.8
Chloroform	*	4.038	3.729	3.494	3.405	3.175	3.568	9.2*
1,2-Dichloroethane		1.946	1.816	1.954	1.994	1.913	1.925	3.5
2-Butanone		0.145	0.142	0.191	0.159	0.168	0.161	12.3
1,1,1-Trichloroethane		0.703	0.613	0.571	0.650	0.616	0.631	7.8
Carbon Tetrachloride		0.559	0.507	0.528	0.627	0.619	0.568	9.4
Vinyl Acetate		0.007	0.006	0.011	0.013	0.019	0.011	47.4
Bromodichloromethane		0.738	0.657	0.683	0.789	0.785	0.730	8.1
1,2-Dichloropropane	*	0.509	0.519	0.503	0.563	0.557	0.530	5.3*
cis-1,3-Dichloropropene		0.466	0.421	0.543	0.655	0.686	0.554	20.8
Trichloroethene		0.520	0.472	0.457	0.515	0.514	0.496	5.8
Dibromochloromethane		0.597	0.519	0.597	0.694	0.678	0.617	11.5
1,1,2-Trichloroethane		0.475	0.393	0.386	0.420	0.392	0.413	8.9
Benzene		1.317	1.212	1.147	1.312	1.250	1.248	5.7
trans-1,3-Dichloropropene		0.232	0.222	0.316	0.412	0.442	0.325	31.0
Bromoform	#	0.392	0.310	0.418	0.502	0.496	0.424	18.8#
4-Methyl-2-Pentanone		0.134	0.134	0.228	0.253	0.242	0.198	29.9
2-Hexanone		0.047	0.065	0.090	0.100	0.103	0.081	29.8
Tetrachloroethene		0.595	0.541	0.492	0.555	0.541	0.545	6.8
1,1,2,2-Tetrachloroethane	#	0.766	0.567	0.667	0.662	0.605	0.653	11.6#
Toluene	*	0.798	0.787	0.759	0.866	0.834	0.809	5.2*
Chlorobenzene	#	1.093	0.984	0.947	0.976	0.937	0.987	6.3#
Ethylbenzene	*	0.469	0.383	0.394	0.426	0.399	0.414	8.3*
Styrene		1.225	0.791	0.828	0.872	0.813	0.906	20.0
Xylene (total)		0.813	0.694	0.638	0.635	0.576	0.671	13.4
Toluene-d8		1.173	1.164	1.130	1.119	1.045	1.126	4.5
Bromofluorobenzene		0.694	0.670	0.674	0.681	0.649	0.674	2.4
1,2-Dichloroethane-d4		1.782	1.748	1.839	1.778	1.707	1.771	2.7

7A

VOLATILE CONTINUING CALIBRATION CHECK

Contract: 89MC114V

Lab Name: ORTEK SDG No.: 10110W

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____

Instrument ID: 50CV Calibration date: 11/05/92 Time: 1742

Lab File ID: 211CV001 Init. Calib. Date(s): 09/15/92 09/15/92

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND		$\overline{RRF}$	RRF50	%D	
Chloromethane	#	1.075	1.322	-23.0	#
Bromomethane		1.396	1.651	-18.3	
Vinyl Chloride	*	1.304	1.475	-13.1	*
Chloroethane		0.877	1.047	-19.4	
Methylene Chloride		1.659	1.891	-14.0	
Acetone		0.242	0.141	41.7	
Carbon Disulfide		2.616	2.969	-13.5	
1,1-Dichloroethene	*	1.458	1.754	-20.3	*
1,1-Dichloroethane	#	3.177	3.149	0.9	#
1,2-Dichloroethene (total)		0.641	0.638	0.5	
Chloroform	*	3.568	3.741	-4.8	*
1,2-Dichloroethane		1.925	1.620	15.8	
2-Butanone		0.161	0.023	85.7	
1,1,1-Trichloroethane		0.631	0.699	-10.8	
Carbon Tetrachloride		0.568	0.622	-9.5	
Vinyl Acetate		0.011	0.006	45.4	
Bromodichloromethane		0.730	0.746	-2.2	
1,2-Dichloropropane	*	0.530	0.551	-4.0	*
cis-1,3-Dichloropropene		0.554	0.433	21.8	
Trichloroethene		0.496	0.494	0.4	
Dibromochloromethane		0.617	0.616	0.2	
1,1,2-Trichloroethane		0.413	0.452	-9.4	
Benzene		1.248	1.313	-5.2	
trans-1,3-Dichloropropene		0.325	0.230	29.2	
Bromoform	#	0.424	0.376	11.3	#
4-Methyl-2-Pentanone		0.198	0.128	35.4	
2-Hexanone		0.081	0.030	63.0	
Tetrachloroethene		0.545	0.559	-2.6	
1,1,2,2-Tetrachloroethane	#	0.653	0.650	0.5	#
Toluene	*	0.809	0.853	-5.4	*
Chlorobenzene	#	0.987	0.958	2.9	#
Ethylbenzene	*	0.414	0.354	14.5	*
Styrene		0.906	0.784	13.5	
Xylene (total)		0.671	0.763	-13.7	
Toluene-d8		1.126	1.185	-5.2	
Bromofluorobenzene		0.674	0.668	0.9	
1,2-Dichloroethane-d4		1.771	1.548	12.6	

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FORM VII VOA

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD1 SAS No.: _____ SDG No.: 1011OW

Lab File ID (Standard): 211CV001 Date Analyzed: 11/05/92

Instrument ID: 50CV Time Analyzed: 1742

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) _____

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	65671	7.10	292605	9.62	327727	16.12
	UPPER LIMIT	131342		585210		655454	
	LOWER LIMIT	32836		146302		163864	
	EPA SAMPLE NO.						
01	1011OW	64814	7.15	264016	9.64	271071	16.12
02	108DOW	43615	7.15	194327	9.67	209682	16.12
03	108DWD	49869	7.12	248189	9.62	262038	16.09
04	1151TB	53066	7.15	234895	9.64	248182	16.09
05	TBLK0921-13	52854	7.15	256273	9.67	262181	16.14
06	108DOWMS	55419	7.15	265595	9.64	305347	16.12
07	108DOWMSD	49831	7.17	260233	9.67	296667	16.12
08	VBLK01	57097	7.15	256044	9.64	264718	16.12

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

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA 1/87 Rev.

SEMIVOLATILE

ORGANICS

DATA SUMMARY

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW106-D

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129887

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 210BB027

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW106-D

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129887

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 210BB027

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	30	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WMW106-D

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129887

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 210BB027

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 21

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	104-76-7	1-HEXANOL, 2-ETHYL-	7.70	20	J
2.	105-60-2	CAPROLACTAM	11.97	69	J
3.		UNKNOWN	19.27	7.0	J
4.		UNKNOWN	25.11	5.2	J
5.	646-31-1	TETRACOSANE	26.02	6.9	J
6.		UNKNOWN	27.69	8.9	J
7.		UNKNOWN	27.84	19	J
8.	85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	28.36	11	J
9.	85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	28.56	290	J
10.		UNKNOWN	29.54	20	J
11.		UNKNOWN	29.67	7.7	J
12.		UNKNOWN	29.96	20	J
13.		UNKNOWN	30.04	13	J
14.	538-23-8	GLYCEROL TRICAPRYLATE	30.67	42	J
15.		UNKNOWN	30.82	22	J
16.		UNKNOWN	31.12	6.4	J
17.		UNKNOWN	31.91	6.5	J
18.	55590-85-7	OCTANETHIOIC ACID, S-HEXYL E	32.59	1500	J
19.		UNKNOWN	33.37	13	J
20.		UNKNOWN	34.84	1900	J
21.		UNKNOWN	35.62	8.4	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW107-D

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129889

Sample wt/vol: 920 (g/mL) ML Lab File ID: 210BB029

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	11	U
111-44-4	bis(2-Chloroethyl)Ether	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
100-51-6	Benzyl Alcohol	11	U
95-50-1	1,2-Dichlorobenzene	11	U
95-48-7	2-Methylphenol	11	U
39638-32-9	bis(2-Chloroisopropyl)Ether	11	U
106-44-5	4-Methylphenol	11	U
621-64-7	N-Nitroso-Di-n-Propylamine	11	U
67-72-1	Hexachloroethane	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	11	U
105-67-9	2,4-Dimethylphenol	11	U
65-85-0	Benzoic Acid	54	U
111-91-1	bis(2-Chloroethoxy)Methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-Methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	54	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	54	U
131-11-3	Dimethyl Phthalate	11	U
208-96-8	Acenaphthylene	11	U
606-20-2	2,6-Dinitrotoluene	11	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW107-D

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129889

Sample wt/vol: 920 (g/mL) ML Lab File ID: 210BB029

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	54	U
83-32-9	Acenaphthene	11	U
51-28-5	2,4-Dinitrophenol	54	U
100-02-7	4-Nitrophenol	54	U
132-64-9	Dibenzofuran	11	U
121-14-2	2,4-Dinitrotoluene	11	U
84-66-2	Diethylphthalate	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	U
86-73-7	Fluorene	11	U
100-10-6	4-Nitroaniline	54	U
534-52-1	4,6-Dinitro-2-Methylphenol	54	U
86-30-6	N-Nitrosodiphenylamine (1)	11	U
101-55-3	4-Bromophenyl-phenylether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	Pentachlorophenol	54	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
84-74-2	Di-n-Butylphthalate	11	U
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
85-68-7	Butylbenzylphthalate	11	U
91-94-1	3,3'-Dichlorobenzidine	22	U
56-55-3	Benzo(a)Anthracene	11	U
218-01-9	Chrysene	11	U
117-81-7	bis(2-Ethylhexyl)Phthalate	4	J
117-84-0	Di-n-Octyl Phthalate	11	U
205-99-2	Benzo(b)Fluoranthene	11	U
207-08-9	Benzo(k)Fluoranthene	11	U
50-32-8	Benzo(a)Pyrene	11	U
193-39-5	Indeno(1,2,3-cd)Pyrene	11	U
53-70-3	Dibenz(a,h)Anthracene	11	U
191-24-2	Benzo(g,h,i)Perylene	11	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

WMW107-D

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Contract: 89MC114V

Lab Name: ORTEK SAS No.: _____ SDG No.: WMW106

Lab Code: ORTEK Case No.: WWC01 Lab Sample ID: 129889

Matrix: (soil/water) WATER Lab File ID: 210BB029

Sample wt/vol: 920 (g/mL) ML Date Received: 10/06/92

Level: (low/med) LOW Date Extracted: 10/08/92

% Moisture: not dec. ____ dec. ____ Date Analyzed: 10/12/92

Extraction: (SepF/Cont/Sonc) SEPF Dilution Factor: 1.0

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

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

Number TICs found: 16

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 104-76-7	1-HEXANOL, 2-ETHYL-	7.68	24	J
2.	UNKNOWN	11.10	6.2	J
3. 105-60-2	CAPROLACTAM	11.99	140	J
4. 10544-50-0	SULFUR, MOL. (S8)	22.59	47	J
5.	UNKNOWN	23.35	6.6	J
6. 646-31-1	TETRACOSANE	25.99	6.6	J
7. 629-99-2	PENTACOSANE	26.92	5.3	J
8.	UNKNOWN	27.82	13	J
9. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	28.52	250	J
10.	UNKNOWN	29.52	36	J
11. 538-23-8	GLYCEROL TRICAPRYLATE	30.66	20	J
12.	UNKNOWN	30.82	9.8	J
13.	UNKNOWN	32.27	30	J
14. 55590-85-7	OCTANETHIOIC ACID, S-HEXYL E	32.51	990	J
15.	UNKNOWN	33.36	8.0	J
16.	UNKNOWN	34.71	1100	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW107-S

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129888

Sample wt/vol: 790 (g/mL) ML Lab File ID: 210BB028

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	13	U
111-44-4	bis(2-Chloroethyl)Ether	13	U
95-57-8	2-Chlorophenol	13	U
541-73-1	1,3-Dichlorobenzene	13	U
106-46-7	1,4-Dichlorobenzene	13	U
100-51-6	Benzyl Alcohol	13	U
95-50-1	1,2-Dichlorobenzene	13	U
95-48-7	2-Methylphenol	13	U
39638-32-9	bis(2-Chloroisopropyl)Ether	13	U
106-44-5	4-Methylphenol	13	U
621-64-7	N-Nitroso-Di-n-Propylamine	13	U
67-72-1	Hexachloroethane	13	U
98-95-3	Nitrobenzene	13	U
78-59-1	Isophorone	13	U
88-75-5	2-Nitrophenol	13	U
105-67-9	2,4-Dimethylphenol	13	U
65-85-0	Benzoic Acid	64	U
111-91-1	bis(2-Chloroethoxy)Methane	13	U
120-83-2	2,4-Dichlorophenol	13	U
120-82-1	1,2,4-Trichlorobenzene	13	U
91-20-3	Naphthalene	13	U
106-47-8	4-Chloroaniline	13	U
87-68-3	Hexachlorobutadiene	13	U
59-50-7	4-Chloro-3-Methylphenol	13	U
91-57-6	2-Methylnaphthalene	13	U
77-47-4	Hexachlorocyclopentadiene	13	U
88-06-2	2,4,6-Trichlorophenol	13	U
95-95-4	2,4,5-Trichlorophenol	64	U
91-58-7	2-Chloronaphthalene	13	U
88-74-4	2-Nitroaniline	64	U
131-11-3	Dimethyl Phthalate	13	U
208-96-8	Acenaphthylene	13	U
606-20-2	2,6-Dinitrotoluene	13	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW107-S

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129888

Sample wt/vol: 790 (g/mL) ML Lab File ID: 210BB028

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	64	U
83-32-9	Acenaphthene	13	U
51-28-5	2,4-Dinitrophenol	64	U
100-02-7	4-Nitrophenol	64	U
132-64-9	Dibenzofuran	13	U
121-14-2	2,4-Dinitrotoluene	13	U
84-66-2	Diethylphthalate	13	U
7005-72-3	4-Chlorophenyl-phenylether	13	U
86-73-7	Fluorene	13	U
100-10-6	4-Nitroaniline	64	U
534-52-1	4,6-Dinitro-2-Methylphenol	64	U
86-30-6	N-Nitrosodiphenylamine (1)	13	U
101-55-3	4-Bromophenyl-phenylether	13	U
118-74-1	Hexachlorobenzene	13	U
87-86-5	Pentachlorophenol	64	U
85-01-8	Phenanthrene	13	U
120-12-7	Anthracene	13	U
84-74-2	Di-n-Butylphthalate	13	U
206-44-0	Fluoranthene	13	U
129-00-0	Pyrene	13	U
85-68-7	Butylbenzylphthalate	13	U
91-94-1	3,3'-Dichlorobenzidine	25	U
56-55-3	Benzo(a)Anthracene	13	U
218-01-9	Chrysene	13	U
117-81-7	bis(2-Ethylhexyl)Phthalate	13	U
117-84-0	Di-n-Octyl Phthalate	13	U
205-99-2	Benzo(b)Fluoranthene	13	U
207-08-9	Benzo(k)Fluoranthene	13	U
50-32-8	Benzo(a)Pyrene	13	U
193-39-5	Indeno(1,2,3-cd)Pyrene	13	U
53-70-3	Dibenz(a,h)Anthracene	13	U
191-24-2	Benzo(g,h,i)Perylene	13	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WMW107-S

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129888

Sample wt/vol: 790 (g/mL) ML Lab File ID: 210BB028

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 104-76-7	1-HEXANOL, 2-ETHYL-	7.68	45	J
2.	UNKNOWN	11.00	6.2	J
3. 105-60-2	CAPROLACTAM	12.37	430	J
4. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	28.47	5.4	J
5.	UNKNOWN	29.91	850	J
6. 55590-85-7	OCTANETHIOIC ACID, S-HEXYL E	32.41	190	J
7.	UNKNOWN	34.37	64	J
8.	UNKNOWN	34.54	200	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW110-10G

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129894

Sample wt/vol: 970 (g/mL) ML Lab File ID: 210BB032

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U UJ
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U ✓

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW110-10G

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129894

Sample wt/vol: 970 (g/mL) ML Lab File ID: 210BB032

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	52	U UJ
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	52	U
100-02-7	4-Nitrophenol	52	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	52	U
534-52-1	4,6-Dinitro-2-Methylphenol	52	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	52	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	21	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U UJ
117-81-7	bis(2-Ethylhexyl)Phthalate	12	
117-84-0	Di-n-Octyl Phthalate	10	U UJ
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

EPA SAMPLE NO.

WMW110-10G

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: ____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129894

Sample wt/vol: 970 (g/mL) ML Lab File ID: 210BB032

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

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

Number TICs found: 12

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	5.52	5.4	J
2. 105-60-2	CAPROLACTAM	11.87	36	J
3. 10544-50-0	SULFUR, MOL. (S8)	22.62	41	J
4.	UNKNOWN	27.84	8.0	J
5. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	28.54	160	J
6.	UNKNOWN	29.92	520	J
7. 538-23-8	GLYCEROL TRICAPRYLATE	30.67	19	J
8.	UNKNOWN	30.82	8.9	J
9.	UNKNOWN	32.27	30	J
10. 55590-85-7	OCTANETHIOIC ACID, S-HEXYL E	32.52	840	J
11.	UNKNOWN	33.37	6.1	J
12.	UNKNOWN	34.72	910	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW111920G

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129891

Sample wt/vol: 940 (g/mL) ML Lab File ID: 210BB041

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	11	U R
111-44-4	bis(2-Chloroethyl)Ether	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
100-51-6	Benzyl Alcohol	11	U
95-50-1	1,2-Dichlorobenzene	11	U
95-48-7	2-Methylphenol	11	U
39638-32-9	bis(2-Chloroisopropyl)Ether	11	U
106-44-5	4-Methylphenol	11	U
621-64-7	N-Nitroso-Di-n-Propylamine	11	U
67-72-1	Hexachloroethane	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	11	U
105-67-9	2,4-Dimethylphenol	11	U
65-85-0	Benzoic Acid	53	U
111-91-1	bis(2-Chloroethoxy)Methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-Methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	53	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	53	U
131-11-3	Dimethyl Phthalate	11	U
208-96-8	Acenaphthylene	11	U
606-20-2	2,6-Dinitrotoluene	11	U ✓ R

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW111920G

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129891

Sample wt/vol: 940 (g/mL) ML Lab File ID: 210BB041

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	53	U R
83-32-9	Acenaphthene	11	U
51-28-5	2,4-Dinitrophenol	53	U
100-02-7	4-Nitrophenol	53	U
132-64-9	Dibenzofuran	11	U
121-14-2	2,4-Dinitrotoluene	11	U
84-66-2	Diethylphthalate	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	U
86-73-7	Fluorene	11	U
100-10-6	4-Nitroaniline	53	U
534-52-1	4,6-Dinitro-2-Methylphenol	53	U
86-30-6	N-Nitrosodiphenylamine (1)	11	U
101-55-3	4-Bromophenyl-phenylether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	Pentachlorophenol	53	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
84-74-2	Di-n-Butylphthalate	11	U
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
85-68-7	Butylbenzylphthalate	11	U
91-94-1	3,3'-Dichlorobenzidine	21	U
56-55-3	Benzo(a)Anthracene	11	U
218-01-9	Chrysene	11	U
117-81-7	bis(2-Ethylhexyl)Phthalate	35	
117-84-0	Di-n-Octyl Phthalate	11	U
205-99-2	Benzo(b)Fluoranthene	11	U
207-08-9	Benzo(k)Fluoranthene	11	U
50-32-8	Benzo(a)Pyrene	11	U
193-39-5	Indeno(1,2,3-cd)Pyrene	11	U
53-70-3	Dibenz(a,h)Anthracene	11	U
191-24-2	Benzo(g,h,i)Perylene	11	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WMW111920G

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129891

Sample wt/vol: 940 (g/mL) ML Lab File ID: 210BB041

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

Number TICs found: 22

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.73	95	J
2. 104-76-7	1-HEXANOL, 2-ETHYL-	7.72	20	J
3. 60-32-2	HEXANOIC ACID, 6-AMINO-	11.97	89	J
4.	UNKNOWN	19.27	8.6	J
5.	UNKNOWN	22.59	5.6	J
6.	UNKNOWN	22.69	10	J
7.	UNKNOWN	23.40	24	J
8.	UNKNOWN	25.12	5.7	J
9.	UNKNOWN	26.06	5.9	J
10.	UNKNOWN	27.71	8.7	J
11.	UNKNOWN	27.86	17	J
12.	UNKNOWN	28.39	7.7	J
13. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	28.56	210	J
14.	UNKNOWN	29.69	6.6	J
15.	UNKNOWN	30.04	11	J
16. 538-23-8	GLYCEROL TRICAPRYLATE	30.67	33	J
17.	UNKNOWN	30.84	22	J
18.	UNKNOWN	31.22	11	J
19.	UNKNOWN	32.27	7.2	J
20. 55590-85-7	OCTANETHIOIC ACID, S-HEXYL E	32.57	1300	J
21.	UNKNOWN	33.39	11	J
22.	UNKNOWN	34.82	1500	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW111920GRE

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129891RE

Sample wt/vol: 895 (g/mL) ML Lab File ID: 210BB050

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/15/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	11	U R
111-44-4	bis(2-Chloroethyl)Ether	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
100-51-6	Benzyl Alcohol	11	U
95-50-1	1,2-Dichlorobenzene	11	U
95-48-7	2-Methylphenol	11	U
39638-32-9	bis(2-Chloroisopropyl)Ether	11	U
106-44-5	4-Methylphenol	11	U
621-64-7	N-Nitroso-Di-n-Propylamine	11	U
67-72-1	Hexachloroethane	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	11	U
105-67-9	2,4-Dimethylphenol	11	U
65-85-0	Benzoic Acid	56	U
111-91-1	bis(2-Chloroethoxy)Methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-Methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	56	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	56	U
131-11-3	Dimethyl Phthalate	11	U
208-96-8	Acenaphthylene	11	U
606-20-2	2,6-Dinitrotoluene	11	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW111920GRE

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129891RE

Sample wt/vol: 895 (g/mL) ML Lab File ID: 210BB050

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/15/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	56	U R
83-32-9	Acenaphthene	11	U
51-28-5	2,4-Dinitrophenol	56	U
100-02-7	4-Nitrophenol	56	U
132-64-9	Dibenzofuran	11	U
121-14-2	2,4-Dinitrotoluene	11	U
84-66-2	Diethylphthalate	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	U
86-73-7	Fluorene	11	U
100-10-6	4-Nitroaniline	56	U
534-52-1	4,6-Dinitro-2-Methylphenol	56	U
86-30-6	N-Nitrosodiphenylamine (1)	11	U
101-55-3	4-Bromophenyl-phenylether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	Pentachlorophenol	56	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
84-74-2	Di-n-Butylphthalate	11	U
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
85-68-7	Butylbenzylphthalate	11	U
91-94-1	3,3'-Dichlorobenzidine	22	U
56-55-3	Benzo(a)Anthracene	11	U
218-01-9	Chrysene	11	U
117-81-7	bis(2-Ethylhexyl)Phthalate	26	J
117-84-0	Di-n-Octyl Phthalate	11	U R
205-99-2	Benzo(b)Fluoranthene	11	U
207-08-9	Benzo(k)Fluoranthene	11	U
50-32-8	Benzo(a)Pyrene	11	U
193-39-5	Indeno(1,2,3-cd)Pyrene	11	U
53-70-3	Dibenz(a,h)Anthracene	11	U
191-24-2	Benzo(g,h,i)Perylene	11	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WMW111920GRE

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129891RE

Sample wt/vol: 895 (g/mL) ML Lab File ID: 210BB050

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/15/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 24

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.57	57	J
2. 104-76-7	1-HEXANOL, 2-ETHYL-	8.67	11	J
3. 60-32-2	HEXANOIC ACID, 6-AMINO-	13.49	98	J
4.	UNKNOWN	21.69	12	J
5.	UNKNOWN	25.42	10	J
6.	UNKNOWN	26.34	16	J
7.	UNKNOWN	27.34	12	J
8.	UNKNOWN	29.32	8.4	J
9.	UNKNOWN	31.19	14	J
10.	UNKNOWN	31.34	34	J
11. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	31.92	12	J
12. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	32.14	250	J
13.	UNKNOWN	33.26	35	J
14.	UNKNOWN	33.41	12	J
15.	UNKNOWN	33.82	24	J
16. 538-23-8	GLYCEROL TRICAPRYLATE	34.52	68	J
17.	UNKNOWN	34.71	39	J
18.	UNKNOWN	35.06	9.4	J
19.	UNKNOWN	35.12	12	J
20.	UNKNOWN	35.94	11	J
21. 55590-85-7	OCTANETHIOIC ACID, S-HEXYL E	36.72	2000	J
22.	UNKNOWN	37.57	26	J
23.	UNKNOWN	37.57	26	J
24.	UNKNOWN	39.27	2700	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW111920D

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129892

Sample wt/vol: 970 (g/mL) ML Lab File ID: 210BB042

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U R
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW111920D

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129892

Sample wt/vol: 970 (g/mL) ML Lab File ID: 210BB042

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	52	U R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	52	U
100-02-7	4-Nitrophenol	52	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	52	U
534-52-1	4,6-Dinitro-2-Methylphenol	52	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	52	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	21	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	20	
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WMW111920D

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129892

Sample wt/vol: 970 (g/mL) ML Lab File ID: 210BB042

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

Number TICs found: 23

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.73	72	J
2. 105-60-2	CAPROLACTAM	12.00	89	J
3.	UNKNOWN	19.29	15	J
4.	UNKNOWN	22.59	8.3	J
5.	UNKNOWN	23.42	21	J
6.	UNKNOWN	24.30	11	J
7.	UNKNOWN	26.06	8.3	J
8.	UNKNOWN	27.72	14	J
9.	UNKNOWN	27.86	25	J
10. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	28.36	12	J
11. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	28.59	300	J
12.	UNKNOWN	29.56	17	J
13.	UNKNOWN	29.94	520	J
14.	UNKNOWN	30.06	19	J
15. 538-23-8	GLYCEROL TRICAPRYLATE	30.69	59	J
16.	UNKNOWN	30.86	39	J
17.	UNKNOWN	31.16	7.6	J
18.	UNKNOWN	31.22	8.8	J
19.	UNKNOWN	31.94	14	J
20. 55590-85-7	OCTANETHIOIC ACID, S-HEXYL E	32.66	1500	J
21.	UNKNOWN	33.29	10	J
22.	UNKNOWN	33.41	22	J
23.	UNKNOWN	34.94	2000	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW111920DRE

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129892RE

Sample wt/vol: 970 (g/mL) ML Lab File ID: 210BB051

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/15/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U R
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U R

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW111920DRE

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129892RE

Sample wt/vol: 970 (g/mL) ML Lab File ID: 210BB051

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/15/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	52	U R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	52	U
100-02-7	4-Nitrophenol	52	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	52	U
534-52-1	4,6-Dinitro-2-Methylphenol	52	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	52	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	21	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	24	J R
117-84-0	Di-n-Octyl Phthalate	10	U R
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WMW111920DRE

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129892RE

Sample wt/vol: 970 (g/mL) ML Lab File ID: 210BB051

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/15/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

Number TICs found: 24

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.55	76	J
2. 104-76-7	1-HEXANOL, 2-ETHYL-	8.64	10	J
3. 105-60-2	CAPROLACTAM	13.47	93	J
4.	UNKNOWN	21.65	13	J
5.	UNKNOWN	25.39	12	J
6.	UNKNOWN	26.32	23	J
7.	UNKNOWN	27.31	12	J
8.	UNKNOWN	29.31	8.8	J
9.	UNKNOWN	31.16	15	J
10.	UNKNOWN	31.32	28	J
11. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	31.91	9.5	J
12. 85-60-9	PHENOL, 4,4'-BUTYLIDENEBIS[2	32.12	270	J
13.	UNKNOWN	33.24	21	J
14.	UNKNOWN	33.39	12	J
15.	UNKNOWN	33.72	480	J
16. 538-23-8	GLYCEROL TRICAPRYLATE	34.51	69	J
17.	UNKNOWN	34.67	47	J
18.	UNKNOWN	35.02	9.9	J
19.	UNKNOWN	35.11	11	J
20.	UNKNOWN	35.91	15	J
21. 55590-85-7	OCTANETHIOIC ACID, S-HEXYL E	36.72	1800	J
22.	UNKNOWN	37.44	9.6	J
23.	UNKNOWN	37.56	24	J
24.	UNKNOWN	39.27	2300	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW112-10G

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129890

Sample wt/vol: 960 (g/mL) ML Lab File ID: 210BB030

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW112-10G

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129890

Sample wt/vol: 960 (g/mL) ML Lab File ID: 210BB030

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	52	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	52	U
100-02-7	4-Nitrophenol	52	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	52	U
534-52-1	4,6-Dinitro-2-Methylphenol	52	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	52	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	21	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WMW112-10G

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129890

Sample wt/vol: 960 (g/mL) ML Lab File ID: 210BB030

Level: (low/med) LOW Date Received: 10/06/92

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/12/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.00

umber TICs found: 4

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 104-76-7	1-HEXANOL, 2-ETHYL-	7.70	23	J
2.	UNKNOWN	11.00	9.1	J
3.	UNKNOWN	29.79	380	J
4.	UNKNOWN	34.37	35	J

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	WMW106-D	52	72	51	21	32	60	0	0
02	WMW107-D	45	61	50	15	24	45	0	0
03	WMW107-S	60	72	61	11	27	51	0	0
04	WMW110-10G	56	65	49	14	18 *	26	0	1
05	WMW111920D	45	61	54	5 *	4 *	47	0	2
06	WMW111920DRE	57	69	57	4 *	6 *	45	0	2
07	WMW111920G	58	75	61	2 *	4 *	30	0	2
08	WMW111920GRE	61	76	56	9 *	13 *	55	0	2
09	WMW112-10G	61	74	70	25	41	53	0	0
10	WMW111920DMS	68	76	61	12	13 *	54	0	1
11	WMW111920DMS	68	78	59	7 *	7 *	50	0	2
12	SBLK01	49	55	62	17	30	44	0	0
13	SBLK02	25 *	32 *	36	16	30	49	0	2

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl	(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: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix Spike - EPA Sample No.: WMW111920D

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Phenol	101	0	13.7	14	12- 86
2-Chlorophenol	101	0	43.0	43	27-123
1,4-Dichlorobenzene	50.5	0	41.2	82	36 97
N-Nitroso-di-n-prop.(1)	50.5	0	43.7	87	41 116
1,2,4-Trichlorobenzene	50.5	0	43.1	85	39 98
4-Chloro-3-methylphenol	101	0	47.9	47	23 97
Acenaphthene	50.5	0	42.0	83	46-118
4-Nitrophenol	101	0	44.6	44	10- 80
2,4-Dinitrotoluene	50.5	0	42.3	84	24- 96
Pentachlorophenol	101	0	78.5	78	9-103
Pyrene	50.5	0	37.7	75	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	100	6.80	7 *	67 *	42	12- 86
2-Chlorophenol	100	32.3	32	29	40	27-123
1,4-Dichlorobenzene	50.0	41.4	83	-1	28	36 97
N-Nitroso-di-n-prop.(1)	50.0	44.2	88	-1	38	41 116
1,2,4-Trichlorobenzene	50.0	43.1	86	-1	28	39 98
4-Chloro-3-methylphenol	100	29.5	30	44 *	42	23 97
Acenaphthene	50.0	42.1	84	-1	31	46-118
4-Nitrophenol	100	42.5	42	5	50	10- 80
2,4-Dinitrotoluene	50.0	41.6	83	1	38	24- 96
Pentachlorophenol	100	78.3	78	0	50	9-103
Pyrene	50.0	36.1	72	4	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: 2 out of 11 outside limits
Spike Recovery: 1 out of 22 outside limits

COMMENTS: 129892RE WATER 10/08/92
GC DESC BN: EM 1094 EV

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID: 210BB040 Lab Sample ID: SBLK100892

Date Extracted: 10/08/92 Extraction:(SepF/Cont/Sonc) SEPF

Date Analyzed: 10/13/92 Time Analyzed: 1530

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

Instrument ID: 50BB

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	WMW106-D	129887	210BB027	10/12/92
02	WMW107-D	129889	210BB029	10/12/92
03	WMW107-S	129888	210BB028	10/12/92
04	WMW110-10G	129894	210BB032	10/12/92
05	WMW111920D	129892	210BB042	10/13/92
06	WMW111920G	129891	210BB041	10/13/92
07	WMW112-10G	129890	210BB030	10/12/92
08	WMW111920DMS	129892MS	210BB043	10/13/92
09	WMW111920DMS	129892MSD	210BB044	10/13/92

COMMENTS: SBLK01RE WATER 10/08/92
GC DESC BN: EM 1094 EV

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: SBLK100892

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 210BB040

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

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK01

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: SBLK100892

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 210BB040

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

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK01

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: SBLK100892

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 210BB040

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

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/08/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/13/92

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

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID: 210BB053 Lab Sample ID: SBLK101492

Date Extracted: 10/14/92 Extraction:(SepF/Cont/Sonc) SEPF

Date Analyzed: 10/16/92 Time Analyzed: 1115

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

Instrument ID: 50BB

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	WMW111920DRE	129892RE	210BB051	10/15/92
02	WMW111920GRE	129891RE	210BB050	10/15/92

COMMENTS: SBLK02 WATER 10/14/92 (RE)
GC DESC BN: EM 1094 EV

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK02

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: SBLK101492

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 210BB053

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

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/16/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK02

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: SBLK101492

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 210BB053

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

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/16/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK02

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: SBLK101492

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 210BB053

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

% Moisture: not dec. ____ dec. ____ Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/16/92

GPC Cleanup: (Y/N) N pH: ____ Dilution Factor: 1.0

Number TICs found: 5

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 629-62-9	PENTADECANE	28.19	5.7	J
2. 646-31-1	TETRACOSANE	29.29	9.9	J
3. 629-99-2	PENTACOSANE	30.34	10	J
4. 630-01-3	HEXACOSANE	31.36	8.5	J
5. 629-99-2	PENTACOSANE	32.32	8.3	J

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID (Standard): 210BB025 Date Analyzed: 10/12/92

Instrument ID: 50BB Time Analyzed: 944

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	65488	7.32	258562	10.55	129808	15.30
	UPPER LIMIT	130976		517124		259616	
	LOWER LIMIT	32744		129281		64904	
	EPA SAMPLE NO.						
01	WMW106-D	51108	7.32	193488	10.54	120438	15.29
02	WMW107-D	61601	7.30	228532	10.52	144341	15.29
03	WMW107-S	66866	7.30	240085	10.52	149398	15.29
04	WMW110-10G	74692	7.32	268208	10.54	154968	15.30
05	WMW112-10G	66486	7.32	245147	10.54	136487	15.29

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID (Standard): 210BB025 Date Analyzed: 10/12/92

Instrument ID: 50BB Time Analyzed: 944

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	168528	19.35	94654	26.67	89398	30.34
	UPPER LIMIT	337056		189308		178796	
	LOWER LIMIT	84264		47327		44699	
	EPA SAMPLE NO.						
01	WMW106-D	183547	19.34	150518	26.67	165685	30.36
02	WMW107-D	194569	19.34	142001	26.66	152270	30.32
03	WMW107-S	195881	19.34	121276	26.67	126438	30.32
04	WMW110-10G	218904	19.35	161904	26.67	171838	30.36
05	WMW112-10G	169460	19.34	94024	26.67	95486	30.34

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

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev. 000041

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID (Standard): 210BB039 Date Analyzed: 10/13/92

Instrument ID: 50BB Time Analyzed: 1412

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	60934	7.32	244768	10.55	130248	15.32
	UPPER LIMIT	121868		489536		260496	
	LOWER LIMIT	30467		122384		65124	
	EPA SAMPLE NO.						
01	WMW111920D	63564	7.33	229368	10.55	134034	15.32
02	WMW111920G	53530	7.32	200315	10.54	120820	15.30
03	WMW111920DMS	64014	7.32	231679	10.52	137836	15.29
04	WMW111920DMS	70272	7.33	256578	10.55	141928	15.30
05	SBLK01	77354	7.32	275574	10.55	150362	15.32

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev. 000043

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID (Standard): 210BB039 Date Analyzed: 10/13/92

Instrument ID: 50BB Time Analyzed: 1412

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	177414	19.37	133270	26.71	157332	30.36
	UPPER LIMIT	354828		266540		314664	
	LOWER LIMIT	88707		66635		78666	
	EPA SAMPLE NO.						
01	WMW111920D	199413	19.37	163869	26.71	178451	30.37
02	WMW111920G	184370	19.35	159551	26.69	167898	30.36
03	WMW111920DMS	201678	19.34	191359	26.67	180470	30.36
04	WMW111920DMS	205964	19.35	199564	26.69	184107	30.37
05	SBLK01	201916	19.37	137706	26.69	106991	30.36

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

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev. 00004

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID (Standard): 210BB048 Date Analyzed: 10/15/92

Instrument ID: 50BB Time Analyzed: 1656

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	61754	8.25	239674	11.89	126884	17.24
UPPER LIMIT	123508		479348		253768	
LOWER LIMIT	30877		119837		63442	
EPA SAMPLE NO.						
01 WMW111920DRE	71917	8.20	244599	11.84	135449	17.19
02 WMW111920GRE	59010	8.22	205680	11.85	125244	17.22

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID (Standard): 210BB048 Date Analyzed: 10/15/92

Instrument ID: 50BB Time Analyzed: 1656

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	168990	21.79	135158	30.06	121963	34.16
	UPPER LIMIT	337980		270316		243926	
	LOWER LIMIT	84495		67579		60982	
	EPA SAMPLE NO.						
01	WMW111920DRE	205776	21.74	179606	30.01	155486	34.14
02	WMW111920GRE	192782	21.79	170499	30.02	133449	34.16

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

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID (Standard): 210BB052 Date Analyzed: 10/16/92

Instrument ID: 50BB Time Analyzed: 1006

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	64996	8.25	243933	11.89	131000	17.25
UPPER LIMIT	129992		487866		262000	
LOWER LIMIT	32498		121966		65500	
EPA SAMPLE NO.						
01 SBLK02	67316	8.25	227192	11.89	126550	17.24

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WWC01 SAS No.: _____ SDG No.: WMW106

Lab File ID (Standard): 210BB052 Date Analyzed: 10/16/92

Instrument ID: 50BB Time Analyzed: 1006

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	171403	21.80	118787	30.07	115648	34.17
	UPPER LIMIT	342806		237574		231296	
	LOWER LIMIT	85702		59394		57824	
	EPA SAMPLE NO.						
01	SBLK02	177347	21.79	117543	30.04	61848	34.16

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

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street P.O. Box 12435 Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

GC/MS SEMIVOLATILE ORGANIC ANALYSIS

Client:	Woodward-Clyde Consultants	Project Name/Desc.:	NL/Taracorp
Address:	2318 Millpark Drive	Project Number:	89MC114V
	Maryland Heights, Missouri 63043	Batch Number:	9210046
Phone:	(314) 429-0100	COC Number:	460221
FAX:	(314) 429-0462		
		Case No.:	CLYDE
Contact:	Cynthia Pavelka	**SDG No.:**	10391W

SAMPLE SUMMARY

Client Sample No.	EPA Sample No.	Ortek Lab Sample ID
WMW103910GGW	10391W	129916
WMW103910GGWMMS	10391WMMS	129920MS
WMW103910GGWXMSD	10391WXMSD	129921MSD
WMW10410GGW	1041W	129918
WMW104920GGW	10492W	129919
WMW10910GGW	1091W	129913
WMW109920GGW	10992W	129914
WMW11410GGWB	1141WB	129915

COMMENTS: SEMIVOLATILE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8270 ON A DB-5MS CAPILLARY COLUMN

1.) The instrument ID for Semivolatile Organic Analysis is HPMSD-C. The blanks associated with the samples are SBLK03 and SBLK04.

2.) Please disregard EPA Sample No.'s 10391WM and 10391WX on Form's 2,4,5, and 8. These samples were provided as additional sample for QC purposes (MS/MSD) for EPA Sample No. 10391W.

"Q" COLUMN QUALIFIERS:
- U - Compound analyzed for but not detected
- B - Indicates the analyte is found in the associated method blank
- J - Estimated value, concentration of analyte below quantitation limit
- E - Compound exceeds calibration range, but did not saturate the detector; actual concentrations could be higher than reported
- D - Compound identified in the analysis at a secondary dilution
- N - Indicates presumptive evidence of a compound (identified based on mass spectral library search)

Signed: John C. Rather Name: John C. Rather

Title: GC/MS/EC Supervisor Date: 11/11/92

ORGANIC DATA ASSESSMENT

PROJECT NO. 89MC114V
LABORATORY Ortek
LAB PROJECT NO. 9210037,46, + 57
NO. OF SAMPLES/
MATRIX 16 / Groundwater

SITE NC Taracorp Superfund Site
REVIEWER Woodward-Clyde
REVIEWER'S NAME Cynthia Pavelka
COMPLETION DATE 11/18/92

DATA ASSESSMENT SUMMARY

	VOA	BNA	PEST	HERB	OTHER
1. HOLDING TIMES		✓			
2. BLANKS		(1)			
3. SURROGATES		(2)			
4. SCS		NA			
5. DCS		NA			
6. MATRIX SPIKE/DUP		(3)			
7. DILUTION		NA			
8. OVERALL ASSESSMENT		O/Z* (see note 2)			

O = Data had no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

ACTION ITEMS: (2) Surrogate recoveries for MW-111-92 and MW-111-92 Dup, MW-101, MW-108D and MW-108D Dup were out of control. Re extraction and analysis confirmed matrix effects. Data qualified as unusable (R). MW-110 Surrogate recoveries out of Control but have >10% R. Data qualified as estimated (J) or estimated non-detect (UJ).

COMMENTS: (1) Method Blanks SBLK03 + 04 detected estimated quantities of common constituent bis(2-Ethylhexyl)Phthalate. For this constituent samples for MW-103-91, MW-101, 10 108, 103-41M MW-104, MW-104-92, MW-109, MW-109-92 & MW-114 were qualified as non-detects (U) or estimated ((3) MS/MSD out of control for MW-111-92. Confirmed matrix effects found w/ surrogate recove

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414-498-2222
FAX: 414-498-4067

GC/MS SEMIVOLATILE ORGANIC ANALYSIS

Client:	Woodward-Clyde Consultants	Project Name/Desc.:	NL/Taracorp
Address:	2318 Millpark Drive	Project Number:	89MC114V
	Maryland Heights, Missouri 63043	Batch Number:	9210037
Phone:	(314) 429-0100	COC Number:	460220
FAX:	( )		
		Case No.:	WWC01
Contact:	Cynthia Pavelka	SDG No.:	WMW106

SAMPLE SUMMARY

Client Sample No.	EPA Sample No.	Ortek Lab Sample ID
WMW106-DOGGW	WMW106-D	129887
WMW107-DOGGW	WMW107-D	129889
WMW107-SOGGW	WMW107-S	129888
WMW110-10GGW	WMW110-10G	129894
WMW111920GGW	WMW111920G	129891
WMW111920GGWRE	WMW111920GRE	129891RE
WMW111920GGWD	WMW111920D	129892
WMW111920GGWDMS	WMW111920DMS	129892MS
WMW111920GGWDMSD	WMW111920DMSD	129892MSD
WMW111920GGWDRE	WMW111920DRE	129892RE
WMW112-10GGWB	WMW112-10G	129890

COMMENTS: SEMIVOLATILE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8270 ON A DB-5MS CAPILLARY COLUMN

1.) The instrument ID for Semivolatile Organic Analysis is 50BB.

2.) EPA Sample No.'s WMW111920G and WMW111920D exhibited low recoveries for d_5-Phenol and 2-Fluorophenol. The samples were reextracted, outside the holdtime, with similar results. Both the original analyzes and the reextracts are included. The MS/MSD results for EPA Sample No. WMW111920D displayed similar results.

3.) The blank corresponding to the required reextracts (SBLK02) had low recoveries for d_5-Nitrobenzene and 2-Fluorobiphenyl. An additional reextract was not possible due to limited sample volume.

4.) Please note that a retention time shift (NOT scan number) occurred between analyzes dates. This is the result of scan rate manipulation necessary due to some hardware changes.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature."

Signed: Marcia A. Kuehl Name: MARCIA KUEHL

Title: LAB DIRECTOR Date: 11/3/92

CHAIN OF CUSTODY RECORD

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

460221

SHEET 1 of ___

COOLER 1 OF 4

PROJECT NO:	PROJECT NAME:
89MC114V	NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	VOLATILE ORGANICS 40ml vials, Teflon lids HCL + 2 pH, 4°C	SEMI-VOLATILE ORGANICS; 1L AMBER GLASS, TEFLON LID 4°C	PESTICIDES & PCB'S 1L AMBER GLASS, TEFLON LID 4°C	METALS 1L POLY BOTTLE NITRIC ACID + 2 pH, 4°C		REMARKS
10/6/92	~~1020~~	~~WMW109920GGW~~	~~8~~	~~3~~	~~2~~	~~2~~	~~1~~		~~WER~~
↓	~~1030~~	~~WMW109920GGWMD~~	~~8~~	~~3~~	~~2~~	~~2~~	~~1~~		~~WER~~
↓	1115	WMW109-10GGW 129913	8	3	2	2	1		
↓	1020	WMW109920GGW 129914	8	3	2	2	1		

Nothing Follows Wendy Rabolt

Data Due: 10/24/92

C, Q1, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy Rabolt	10/6/92 1730		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Dep. Rev: 10/28/92		Gloria Doptator	10-7-92 10:15

METHOD OF SHIPMENT: FED EX

AIRBILL NO: 538[illegible]

SHEET 1 of —

460221
COOLER 2 OF 7

CHAIN OF CUSTODY RECORD

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: MC114V

PROJECT NAME: NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabolt

DATE	TIME	SAMPLE I.D. NUMBER		NO. OF CONTAINERS	CONTAINER DESCRIPTION / ANALYSES REQUESTED: VOLATILE ORGANICS 40 ml VOA, Teflon lid HCL<2 pH, 4°C	SEMI-VOLATILE ORGANICS 1 L Amber Glass Teflon lid, 4°C	Pesticides & PCB's 1 L Amber Glass Teflon lid, 4°C	METALS 1 L Poly Bottle NITRIC ACID<2 pH, 4°C		REMARKS
10/6/92	1140	WMW114-10GGWB	9210046	8	3	2	2	1		1-40 ml VOA BROKEN IN SHIPMENT
↓	1310	WMW103910GGW	129915	8	3	2	2	1		w/BUBBLES prepared [illegible] TRIP BLANKS
10/6/92	1730	WMW114-10GGTB	129916	2	2					
			129917							

Nothing Follows

Wendy E Rabolt

Date Due: 10/24/92

0, Q1, 3

RELINQUISHED BY: (Signature) Wendy E Rabolt

DATE / TIME 10/6/92 1730

RECEIVED BY: (Signature)

DATE / TIME

RECEIVED AT LAB BY: (Signature) Gloria [illegible]

DATE / TIME 10-7-92 10:15

AIRBILL NO: [illegible]53950 1.6°C Cooler [illegible]

CHAIN OF CUSTODY RECORD

SHEET 1 of ___

460221

COOLER 3 OF 4

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 89MC114V

PROJECT NAME: NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	VOLATILE ORGANICS 40 ml vials, teflon lids HCL<2 pH, 4°C	SEMI-VOLATILE ORGANICS 1 L Amber Glass 4°C	Pesticide & PCB's 1 L Amber Glass 4°C	METALS 1 L POLY BOTTLE NITRIC ACID<2 pH 4°C		REMARKS
10/6/92	1420	WMW104-10GGW 1.29918	8	3	2	2	1		
↓	1510	WMW104920GGW 1.29919	8	3	2	2	1		VIALS W/BUBBLES

Nothing follows Wendy Rabolt

Date Due: 10/24/92

0, G1, 3

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy Rabolt	10/6/92 17:30		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Proj Due: 10/28/92		Gloria Doptator	10-7-92 10:15

METHOD OF SHIPMENT: FED EX

AIRBILL NO: 5384153950 14°C [illegible]

SHEET 1 of —

460221

COOLER 4 OF 4

CHAIN OF CUSTODY RECORD

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 7MC114V

PROJECT NAME: NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rubolt

DATE	TIME	SAMPLE I.D. NUMBER 9210046	NO. OF CONTAINERS	VOLATILE ORGANICS 40 ml vials, teflon-lite HCL<2pH, 4°C	SEMI-VOLATILE ORGANICS 1 L Amber Glass, teflon lid, 4°C	Pesticides & PCB's 1 L Amber Glass, teflon lid, 4°C	METALS 1 L Poly Bottle Nitric Acid<2pH 4°C		REMARKS
10/6/92	~~10~~ 1320	WMW103910GGWM 129920	8	3	2	2	1		VIAL w/BUBBLE 1-LITER AMBER BROKEN IN SHIPMENT
	1330 ~~1310~~	~~WMW10~~ WMW103910GGWX 129921	8	3	2	2	1		

Wendy Rubolt

Mitchell Tallman

Date Due: 10/24/92

0, G1, 3

RELINQUISHED BY: (Signature) Wendy Rubolt

DATE / TIME 10/6/92 17:30

RECEIVED BY: (Signature)

DATE / TIME

RELINQUISHED BY: (Signature)

DATE / TIME

RECEIVED AT LAB BY: (Signature) Gloria Daytaton

DATE / TIME 10-7-92 10:15

AIRBILL NO: 5-84153950

0.7°C C Seam

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10391W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129916

Sample wt/vol: 955 (g/mL) mL **Lab File ID:** CAD05

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. dec. **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	52	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	3	J
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	52	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	52	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

EPA SAMPLE NO.

10391W

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Contract:

Lab Name: ORTEK

SDG No.: 10391W

Lab Code: ORTEK Case No.: CLYDE SAS No.:

Lab Sample ID: 129916

Matrix: (soil/water) WATER

Lab File ID: CAD05

Sample wt/vol: 955 (g/mL) mL

Date Received: 10/07/92

Level: (low/med) LOW

Date Extracted: 10/12/92

% Moisture: not dec. dec.

Date Analyzed: 10/13/92

Extraction: (SepF/Cont/Sonc) SepF

Dilution Factor: 1

GPC Cleanup: (Y/N) N pH:

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	52	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	52	U
100-02-7	4-Nitrophenol	52	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	52	U
534-52-1	4,6-Dinitro-2-Methylphenol	52	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	21	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)Anthracene	16	B
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10391W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129916

Sample wt/vol: 955 (g/mL) mL **Lab File ID:** CAD05

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. dec. **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

Number of TICs found: 15 CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
108883	Benzene, methyl- (9CI)	4.70	5	J
0	UNKNOWN	15.95	68	J
0	UNKNOWN	27.43	5	J
0	UNKNOWN	27.92	5	J
7225641	Heptadecane, 9-octyl-	28.37	5	J
0	UNKNOWN	28.72	4	J
630024	Octacosane	29.06	9	J
0	UNKNOWN	29.72	14	J
85609	Phenol, 4,4'-butylidenebis[2-(1,1-di	31.55	100	J
0	UNKNOWN	32.80	4	J
538238	Octanoic acid, 1,2,3-propanetriyl es	33.39	19	J
0	UNKNOWN	35.43	20	J
0	UNKNOWN	35.73	560	J
0	UNKNOWN	38.24	5	J
0	UNKNOWN	38.69	680	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10391WMMS

Contract:

Lab Name: ORTEK SAS No.: SDG No.: 10391W

Lab Code: ORTEK Case No.: CLYDE Lab Sample ID: 129920MS

Matrix: (soil/water) WATER Lab File ID: CAD02

Sample wt/vol: 880 (g/mL) mL Date Received: 10/07/92

Level: (low/med) LOW Date Extracted: 10/12/92

% Moisture: not dec. dec. Date Analyzed: 10/13/92

Extraction: (SepF/Cont/Sonc) SepF Dilution Factor: 1

GPC Cleanup: (Y/N) N pH:

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	11	U
111-44-4	bis(2-Chloroethyl)Ether	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
100-51-6	Benzyl Alcohol	11	U
95-50-1	1,2-Dichlorobenzene	11	U
95-48-7	2-Methylphenol	11	U
39638-32-9	bis(2-Chloroisopropyl)Ether	11	U
106-44-5	4-Methylphenol	11	U
621-64-7	N-Nitroso-Di-n-Propylamine	11	U
67-72-1	Hexachloroethane	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	57	U
105-67-9	2,4-Dimethylphenol	11	U
65-85-0	Benzoic Acid	11	U
111-91-1	bis(2-Chloroethoxy)Methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-Methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	57	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	57	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	11	U
131-11-3	Dimethyl Phthalate	11	U
208-96-8	Acenaphthylene		
606-20-2	2,6-Dinitrotoluene		

1/

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10391WMMS

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129920MS

Sample wt/vol: 880 (g/mL) mL **Lab File ID:** CAD02

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. dec. **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

CONCENTRATION UNITS: ug/l

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
99-09-2	3-Nitroaniline	57	U
83-32-9	Acenaphthene	11	U
51-28-5	2,4-Dinitrophenol	57	U
100-02-7	4-Nitrophenol	57	U
132-64-9	Dibenzofuran	11	U
121-14-2	2,4-Dinitrotoluene	11	U
84-66-2	Diethylphthalate	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	U
86-73-7	Fluorene	11	U
100-10-6	4-Nitroaniline	57	U
534-52-1	4,6-Dinitro-2-Methylphenol	57	U
86-30-6	N-Nitrosodiphenylamine (1)	11	U
101-55-3	4-Bromophenyl-phenylether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	Pentachlorophenol	57	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
84-74-2	Di-n-Butylphthalate	11	U
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
85-68-7	Butylbenzylphthalate	11	U
91-94-1	3,3'-Dichlorobenzidine	23	U
56-55-3	Benzo(a)Anthracene	11	U
218-01-9	Chrysene	11	U
117-81-7	bis(2-Ethylhexyl)Phthalate	16	B U
117-84-0	Di-n-Octyl Phthalate	11	U
205-99-2	Benzo(b)Fluoranthene	11	U
207-08-9	Benzo(k)Fluoranthene	11	U
50-32-8	Benzo(a)Pyrene	11	U
193-39-5	Indeno(1,2,3-cd)Pyrene	11	U
53-70-3	Dibenz(a,h)Anthracene	11	U
191-24-2	Benzo(g,h,i)Perylene	11	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10391WXMSD

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129921MSD

Sample wt/vol: 920 **(g/mL)** mL **Lab File ID:** CAD03

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)	Q
108-95-2	Phenol	11	U
111-44-4	bis(2-Chloroethyl)Ether	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
100-51-6	Benzyl Alcohol	11	U
95-50-1	1,2-Dichlorobenzene	11	U
95-48-7	2-Methylphenol	11	U
39638-32-9	bis(2-Chloroisopropyl)Ether	11	U
106-44-5	4-Methylphenol	11	U
621-64-7	N-Nitroso-Di-n-Propylamine	11	U
67-72-1	Hexachloroethane	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	11	U
105-67-9	2,4-Dimethylphenol	11	U
65-85-0	Benzoic Acid	54	U
111-91-1	bis(2-Chloroethoxy)Methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-Methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	54	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	54	U
131-11-3	Dimethyl Phthalate	11	U
208-96-8	Acenaphthylene	11	U
606-20-2	2,6-Dinitrotoluene	11	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10391WXMSD

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129921MSD

Sample wt/vol: 920 **(g/mL)** mL **Lab File ID:** CAD03

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	54	U
83-32-9	Acenaphthene	11	U
51-28-5	2,4-Dinitrophenol	54	U
100-02-7	4-Nitrophenol	54	U
132-64-9	Dibenzofuran	11	U
121-14-2	2,4-Dinitrotoluene	11	U
84-66-2	Diethylphthalate	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	U
86-73-7	Fluorene	11	U
100-10-6	4-Nitroaniline	54	U
534-52-1	4,6-Dinitro-2-Methylphenol	54	U
86-30-6	N-Nitrosodiphenylamine (1)	11	U
101-55-3	4-Bromophenyl-phenylether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	Pentachlorophenol	54	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
84-74-2	Di-n-Butylphthalate	11	U
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
85-68-7	Butylbenzylphthalate	11	U
91-94-1	3,3'-Dichlorobenzidine	22	U
56-55-3	Benzo(a)Anthracene	11	U
218-01-9	Chrysene	11	U
117-81-7	bis(2-Ethylhexyl)Phthalate	14	B
117-84-0	Di-n-Octyl Phthalate	11	U
205-99-2	Benzo(b)Fluoranthene	11	U
207-08-9	Benzo(k)Fluoranthene	11	U
50-32-8	Benzo(a)Pyrene	11	U
193-39-5	Indeno(1,2,3-cd)Pyrene	11	U
53-70-3	Dibenz(a,h)Anthracene	11	U
191-24-2	Benzo(g,h,i)Perylene	11	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1041W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129918

Sample wt/vol: 950 **(g/mL)** mL **Lab File ID:** CAD06

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	53	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	53	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	53	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1041W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129918

Sample wt/vol: 950 (g/mL) mL **Lab File ID:** CAD06

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. dec. **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	53	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	53	U
100-02-7	4-Nitrophenol	53	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	53	U
534-52-1	4,6-Dinitro-2-Methylphenol	53	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	53	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	21	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1041W

Lab Name: ORTEK Contract: SDG No.: 10391W

Lab Code: ORTEK Case No.: CLYDE SAS No.: Lab Sample ID: 129918

Matrix: (soil/water) WATER Lab File ID: CAD06

Sample wt/vol: 950 (g/mL) mL Date Received: 10/07/92

Level: (low/med) LOW Date Extracted: 10/12/92

% Moisture: not dec. dec. Date Analyzed: 10/13/92

Extraction: (SepF/Cont/Sonc) SepF Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

Number of TICs found: 9

CAS NO.	COMPOUND	RT	EST. CONC.	Q
0	UNKNOWN	11.04	14	J
0	UNKNOWN	16.03	120	J
0	UNKNOWN	30.78	130	
85609	Phenol, 4,4'-butylidenebis[2-(1,1-di	31.54	64	
538238	Octanoic acid, 1,2,3-propanetriyl es	33.40	13	J
0	UNKNOWN	35.40	14	J
0	UNKNOWN	35.69	450	J
0	UNKNOWN	36.92	33	J
0	UNKNOWN	38.62	530	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10492W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129919

Sample wt/vol: 920 **(g/mL)** mL **Lab File ID:** CAD07

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

CONCENTRATION UNITS: ug/l

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
108-95-2	Phenol	11	U
111-44-4	bis(2-Chloroethyl)Ether	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
100-51-6	Benzyl Alcohol	11	U
95-50-1	1,2-Dichlorobenzene	11	U
95-48-7	2-Methylphenol	11	U
39638-32-9	bis(2-Chloroisopropyl)Ether	11	U
106-44-5	4-Methylphenol	11	U
621-64-7	N-Nitroso-Di-n-Propylamine	11	U
67-72-1	Hexachloroethane	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	11	U
105-67-9	2,4-Dimethylphenol	11	U
65-85-0	Benzoic Acid	54	U
111-91-1	bis(2-Chloroethoxy)Methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-Methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	54	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	54	U
131-11-3	Dimethyl Phthalate	11	U
208-96-8	Acenaphthylene	11	U
606-20-2	2,6-Dinitrotoluene	11	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10492W

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Matrix: (soil/water) WATER Lab Sample ID: 129919

Sample wt/vol: 920 (g/mL) mL Lab File ID: CAD07

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. dec. Date Extracted: 10/12/92

Extraction: (SepF/Cont/Sonc) SepF Date Analyzed: 10/13/92

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

CONCENTRATION UNITS: ug/l

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
99-09-2	3-Nitroaniline	54	U
83-32-9	Acenaphthene	11	U
51-28-5	2,4-Dinitrophenol	54	U
100-02-7	4-Nitrophenol	54	U
132-64-9	Dibenzofuran	11	U
121-14-2	2,4-Dinitrotoluene	11	U
84-66-2	Diethylphthalate	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	U
86-73-7	Fluorene	11	U
100-10-6	4-Nitroaniline	54	U
534-52-1	4,6-Dinitro-2-Methylphenol	54	U
86-30-6	N-Nitrosodiphenylamine (1)	11	U
101-55-3	4-Bromophenyl-phenylether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	Pentachlorophenol	54	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
84-74-2	Di-n-Butylphthalate	11	U
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
85-68-7	Butylbenzylphthalate	11	U
91-94-1	3,3'-Dichlorobenzidine	22	U
56-55-3	Benzo(a)Anthracene	11	U
218-01-9	Chrysene	11	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	BJ
117-84-0	Di-n-Octyl Phthalate	11	U
205-99-2	Benzo(b)Fluoranthene	11	U
207-08-9	Benzo(k)Fluoranthene	11	U
50-32-8	Benzo(a)Pyrene	11	U
193-39-5	Indeno(1,2,3-cd)Pyrene	11	U
53-70-3	Dibenz(a,h)Anthracene	11	U
191-24-2	Benzo(g,h,i)Perylene	11	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10492W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129919

Sample wt/vol: 920 **(g/mL)** mL **Lab File ID:** CAD07

Level: **(low/med)** LOW **Date Received:** 10/07/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: **(SepF/Cont/Sonc)** SepF **Date Analyzed:** 10/13/92

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

Number of TICs found: 13 CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
123422	2-Pentanone, 4-hydroxy-4-methyl-	6.51	5	J
79345	Ethane, 1,1,2,2-tetrachloro-	8.47	5	J
0	UNKNOWN	9.99	8	J
0	UNKNOWN	15.92	59	J
2091294	9-Hexadecenoic acid	27.91	8	J
0	UNKNOWN	30.78	130	J
85609	Phenol, 4,4'-butylidenebis[2-(1,1-di	31.54	43	J
538238	Octanoic acid, 1,2,3-propanetriyl es	33.39	16	J
0	UNKNOWN	35.42	16	J
0	UNKNOWN	35.70	480	J
0	UNKNOWN	36.88	24	J
0	UNKNOWN	38.24	5	J
0	UNKNOWN	38.65	580	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1091W

Contract:

Lab Name: ORTEK SAS No.: SDG No.: 10391W

Lab Code: ORTEK Case No.: CLYDE Lab Sample ID: 129913

Matrix: (soil/water) WATER Lab File ID: CAJ02

Sample wt/vol: 1050 (g/mL) mL Date Received: 10/07/92

Level: (low/med) LOW Date Extracted: 10/13/92

% Moisture: not dec. dec. Date Analyzed: 10/19/92

Extraction: (SepF/Cont/Sonc) SepF Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	48	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	48	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	48	U
91-58-7	2-Chloronaphthalene	10	
88-74-4	2-Nitroaniline	10	
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene		
606-20-2	2,6-Dinitrotoluene		

1/1

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1091W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129913

Sample wt/vol: 1050 (g/mL) mL **Lab File ID:** CAJ02

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. dec. **Date Extracted:** 10/13/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

CONCENTRATION UNITS: ug/l

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
99-09-2	3-Nitroaniline	48	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	48	U
100-02-7	4-Nitrophenol	48	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	48	U
534-52-1	4,6-Dinitro-2-Methylphenol	48	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	48	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	17	B U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1091W

Contract:

Lab Name: ORTEK

SDG No.: 10391W

Lab Code: ORTEK Case No.: CLYDE SAS No.:

Lab Sample ID: 129913

Matrix: (soil/water) WATER

Lab File ID: CAJ02

Sample wt/vol: 1050 (g/mL) mL

Date Received: 10/07/92

Level: (low/med) LOW

Date Extracted: 10/13/92

% Moisture: not dec. dec.

Date Analyzed: 10/19/92

Extraction: (SepF/Cont/Sonc) SepF

Dilution Factor: 1

GPC Cleanup: (Y/N) N pH:

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

Number of TICs found: 20 21

CAS NO.	COMPOUND	RT	EST. CONC.	Q
0	UNKNOWN	11.04	10	J
0	UNKNOWN	16.06	120	J
544638	Tetradecanoic acid	24.05	4	J
0	UNKNOWN	24.28	5	
2091294	9-Hexadecenoic acid	26.17	4	J
57103	Hexadecanoic acid	26.36	10	J
2733882	15-Tetracosenoic acid, methyl ester,	27.96	84	J
544638	Tetradecanoic acid	28.10	6	J
0	UNKNOWN	28.54	8	J
630024	Octacosane	29.07	5	J
5353253	Ethanol, 2-(9-octadecenyloxy)-, (Z)-	29.16	5	J
0	UNKNOWN	30.90	5	J
0	UNKNOWN	30.99	19	J
85609	Phenol, 4,4'-butylidenebis[2-(1,1-di	31.56	110	J
0	UNKNOWN	32.36	12	J
0	UNKNOWN	32.84	8	
0	UNKNOWN	35.47	25	
0	UNKNOWN	35.76	590	
0	UNKNOWN	36.90	6	
0	UNKNOWN	38.27	7	
0	UNKNOWN	33.41	28	
0	UNKNOWN			

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10992W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129914

Sample wt/vol: 1030 **(g/mL)** mL **Lab File ID:** CAJ03

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/13/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	48	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	48	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	48	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10992W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129914

Sample wt/vol: 1030 **(g/mL)** mL **Lab File ID:** CAJ03

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/13/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

CONCENTRATION UNITS: ug/l

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
99-09-2	3-Nitroaniline	48	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	48	U
100-02-7	4-Nitrophenol	48	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	48	U
534-52-1	4,6-Dinitro-2-Methylphenol	48	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	48	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	11	B U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

10992W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129914

Sample wt/vol: 1030 (g/mL) mL **Lab File ID:** CAJ03

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. dec. **Date Extracted:** 10/13/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

Number of TICs found: 21 CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
123422	2-Pentanone, 4-hydroxy-4-methyl-	6.54	5	J
0	UNKNOWN	11.04	11	J
0	UNKNOWN	16.01	92	J
57103	Hexadecanoic acid	26.35	5	J
112801	9-Octadecenoic acid (Z)-	27.94	38	J
57114	Octadecanoic acid	28.09	5	J
629970	Docosane	28.36	5	J
0	UNKNOWN	28.53	8	J
112958	Eicosane	29.07	7	J
55333998	Eicosane, 7-hexyl-	29.73	5	J
630024	Octacosane	30.34	5	J
0	UNKNOWN	30.76	86	J
0	UNKNOWN	30.98	120	J
85609	Phenol, 4,4'-butylidenebis[2-(1,1-di	31.57	87	J
0	UNKNOWN	32.34	22	J
538238	Octanoic acid, 1,2,3-propanetriyl es	33.40	23	J
0	UNKNOWN	35.44	22	J
0	UNKNOWN	35.74	560	J
0	UNKNOWN	36.97	50	J
0	UNKNOWN	38.25	7	J
0	UNKNOWN	38.73	660	J

EPA SAMPLE NO.

1141WB

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Contract:

Lab Name: ORTEK SAS No.: SDG No.: 10391W

Lab Code: ORTEK Case No.: CLYDE Lab Sample ID: 129915

Matrix: (soil/water) WATER Lab File ID: CAD04

Sample wt/vol: 1000 (g/mL) mL Date Received: 10/07/92

Level: (low/med) LOW Date Extracted: 10/12/92

% Moisture: not dec. dec. Date Analyzed: 10/13/92

Extraction: (SepF/Cont/Sonc) SepF Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	50	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	50	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1141WB

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Matrix: (soil/water) WATER Lab Sample ID: 129915

Sample wt/vol: 1000 (g/mL) mL Lab File ID: CAD04

Level: (low/med) LOW Date Received: 10/07/92

% Moisture: not dec. dec. Date Extracted: 10/12/92

Extraction: (SepF/Cont/Sonc) SepF Date Analyzed: 10/13/92

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

CONCENTRATION UNITS: ug/l

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1141WB

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 129915

Sample wt/vol: 1000 **(g/mL) mL** **Lab File ID:** CAD04

Level: (low/med) LOW **Date Received:** 10/07/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

Number of TICs found: 2 CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
0	UNKNOWN	30.78	81	J
0	UNKNOWN	36.87	9	J

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 ( )#	TOT OUT
01	SBLK03	58	67	68	26	38	51		0
02	10391WMMS	68	72	71	25	34	50		0
03	10391WXMSD	72	76	76	23	31	50		0
04	1141WB	53	63	67	22	34	56		0
05	10391W	57	67	64	18	20 *	42		1
06	1041W	63	71	70	26	36	58		0
07	10492W	59	67	69	14	18 *	47		1
08	10391WM	59	69	75	21	28	62		0
09	10391WX	56	66	73	21	22	45		0
10									
11									
12									
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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-d6	(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

FORM II SV-1 1/87 Rev

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Contract:

Lab Name: ORTEK

Case No.: CLYDE SAS No.: SDG No.: 10391W

Lab code: ORTEK

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 ( )#	TOT OUT
01	SBLK04	70	78	73	29	40	59		0
02	1091W	66	76	73	27	34	63		0
03	10992W	68	76	74	23	30	58		0
04									
05									
06									
07									
08									
09									
10									
11									
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		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d6	(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

1/8

FORM II SV-1

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Matrix Spike - EPA Sample No.: 10391WM

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Phenol	100	0	34	34	12- 89
2-Chlorophenol	100	0	66	66	27-123
1,4-Dichlorobenzene	50	0	45	90	36- 97
N-Nitroso-di-n-propylam	50	0	45	90	41-116
1,2,4-Trichlorobenzene	50	0	44	88	39- 98
4-Chloro-3-methylphenol	100	0	72	72	23- 97
Acenaphthene	50	0	44	88	46-118
4-Nitrophenol	100	0	44	44	10- 80
2,4-Dinitrotoluene	50	0	40	81	24- 96
Pentachlorophenol	100	0	101	101	9-103
Pyrene	50	0	43	87	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	100	31	31	9	42	12- 89
2-Chlorophenol	100	62	62	5	40	27-123
1,4-Dichlorobenzene	50	45	90	1	28	36- 97
N-Nitroso-di-n-propylam	50	46	92	3	38	41-116
1,2,4-Trichlorobenzene	50	45	90	3	28	39- 98
4-Chloro-3-methylphenol	100	67	67	7	42	23- 97
Acenaphthene	50	46	91	4	31	46-118
4-Nitrophenol	100	49	49	11	50	10- 80
2,4-Dinitrotoluene	50	43	85	5	38	24- 96
Pentachlorophenol	100	107	107 *	6	50	9-103
Pyrene	50	45	91	4	31	26-127

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: 1 out of 22 outside limits

COMMENTS: _____

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Contract:

Lab Name: ORTEK SDG No.: 10391W

Lab code: ORTEK Case No.: CLYDE SAS No.:

Lab Sample ID: 1012BLK

Lab File ID: >CAD01

Extraction:(Sepf/Cont/Sonc) SEPF

Date Extracted: 10/12/92

Time Analyzed: 14:32

Date Analyzed: 10/13/92

Level:(low/med) LOW

Matrix: (soil/water) WATER

Instrument ID: HPMSDC

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	10391WMMS	129920MS	>CAD02	10/13/92
2	10391WXMSD	129921MSD	>CAD03	10/13/92
3	1141WB	129915	>CAD04	10/13/92
4	10391W	129916	>CAD05	10/13/92
5	1041W	129918	>CAD06	10/13/92
6	10492W	129919	>CAD07	10/13/92
7	10391WM	129920	>CAD08	10/13/92
8	10391WX	129921	>CAD09	10/13/92
10				
11				
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COMMENTS:

1/87

FORM IV SV

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK03

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Matrix: (soil/water) WATER Lab Sample ID: 1012BLK

Sample wt/vol: 1000 (g/ml) ML Lab File ID: >CAD01

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 10/12/92

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK03

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Matrix: (soil/water) WATER Lab Sample ID: 1012BLK

Sample wt/vol: 1000 (g/ml) ML Lab File ID: >CAD01

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 10/12/92

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 10/13/92

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	Bis(2-Ethylhexyl)phthalate	2	BJ
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

PESTICIDES/PCBS

DATA SUMMARY

ORGANIC DATA ASSESSMENT

PROJECT NO. 89MC114V
LABORATORY Ortek
LAB PROJECT NO. 9210037,46,57
NO. OF SAMPLES/
MATRIX 16 / Groundwater

SITE NL/Taracorp Superfund Site
REVIEWER Woodward-Clyde
REVIEWER'S NAME Cynthia Pavelka
COMPLETION DATE 11/19/92

DATA ASSESSMENT SUMMARY

	VOA	BNA	PEST/PCB	HERB	OTHER
1. HOLDING TIMES			✓		
2. BLANKS			✓		
3. SURROGATES			(1)		
4. SCS			NA		
5. DCS			NA		
6. MATRIX SPIKE/DUP			(2)		
7. DILUTION			NA		
8. OVERALL ASSESSMENT			O		

O = Data had no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems, but do not affect data.

ACTION ITEMS: (1) Surrogate recoveries out of control for MW-101, MW-104, MW-108D Dup. and MW-114. Data qualified as estimated non-detect (UJ).
(2) MSD for MW-103-91 ~~and~~ probable spiking error. Same problem w/ MW-112 MSD. See lab comments.

COMMENTS:

ORTEK
ENVIRONMENTAL LABORATORY
2496 West Mason Street | P.O. Box 12435 | Green Bay, WI 54307-2435
414-498-2222
FAX: 414-498-4067

GC/ECD PCB/PESTICIDE ORGANIC ANALYSIS

Client:	Woodward-Clyde Consultants	Project Name/Desc.:	NL/Taracorp
Address:	2318 Millpark Drive	Project Number:	89MC114V
	Maryland Heights, Missouri 630043	Batch Number:	9210037,9210046,9210057
Phone:	(314) 429-0100	COC Number:	460220,460221,460223
FAX:	( )		
		Case No.:	WOOD4
Contact:	Cynthia Pavelka	SDG No.:	WMW106

SAMPLE SUMMARY

Client Sample No.	EPA Sample No.	Ortek Lab Sample ID
WMW101-10GGW	WMW101	129955
WMW103910GGW	WMW1030GGW	129916
WMW103910GGWM	WMW1030GGWM	129920
WMW103910GGWMMS	WMW1030GGWMMS	129920MS
WMW103910GGWMMSD	WMW1030GGWMMSD	129920MSD
WMW103910GGWX	WMW1030GGWX	129921
WMW104-10GGW	WMW104	129918
WMW104920GGW	WMW1040GGW	129919
WMW106-DOGGW	WMW106	129887
WMW107-DOGGW	WMW107D	129889
WMW107-SOGGW	WMW107S	129888
WMW108-DOGGW	WMW108	129956
WMW108-DOGGWD	WMW1080GGWD	129957
WMW109-10GGW	WMW109	129913
WMW109920GGW	WMW1090GGW	129914
WMW110-10GGW	WMW110	129894
WMW111920GGW	WMW1110GGW	129891
WMW111920GGWD	WMW1110GGWD	129892
WMW112-10GGWB	WMW112	129890
WMW112-10GGWBMS	WMW112MS	129890MS
WMW112-10GGWBMSD	WMW112MSD	129890MSD
WMW114-10GGWB	WMW114	129915

COMMENTS: PCB/PESTICIDE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8080 ON A PTE-5 CAPILLARY COLUMN, CONFIRMED WITH A SPB-608 CAPILLARY COLUMN.

1.) The instrument ID for PCB/Pesticide Organic Analysis is 5890H.

2.) EPA Sample No. WMW1030GGWM (129920), WMW1030GGWX (129921), and WMW1030GGW (129916) are all the same sample. The first two mentioned, which were provided as extra sample, were inadvertently extracted and analyzed as separate samples. The matrix spike and matrix spike duplicate were done on EPA Sample No. WMW1030GGWM.

An additional note: EPA Sample No. WMW1030GGWMMS (129920MS) is a blank spike, due to limited sample. For ease of reporting, this sample was labeled as the "MS". EPA Sample No. WMW1030GGWMMSD (129920MSD) is an actual sample matrix spike.

3.) EPA Sample No. WMW112MSD (129890MSD) exhibited roughly 75% lower recovery, for the matrix spike compounds, than in EPA Sample No. WMW112MS (129890MS). This trend is also apparent in the corresponding surrogate recoveries, indicating a possible extraction error.

ORTEK
ENVIRONMENTAL LABORATORY
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4.) EPA Sample No. WMW1030GGWMMSD (129920MSD) had recoveries in the area of 200%, indicating that the sample may have been spiked with double the concentration of matrix spike compounds. The surrogate recoveries also indicate that they may have been added at double the concentration.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above, Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature."

Signed: Marcia A. Kuehl Name: MARCIA KUEHL

Title: LAB DIRECTOR Date: 11/3/92

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW101

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129955

Sample wt/vol: 860.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/21/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.058	U
319-85-7	beta-BHC	0.058	U
319-86-8	delta-BHC	0.058	U
58-89-9	gamma-BHC (Lindane)	0.058	U
76-44-8	Heptachlor	0.058	U
309-00-2	Aldrin	0.058	U
1024-57-3	Heptachlor epoxide	0.058	U
959-98-8	Endosulfan I	0.058	U
60-57-1	Dieldrin	0.12	U
72-55-9	4,4'-DDE	0.12	U
72-20-8	Endrin	0.12	U
33213-65-9	Endosulfan II	0.12	U
72-54-8	4,4'-DDD	0.12	U
1031-07-8	Endosulfan sulfate	0.12	U
50-29-3	4,4'-DDT	0.12	U
72-43-5	Methoxychlor	0.58	U
53494-70-5	Endrin ketone	0.12	U
7421-36-3	Endrin aldehyde	0.12	U
5103-71-9	alpha-Chlordane	0.058	U
5103-74-2	gamma-Chlordane	0.058	U
8001-35-2	Toxaphene	5.8	U
12674-11-2	Aroclor-1016	1.2	U
11104-28-2	Aroclor-1221	2.3	U
11141-16-5	Aroclor-1232	1.2	U
53469-21-9	Aroclor-1242	1.2	U
12672-29-6	Aroclor-1248	1.2	U
11097-69-1	Aroclor-1254	1.2	U
11096-82-5	Aroclor-1260	1.2	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW1030GGW

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129916

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/21/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.056	U
319-85-7	beta-BHC	0.056	U
319-86-8	delta-BHC	0.056	U
58-89-9	gamma-BHC (Lindane)	0.056	U
76-44-8	Heptachlor	0.056	U
309-00-2	Aldrin	0.056	U
1024-57-3	Heptachlor epoxide	0.056	U
959-98-8	Endosulfan I	0.056	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.56	U
53494-70-5	Endrin ketone	0.11	U
7421-36-3	Endrin aldehyde	0.11	U
5103-71-9	alpha-Chlordane	0.056	U
5103-74-2	gamma-Chlordane	0.056	U
8001-35-2	Toxaphene	5.6	U
12674-11-2	Aroclor-1016	1.1	U
11104-28-2	Aroclor-1221	2.2	U
11141-16-5	Aroclor-1232	1.1	U
53469-21-9	Aroclor-1242	1.1	U
12672-29-6	Aroclor-1248	1.1	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW1030GGWM

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129920

Sample wt/vol: 930.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/21/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.054	U
319-85-7	beta-BHC	0.054	U
319-86-8	delta-BHC	0.054	U
58-89-9	gamma-BHC (Lindane)	0.054	U
76-44-8	Heptachlor	0.054	U
309-00-2	Aldrin	0.054	U
1024-57-3	Heptachlor epoxide	0.054	U
959-98-8	Endosulfan I	0.054	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.54	U
53494-70-5	Endrin ketone	0.11	U
7421-36-3	Endrin aldehyde	0.11	U
5103-71-9	alpha-Chlordane	0.054	U
5103-74-2	gamma-Chlordane	0.054	U
8001-35-2	Toxaphene	5.4	U
12674-11-2	Aroclor-1016	1.1	U
11104-28-2	Aroclor-1221	2.2	U
11141-16-5	Aroclor-1232	1.1	U
53469-21-9	Aroclor-1242	1.1	U
12672-29-6	Aroclor-1248	1.1	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW1030GGWX

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129921

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/21/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.056	U
319-85-7	beta-BHC	0.056	U
319-86-8	delta-BHC	0.056	U
58-89-9	gamma-BHC (Lindane)	0.056	U
76-44-8	Heptachlor	0.056	U
309-00-2	Aldrin	0.056	U
1024-57-3	Heptachlor epoxide	0.056	U
959-98-8	Endosulfan I	0.056	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.56	U
53494-70-5	Endrin ketone	0.11	U
7421-36-3	Endrin aldehyde	0.11	U
5103-71-9	alpha-Chlordane	0.056	U
5103-74-2	gamma-Chlordane	0.056	U
8001-35-2	Toxaphene	5.6	U
12674-11-2	Aroclor-1016	1.1	U
11104-28-2	Aroclor-1221	2.2	U
11141-16-5	Aroclor-1232	1.1	U
53469-21-9	Aroclor-1242	1.1	U
12672-29-6	Aroclor-1248	1.1	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW104

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129918

Sample wt/vol: 880.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/21/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.057	U UJ
319-85-7	beta-BHC	0.057	U
319-86-8	delta-BHC	0.057	U
58-89-9	gamma-BHC (Lindane)	0.057	U
76-44-8	Heptachlor	0.057	U
309-00-2	Aldrin	0.057	U
1024-57-3	Heptachlor epoxide	0.057	U
959-98-8	Endosulfan I	0.057	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.57	U
53494-70-5	Endrin ketone	0.11	U
7421-36-3	Endrin aldehyde	0.11	U
5103-71-9	alpha-Chlordane	0.057	U
5103-74-2	gamma-Chlordane	0.057	U
8001-35-2	Toxaphene	5.7	U
12674-11-2	Aroclor-1016	1.1	U
11104-28-2	Aroclor-1221	2.3	U
11141-16-5	Aroclor-1232	1.1	U
53469-21-9	Aroclor-1242	1.1	U
12672-29-6	Aroclor-1248	1.1	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U UJ

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW1040GGW -9

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129919

Sample wt/vol: 960.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/21/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.052	U
319-85-7	beta-BHC	0.052	U
319-86-8	delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	5.2	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

EPA SAMPLE NO.

WMW106

PESTICIDE ORGANICS 1D ANALYSIS DATA SHEET

Contract: 89MC114V

Lab Name: ORTEK SAS No.: _____ SDG No.: WMW106

Lab Code: ORTEK Case No.: WOOD4 Lab Sample ID: 129887

Matrix: (soil/water) WATER Lab File ID: _____

Sample wt/vol: 950.0 (g/mL) ML Date Received: 10/06/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/16/92

Concentrated Extract Volume: 10000 (uL) Dilution Factor: 1.00

Injection Volume: 1.00 (uL) Sulfur Cleanup: (Y/N) N

GPC Cleanup: (Y/N) N pH: 5.0

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

CAS NO.	COMPOUND	Q
319-84-6	alpha-BHC	0.052 U
319-85-7	beta-BHC	0.052 U
319-86-8	delta-BHC	0.052 U
58-89-9	gamma-BHC (Lindane)	0.052 U
76-44-8	Heptachlor	0.052 U
309-00-2	Aldrin	0.052 U
1024-57-3	Heptachlor epoxide	0.052 U
959-98-8	Endosulfan I	0.10 U
60-57-1	Dieldrin	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	Endrin	0.10 U
33213-65-9	Endosulfan II	0.10 U
72-54-8	4,4'-DDD	0.10 U
1031-07-8	Endosulfan sulfate	0.10 U
50-29-3	4,4'-DDT	0.52 U
72-43-5	Methoxychlor	0.10 U
53494-70-5	Endrin ketone	0.10 U
7421-36-3	Endrin aldehyde	0.052 U
5103-71-9	alpha-Chlordane	0.052 U
5103-74-2	gamma-Chlordane	5.2 U
8001-35-2	Toxaphene	1.0 U
12674-11-2	Aroclor-1016	2.1 U
11104-28-2	Aroclor-1221	1.0 U
11141-16-5	Aroclor-1232	1.0 U
53469-21-9	Aroclor-1242	1.0 U
12672-29-6	Aroclor-1248	1.0 U
11097-69-1	Aroclor-1254	1.0 U
11096-82-5	Aroclor-1260	1.0 U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW107D

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129889

Sample wt/vol: 970.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/06/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/07/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/16/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 5.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.052	U
319-85-7	beta-BHC	0.052	U
319-86-8	delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	5.2	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

EPA SAMPLE NO.

WMW107S

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Contract: 89MC114V

Lab Name: ORTEK SDG No.: WMW106

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ Lab Sample ID: 129888

Matrix: (soil/water) WATER Lab File ID: _____

Sample wt/vol: 850.0 (g/mL) ML Date Received: 10/06/92

% Moisture: _____ decanted: (Y/N) ___ Date Extracted: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/16/92

Concentrated Extract Volume: 10000 (uL) Dilution Factor: 1.00

Injection Volume: 1.00 (uL) Sulfur Cleanup: (Y/N) N

GPC Cleanup: (Y/N) N pH: 5.0

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.059	U
319-85-7	beta-BHC	0.059	U
319-86-8	delta-BHC	0.059	U
58-89-9	gamma-BHC (Lindane)	0.059	U
76-44-8	Heptachlor	0.059	U
309-00-2	Aldrin	0.059	U
1024-57-3	Heptachlor epoxide	0.059	U
959-98-8	Endosulfan I	0.12	U
60-57-1	Dieldrin	0.12	U
72-55-9	4,4'-DDE	0.12	U
72-20-8	Endrin	0.12	U
33213-65-9	Endosulfan II	0.12	U
72-54-8	4,4'-DDD	0.12	U
1031-07-8	Endosulfan sulfate	0.12	U
50-29-3	4,4'-DDT	0.59	U
72-43-5	Methoxychlor	0.12	U
53494-70-5	Endrin ketone	0.12	U
7421-36-3	Endrin aldehyde	0.12	U
5103-71-9	alpha-Chlordane	0.059	U
5103-74-2	gamma-Chlordane	0.059	U
8001-35-2	Toxaphene	5.9	U
12674-11-2	Aroclor-1016	1.2	U
11104-28-2	Aroclor-1221	2.4	U
11141-16-5	Aroclor-1232	1.2	U
53469-21-9	Aroclor-1242	1.2	U
12672-29-6	Aroclor-1248	1.2	U
11097-69-1	Aroclor-1254	1.2	U
11096-82-5	Aroclor-1260	1.2	U

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1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW108

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129956

Sample wt/vol: 1050 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/21/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.048	U
319-85-7	beta-BHC	0.048	U
319-86-8	delta-BHC	0.048	U
58-89-9	gamma-BHC (Lindane)	0.048	U
76-44-8	Heptachlor	0.048	U
309-00-2	Aldrin	0.048	U
1024-57-3	Heptachlor epoxide	0.048	U
959-98-8	Endosulfan I	0.048	U
60-57-1	Dieldrin	0.095	U
72-55-9	4,4'-DDE	0.095	U
72-20-8	Endrin	0.095	U
33213-65-9	Endosulfan II	0.095	U
72-54-8	4,4'-DDD	0.095	U
1031-07-8	Endosulfan sulfate	0.095	U
50-29-3	4,4'-DDT	0.095	U
72-43-5	Methoxychlor	0.48	U
53494-70-5	Endrin ketone	0.095	U
7421-36-3	Endrin aldehyde	0.095	U
5103-71-9	alpha-Chlordane	0.048	U
5103-74-2	gamma-Chlordane	0.048	U
8001-35-2	Toxaphene	4.8	U
12674-11-2	Aroclor-1016	0.95	U
11104-28-2	Aroclor-1221	1.9	U
11141-16-5	Aroclor-1232	0.95	U
53469-21-9	Aroclor-1242	0.95	U
12672-29-6	Aroclor-1248	0.95	U
11097-69-1	Aroclor-1254	0.95	U
11096-82-5	Aroclor-1260	0.95	U

EPA SAMPLE NO.

WMW1080GGWD

1D PESTICIDE ORGANICS ANALYSIS DATA SHEET

Contract: 89MC114V

Lab Name: ORTEK

SDG No.: WMW106

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____

Lab Sample ID: 129957

Matrix: (soil/water) WATER

Lab File ID: _____

Sample wt/vol: 920.0 (g/mL) ML

Date Received: 10/07/92

% Moisture: _____ decanted: (Y/N) ___

Date Extracted: 10/13/92

Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 10/21/92

Concentrated Extract Volume: 10000 (uL)

Dilution Factor: 1.00

Injection Volume: 1.00 (uL)

Sulfur Cleanup: (Y/N) N

GPC Cleanup: (Y/N) N pH: 6.0

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.054	U
319-85-7	beta-BHC	0.054	U
319-86-8	delta-BHC	0.054	U
58-89-9	gamma-BHC (Lindane)	0.054	U
76-44-8	Heptachlor	0.054	U
309-00-2	Aldrin	0.054	U
1024-57-3	Heptachlor epoxide	0.054	U
959-98-8	Endosulfan I	0.11	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.54	U
72-43-5	Methoxychlor	0.11	U
53494-70-5	Endrin ketone	0.11	U
7421-36-3	Endrin aldehyde	0.11	U
5103-71-9	alpha-Chlordane	0.054	U
5103-74-2	gamma-Chlordane	0.054	U
8001-35-2	Toxaphene	5.4	U
12674-11-2	Aroclor-1016	1.1	U
11104-28-2	Aroclor-1221	2.2	U
11141-16-5	Aroclor-1232	1.1	U
53469-21-9	Aroclor-1242	1.1	U
12672-29-6	Aroclor-1248	1.1	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW109

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129913

Sample wt/vol: 1030 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/20/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 6.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.049	U
319-85-7	beta-BHC	0.049	U
319-86-8	delta-BHC	0.049	U
58-89-9	gamma-BHC (Lindane)	0.049	U
76-44-8	Heptachlor	0.049	U
309-00-2	Aldrin	0.049	U
1024-57-3	Heptachlor epoxide	0.049	U
959-98-8	Endosulfan I	0.049	U
60-57-1	Dieldrin	0.097	U
72-55-9	4,4'-DDE	0.097	U
72-20-8	Endrin	0.097	U
33213-65-9	Endosulfan II	0.097	U
72-54-8	4,4'-DDD	0.097	U
1031-07-8	Endosulfan sulfate	0.097	U
50-29-3	4,4'-DDT	0.097	U
72-43-5	Methoxychlor	0.49	U
53494-70-5	Endrin ketone	0.097	U
7421-36-3	Endrin aldehyde	0.097	U
5103-71-9	alpha-Chlordane	0.049	U
5103-74-2	gamma-Chlordane	0.049	U
8001-35-2	Toxaphene	4.9	U
12674-11-2	Aroclor-1016	0.97	U
11104-28-2	Aroclor-1221	1.9	U
11141-16-5	Aroclor-1232	0.97	U
53469-21-9	Aroclor-1242	0.97	U
12672-29-6	Aroclor-1248	0.97	U
11097-69-1	Aroclor-1254	0.97	U
11096-82-5	Aroclor-1260	0.97	U

EPA SAMPLE NO.

WMW1090GGW

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Contract: 89MC114V

Lab Name: ORTEK SAS No.: SDG No.: WMW106

Lab Code: ORTEK Case No.: WOOD4 Lab Sample ID: 129914

Matrix: (soil/water) WATER Lab File ID:

Sample wt/vol: 950.0 (g/mL) ML Date Received: 10/07/92

% Moisture: decanted: (Y/N) Date Extracted: 10/13/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/20/92

Concentrated Extract Volume: 10000 (uL) Dilution Factor: 1.00

Injection Volume: 1.00 (uL) Sulfur Cleanup: (Y/N) N

GPC Cleanup: (Y/N) N pH: 6.0

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.052	U
319-85-7	beta-BHC	0.052	U
319-86-8	delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.10	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.52	U
72-43-5	Methoxychlor	0.10	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.052	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	5.2	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	2.1	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW110

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129894

Sample wt/vol: 960.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/06/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/07/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/16/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 5.0 Sulfur Cleanup: (Y/N) N

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.052	U
319-85-7	beta-BHC	0.052	U
319-86-8	delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	5.2	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

EPA SAMPLE NO.

WMW111CGGW

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Contract: 89MC114V

Lab Name: ORTEK SAS No.: SDG No.: WMW106

Lab Code: ORTEK Case No.: WOOD4 Lab Sample ID: 129891

Matrix: (soil/water) WATER Lab File ID:

Sample wt/vol: 910.0 (g/mL) ML Date Received: 10/06/92

% Moisture: decanted: (Y/N) Date Extracted: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 10/16/92

Concentrated Extract Volume: 10000 (uL) Dilution Factor: 1.00

Injection Volume: 1.00 (uL) Sulfur Cleanup: (Y/N) N

GPC Cleanup: (Y/N) N pH: 6.0

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.055	U
319-85-7	beta-BHC	0.055	U
319-86-8	delta-BHC	0.055	U
58-89-9	gamma-BHC (Lindane)	0.055	U
76-44-8	Heptachlor	0.055	U
309-00-2	Aldrin	0.055	U
1024-57-3	Heptachlor epoxide	0.055	U
959-98-8	Endosulfan I	0.11	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.55	U
72-43-5	Methoxychlor	0.11	U
53494-70-5	Endrin ketone	0.11	U
7421-36-3	Endrin aldehyde	0.055	U
5103-71-9	alpha-Chlordane	0.055	U
5103-74-2	gamma-Chlordane	5.5	U
8001-35-2	Toxaphene	1.1	U
12674-11-2	Aroclor-1016	2.2	U
11104-28-2	Aroclor-1221	1.1	U
11141-16-5	Aroclor-1232	1.1	U
53469-21-9	Aroclor-1242	1.1	U
12672-29-6	Aroclor-1248	1.1	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW1110GGWD

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129892

Sample wt/vol: 950.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/06/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/07/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/16/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 5.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.052	U
319-85-7	beta-BHC	0.052	U
319-86-8	delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.52	U
53494-70-5	Endrin ketone	0.10	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.052	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	5.2	U
12674-11-2	Aroclor-1016	1.0	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.0	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

EPA SAMPLE NO.

WMW112

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Contract: 89MC114V

Lab Name: ORTEK SAS No.: SDG No.: WMW106

Case No.: WOOD4 Lab Sample ID: 129890

Lab Code: ORTEK Lab File ID:

Matrix: (soil/water) WATER Date Received: 10/06/92

Sample wt/vol: 950.0 (g/mL) ML Date Extracted: 10/07/92

% Moisture: decanted: (Y/N) Date Analyzed: 10/16/92

Extraction: (SepF/Cont/Sonc) SEPF Dilution Factor: 1.00

Concentrated Extract Volume: 10000 (uL) Sulfur Cleanup: (Y/N) N

Injection Volume: 1.00 (uL)

GPC Cleanup: (Y/N) N pH: 8.0

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

CAS NO.	COMPOUND		Q
319-84-6	alpha-BHC	0.052	U
319-85-7	beta-BHC	0.052	U
319-86-8	delta-BHC	0.052	U
58-89-9	gamma-BHC (Lindane)	0.052	U
76-44-8	Heptachlor	0.052	U
309-00-2	Aldrin	0.052	U
1024-57-3	Heptachlor epoxide	0.052	U
959-98-8	Endosulfan I	0.052	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.10	U
53494-70-5	Endrin ketone	0.52	U
7421-36-3	Endrin aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.052	U
8001-35-2	Toxaphene	0.052	U
12674-11-2	Aroclor-1016	5.2	U
11104-28-2	Aroclor-1221	1.0	U
11141-16-5	Aroclor-1232	2.1	U
53469-21-9	Aroclor-1242	1.0	U
12672-29-6	Aroclor-1248	1.0	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WMW114

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 129915

Sample wt/vol: 940.0 (g/mL) ML Lab File ID: _____

% Moisture: _____ decanted: (Y/N) ___ Date Received: 10/07/92

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/21/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 8.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.053	U UJ
319-85-7	beta-BHC	0.053	U
319-86-8	delta-BHC	0.053	U
58-89-9	gamma-BHC (Lindane)	0.053	U
76-44-8	Heptachlor	0.053	U
309-00-2	Aldrin	0.053	U
1024-57-3	Heptachlor epoxide	0.053	U
959-98-8	Endosulfan I	0.053	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.53	U
53494-70-5	Endrin ketone	0.11	U
7421-36-3	Endrin aldehyde	0.11	U
5103-71-9	alpha-Chlordane	0.053	U
5103-74-2	gamma-Chlordane	0.053	U
8001-35-2	Toxaphene	5.3	U
12674-11-2	Aroclor-1016	1.1	U
11104-28-2	Aroclor-1221	2.1	U
11141-16-5	Aroclor-1232	1.1	U
53469-21-9	Aroclor-1242	1.1	U
12672-29-6	Aroclor-1248	1.1	U
11097-69-1	Aroclor-1254	1.1	U
11096-82-5	Aroclor-1260	1.1	U UJ

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

GC Column(1): PTE-5 ID: 0.25(mm) GC Column(2): SPB-608 ID: 0.25(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	PBLK01	82	85	102	104			0
02	PBLK02	91	101	85	103			0
03	WMW101	82	89	49*	69			1
04	WMW1030GGW	114	125	77	92			0
05	WMW1030GGWM	84	90	57*	92			1
06	WMW1030GGWX	94	96	63	97			0
07	WMW104	76	83	43*	60			1
08	WMW1040GGW	104	112	68	86			0
09	WMW106	80	81	98	119			0
10	WMW107D	77	81	89	87			0
11	WMW107S	70	69	66	120			0
12	WMW108	93	99	61	69			0
13	WMW1080GGWD	62	67	39*	60			1
14	WMW109	93	103	71	120			0
15	WMW1090GGW	100	91	78	94			0
16	WMW110	70	73	85	78			0
17	WMW1110GGW	91	87	101	109			0
18	WMW1110GGWD	101	107	110	112			0
19	WMW112	88	89	110	97			0
20	WMW114	84	91	20*	22*			2
21	WMW103GWMMS	82	91	80	97			0
22	WMW103GWMMSD	194*	202*	113	139			2
23	WMW112MS	71	73	82	88			0
24	WMW112MSD	33*	34*	31*	33*			4

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

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

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix Spike - EPA Sample No.: WMW1030GGWM

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	0.525	0	0.408	78	56-123
Heptachlor	0.525	0	0.460	88	40-131
Aldrin	0.525	0	0.469	89	40-120
Dieldrin	1.050	0	1.00	95	52-126
Endrin	1.050	0	1.14	109	56-121
4,4'-DDT	1.050	0	1.20	114	38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	0.555	0.952	172 *	-75 *	15	56-123
Heptachlor	0.555	1.03	186 *	-72 *	20	40-131
Aldrin	0.555	1.04	187 *	-71 *	22	40-120
Dieldrin	1.110	2.09	188 *	-66 *	18	52-126
Endrin	1.110	2.45	221 *	-68 *	21	56-121
4,4'-DDT	1.110	2.08	187 *	-48 *	27	38-127

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

* Values outside of QC limits

RPD: 6 out of 6 outside limits
Spike Recovery: 6 out of 12 outside limits

COMMENTS:

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix Spike - EPA Sample No.: WMW112

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	0.525	0	0.369	70	56-123
Heptachlor	0.525	0	0.488	93	40-131
Aldrin	0.525	0	0.358	68	40-120
Dieldrin	1.050	0	0.682	65	52-[illegible]
Endrin	1.050	0	0.775	74	56-[illegible]
4,4'-DDT	1.050	0	0.660	63	38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	0.525	0.178	34 *	69 *	15	56-123
Heptachlor	0.525	0.201	38 *	84 *	20	40-131
Aldrin	0.525	0.160	30 *	78 *	22	40-120
Dieldrin	1.050	0.312	30 *	74 *	18	52-126
Endrin	1.050	0.378	36 *	69 *	21	56-[illegible]
4,4'-DDT	1.050	0.318	30 *	71 *	27	38-[illegible]

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

* Values outside of QC limits

RPD: 6 out of 6 outside limits
Spike Recovery: 6 out of 12 outside limits

COMMENTS:

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK01

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Lab Sample ID: 100792WBLK1 Lab File ID: _____

Matrix:(soil/water) WATER Extraction:(SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 10/07/92

Date Analyzed (1): 10/15/92 Date Analyzed (2): 10/15/92

Time Analyzed (1): 2312 Time Analyzed (2): 2312

Instrument ID (1): 5890AP Instrument ID (2): 5890AC

GC Column (1): PTE-5 ID: 0.25 (mm) GC Column (2): SPB-608 ID: 0.25 (mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	WMW106	129887	10/16/92	10/16/92
02	WMW107D	129889	10/16/92	10/16/92
03	WMW107S	129888	10/16/92	10/16/92
04	WMW110	129894	10/16/92	10/16/92
05	WMW1110GGW	129891	10/16/92	10/16/92
06	WMW1110GGWD	129892	10/16/92	10/16/92
07	WMW112	129890	10/16/92	10/16/92
08	WMW112MS	129890MS	10/15/92	10/15/92
09	WMW112MSD	129890MSD	10/16/92	10/16/92

COMMENTS:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK01

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 100792WBLK1

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

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

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/07/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/15/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

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

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

4C

PESTICIDE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PBLK02

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Lab Sample ID: 101392WBLK1 Lab File ID: _____

Matrix:(soil/water) WATER Extraction:(SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 10/13/92

Date Analyzed (1): 10/20/92 Date Analyzed (2): 10/20/92

Time Analyzed (1): 1911 Time Analyzed (2): 1911

Instrument ID (1): 5890AP Instrument ID (2): 5890AC

GC Column (1): PTE-5 ID: 0.25 (mm) GC Column (2): SPB-608 ID: 0.25 (mm)

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	WMW101	129955	10/21/92	10/21/92
02	WMW1030GGW	129916	10/21/92	10/21/92
03	WMW1030GGWM	129920	10/21/92	10/21/92
04	WMW1030GGWX	129921	10/21/92	10/21/92
05	WMW104	129918	10/21/92	10/21/92
06	WMW1040GGW	129919	10/21/92	10/21/92
07	WMW108	129956	10/21/92	10/21/92
08	WMW1080GGWD	129957	10/21/92	10/21/92
09	WMW109	129913	10/20/92	10/20/92
10	WMW1090GGW	129914	10/20/92	10/20/92
11	WMW114	129915	10/21/92	10/21/92
12	WMW103GWMMS	129920MS	10/20/92	10/20/92
13	WMW103GWMMSD	129920MSD	10/20/92	10/20/92

COMMENTS:

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK02

Lab Name: ORTEK Contract: 89MC114V

Lab Code: ORTEK Case No.: WOOD4 SAS No.: _____ SDG No.: WMW106

Matrix: (soil/water) WATER Lab Sample ID: 101392WBLK1

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

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

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/13/92

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 10/20/92

Injection Volume: 1.00 (uL) Dilution Factor: 1.00

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK03

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 1012BLK

Sample wt/vol: 1000 (g/mL) mL **Lab File ID:** CAD01

Level: (low/med) LOW **Date Received:** ~~10/07/92~~ DAC 10-20-92

% Moisture: not dec. dec. **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

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

CAS NO.	COMPOUND	RT	EST. CONC.	Q
	NO TICs FOUND			

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Lab File ID: >CAJ01 Lab Sample ID: 1013BLK

Date Extracted: 10/13/92 Extraction:(Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/19/92 Time Analyzed: 10:57

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

Instrument ID: HPMSDC

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	1091W	129913	>CAJ02	10/19/92
2	10992W	129914	>CAJ03	10/19/92
4				
5				
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COMMENTS:

FORM IV SV 1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK04

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Matrix: (soil/water) WATER Lab Sample ID: 1013BLK

Sample wt/vol: 1000 (g/ml) ML Lab File ID: >CAJ01

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 10/13/92

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 10/19/92

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK04

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Matrix: (soil/water) WATER Lab Sample ID: 1013BLK

Sample wt/vol: 1000 (g/ml) ML Lab File ID: >CAJ01

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 10/13/92

Extraction: (Sepf/Cont/Sonc) SEPF Date Analyzed: 10/19/92

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	Bis(2-Ethylhexyl)phthalate	2	BJ
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenz(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK04

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 10391W

Matrix: (soil/water) WATER **Lab Sample ID:** 1013BLK

Sample wt/vol: 1000 **(g/mL)** mL **Lab File ID:** CAJ01

Level: **(low/med)** LOW **Date Received:** ~~10/07/92~~ DAC 10-20-92

% Moisture: not dec. **dec.** **Date Extracted:** 10/13/92

Extraction: **(SepF/Cont/Sonc)** SepF **Date Analyzed:** 10/19/92

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

Number of TICs found: 1 CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
21964498	1,13-Tetradecadiene	27.29	4	J

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Lab File ID: >C9LD1 DFTPP Injection Date: 9/21/92

Instrument ID: HPMSDC DFTPP Injection Time: 7:33

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	61.3
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.9
275	10.0 - 30.0% of mass 198	21.4
365	Greater than 1.00% of mass 198	2.5
441	Present, but less than mass 443	11.8
442	Greater than 40.0% of mass 198	77.1
443	17.0 - 23.0% of mass 442	15.2 (19.6)2

1-Value is % of mass 69 2-Value is % of mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD020	20UG/MLBNA	>C9LI1	09/21/92	09:04
02	SSTD050	50UG/MLBNA	>C9LI2	09/21/92	09:53
03	SSTD080	80UG/MLBNA	>C9LI3	09/21/92	10:44
04	SSTD120	120UG/MLBNA	>C9LI4	09/21/92	11:33
05	SSTD160	160UG/MLBNA	>C9LI5	09/21/92	12:23
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FORM V SV 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Lab File ID: >CADD1 DFTPP Injection Date: 10/13/92

Instrument ID: HPMSDC DFTPP Injection Time: 13:20

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	52.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	64.1
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.7
275	10.0 - 30.0% of mass 198	21.1
365	Greater than 1.00% of mass 198	2.2
441	Present, but less than mass 443	10.3
442	Greater than 40.0% of mass 198	70.1
443	17.0 - 23.0% of mass 442	13.8 (19.6)2

1-Value is % of mass 69 2-Value is % of mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	50CCCBNA	>CADC1	10/13/92	13:40
02	SBLK03	1012BLK	>CAD01	10/13/92	14:32
03	10391WMMS	129920MS	>CAD02	10/13/92	15:22
04	10391WXMSD	129921MSD	>CAD03	10/13/92	16:12
05	1141WB	129915	>CAD04	10/13/92	17:03
06	10391W	129916	>CAD05	10/13/92	17:54
07	1041W	129918	>CAD06	10/13/92	18:45
08	10492W	129919	>CAD07	10/13/92	19:37
09	10391WM	129920	>CAD08	10/13/92	20:28
10	10391WX	129921	>CAD09	10/13/92	21:19
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FORM V SV 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Lab File ID: >CAJD1 DFTPP Injection Date: 10/19/92

Instrument ID: HPMSDC DFTPP Injection Time: 9:39

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	58.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	68.5
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	43.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.4
275	10.0 - 30.0% of mass 198	20.8
365	Greater than 1.00% of mass 198	1.7
441	Present, but less than mass 443	10.4
442	Greater than 40.0% of mass 198	70.7
443	17.0 - 23.0% of mass 442	13.8 (19.5)2

1-Value is % of mass 69 2-Value is % of mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	50CCCBNA	>CAJC1	10/19/92	10:05
02	SBLK04	1013BLK	>CAJ01	10/19/92	10:57
03	1091W	129913	>CAJ02	10/19/92	11:48
04	10992W	129914	>CAJ03	10/19/92	12:39
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FORM V SV 1/87 Rev.

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Instrument ID: HPMSDC Calibration Date(s): 09/21/92

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0

LAB FILE ID: RRF020= >C9LI1 RRF050= >C9LI2
RRF080= >C9LI3 RRF120= >C9LI4 RRF160= >C9LI5

COMPOUND		RRF020	RRF050	RRF080	RRF120	RRF160	$\overline{RRF}$	RSD
Phenol	*	1.498	1.674	1.554	1.529	1.439	1.539	5.7*
bis(2-Chloroethyl)ether		1.548	1.452	1.250	1.197	1.168	1.323	12.7
2-Chlorophenol		1.274	1.336	1.186	1.168	1.109	1.215	7.4
1,3-Dichlorobenzene		1.508	1.550	1.438	1.381	1.314	1.438	6.6
1,4-Dichlorobenzene	*	1.516	1.518	1.355	1.271	1.181	1.368	10.9*
Benzyl alcohol		1.000	1.260	1.203	1.274	1.277	1.203	9.7
1,2-Dichlorobenzene		1.498	1.520	1.350	1.268	1.188	1.365	10.6
2-Methylphenol		1.180	1.240	1.063	1.019	.940	1.088	11.2
bis(2-Chloroisopropyl)ether		.769	.854	.850	.895	.879	.849	5.8
4-Methylphenol		1.509	1.420	1.254	1.390	1.361	1.387	6.7
N-Nitroso-di-n-propylamine	#	1.318	1.517	1.277	1.041	.866	1.204	21.1#
Hexachloroethane		.622	.594	.490	.445	.463	.523	15.2
Nitrobenzene		.456	.457	.429	.421	.391	.431	6.4
Isophorone		.901	.965	.927	.902	.867	.912	4.0
2-Nitrophenol	*	.215	.229	.214	.192	.188	.207	8.2*
2,4-Dimethylphenol		.296	.306	.289	.285	.284	.292	3.1
Benzoic acid		.076	.076	.072	.078	.080	.076	3.8
bis(2-Chloroethoxy)methane		.531	.536	.507	.482	.448	.501	7.3
2,4-Dichlorophenol		.335	.339	.308	.281	.262	.305	11.0
1,2,4-Trichlorobenzene		.398	.381	.348	.324	.302	.351	11.2
Naphthalene		1.063	.990	.885	.784	.717	.888	16.1
4-Chloroaniline		.311	.463	.425	.401	.378	.396	14.3
Hexachlorobutadiene	*	.261	.245	.216	.193	.174	.218	16.5*
4-Chloro-3-methylphenol	*	.285	.301	.275	.259	.240	.272	8.6*
2-Methylnaphthalene		.705	.652	.574	.533	.485	.590	15.1
Hexachlorocyclopentadiene	#	.225	.315	.311	.301	.272	.285	13.1#
2,4,6-Trichlorophenol	*	.454	.487	.448	.408	.376	.435	9.9*
2,4,5-Trichlorophenol		.517	.595	.531	.478	.418	.508	12.9
2-Chloronaphthalene		1.234	1.274	1.148	1.040	.925	1.124	12.7
2-Nitroaniline		.447	.536	.511	.496	.471	.492	7.1
Dimethylphthalate		1.541	1.673	1.565	1.493	1.386	1.531	6.8
Acenaphthylene		1.979	1.818	1.589	1.453	1.304	1.629	16.7
2,6-Dinitrotoluene		.361	.342	.307	.301	.294	.321	9.1
3-Nitroaniline		.316	.584	.626	.632	.576	.547	24.0
Acenaphthene	*	1.265	1.254	1.108	.986	.838	1.090	16.7*
2,4-Dinitrophenol	#	.089	.216	.245	.266	.268	.217	34.3#

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Instrument ID: HPMSDC Calibration Date(s): 09/21/92

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0

LAB FILE ID: RRF020= >C9LI1 RRF050= >C9LI2
RRF080= >C9LI3 RRF120= >C9LI4 RRF160= >C9LI5

COMPOUND	RRF020	RRF050	RRF080	RRF120	RRF160	$\overline{RRF}$	RSD
4-Nitrophenol	# .202	.323	.337	.334	.317	.303	18.8#
Dibenzofuran	1.782	1.812	1.634	1.463	1.323	1.603	13.0
2,4-Dinitrotoluene	.535	.615	.572	.543	.502	.554	7.6
Diethylphthalate	1.715	1.808	1.603	1.286	.993	1.481	22.7
4-Chlorophenyl-phenylether	.749	.760	.681	.607	.528	.665	14.7
Fluorene	1.452	1.432	1.265	1.004	.790	1.189	24.1
4-Nitroaniline	.264	.379	.374	.389	.364	.354	14.4
4,6-Dinitro-2-methylphenol	.124	.176	.171	.173	.170	.163	13.4
N-Nitrosodiphenylamine	* .318	.326	.283	.250	.216	.279	16.5*
4-Bromophenyl-phenylether	.132	.136	.118	.111	.108	.121	10.3
Hexachlorobenzene	.375	.382	.343	.323	.306	.346	9.4
Pentachlorophenol	* .175	.228	.224	.222	.216	.213	10.2*
Phenanthrene	1.089	1.018	.888	.815	.772	.916	14.6
Anthracene	1.127	1.164	.910	.825	.764	.958	18.7
Di-n-butylphthalate	1.578	1.465	1.281	1.145	1.034	1.300	17.2
Fluoranthene	* 1.268	1.148	1.016	.922	.850	1.041	16.2*
Pyrene	1.504	1.470	1.376	1.344	1.359	1.411	5.1
Butylbenzylphthalate	.800	.807	.745	.728	.724	.761	5.2
3,3'-Dichlorobenzidine	.197	.236	.257	.276	.268	.247	12.8
Benzo(a)anthracene	1.188	1.220	1.091	1.004	.962	1.093	10.3
Chrysene	1.181	1.229	1.070	.921	.844	1.049	15.7
Bis(2-Ethylhexyl)phthalate	1.104	1.045	.882	.668	.528	.845	29.0
Di-n-octylphthalate	* 2.398	2.145	1.966	1.796	1.549	1.971	16.5*
Benzo(b)fluoranthene	1.286	1.376	1.430	1.475	1.455	1.404	5.4
Benzo(k)fluoranthene	1.309	1.257	1.139	1.104	1.022	1.166	10.0
Benzo(a)pyrene	* 1.058	1.118	1.107	1.084	1.006	1.075	4.2*
Indeno(1,2,3-cd)pyrene	.721	.844	.864	.872	.847	.829	7.4
Dibenz(a,h)anthracene	.560	.676	.685	.684	.672	.655	8.2
Benzo(g,h,i)perylene	.608	.697	.704	.687	.675	.674	5.7
Nitrobenzene-d5	.518	.542	.514	.509	.482	.513	4.2
2-Fluorobiphenyl	1.514	1.492	1.304	1.152	1.023	1.297	16.4
Terphenyl-d14	1.058	1.032	.957	.917	.907	.974	7.0
Phenol-d6	1.703	1.807	1.628	1.607	1.495	1.648	7.0
2-Fluorophenol	1.261	1.420	1.304	1.334	1.283	1.321	4.7
2,4,6-Tribromophenol	.107	.118	.105	.101	.097	.106	7.8

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Instrument ID: HPMSDC Calibration Date: 10/13/92 Time: 13:40

Lab File ID: >CADC1 Init. Calib. Date(s): 09/21/92 10/13/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		$\overline{RRF}$	RRF050	%D
Phenol	*	1.539	1.647	7.0*
bis(2-Chloroethyl)ether		1.323	1.420	7.4
2-Chlorophenol		1.215	1.297	6.8
1,3-Dichlorobenzene		1.438	1.444	.4
1,4-Dichlorobenzene	*	1.368	1.454	6.3*
Benzyl alcohol		1.203	1.068	11.2
1,2-Dichlorobenzene		1.365	1.454	6.5
2-Methylphenol		1.088	1.139	4.7
bis(2-Chloroisopropyl)ether		.849	.651	23.3
4-Methylphenol		1.387	1.511	9.0
N-Nitroso-di-n-propylamine	#	1.204	1.275	5.9#
Hexachloroethane		.523	.625	19.6
Nitrobenzene		.431	.440	2.0
Isophorone		.912	.885	3.0
2-Nitrophenol	*	.207	.229	10.5*
2,4-Dimethylphenol		.292	.293	.3
Benzoic acid		.076	.036	52.7
bis(2-Chloroethoxy)methane		.501	.503	.5
2,4-Dichlorophenol		.305	.342	12.0
1,2,4-Trichlorobenzene		.351	.384	9.6
Naphthalene		.888	.987	11.2
4-Chloroaniline		.396	.455	14.9
Hexachlorobutadiene	*	.218	.237	8.9*
4-Chloro-3-methylphenol	*	.272	.281	3.2*
2-Methylnaphthalene		.590	.644	9.3
Hexachlorocyclopentadiene	#	.285	.421	47.7#
2,4,6-Trichlorophenol	*	.435	.473	8.9*
2,4,5-Trichlorophenol		.508	.554	9.0
2-Chloronaphthalene		1.124	1.299	15.6
2-Nitroaniline		.492	.519	5.4
Dimethylphthalate		1.531	1.546	1.0
Acenaphthylene		1.629	1.839	12.9
2,6-Dinitrotoluene		.321	.344	7.2
3-Nitroaniline		.547	.662	21.1
Acenaphthene	*	1.090	1.252	14.8*
2,4-Dinitrophenol	#	.217	.248	14.6#
4-Nitrophenol	#	.303	.262	13.5#

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Instrument ID: HPMSDC Calibration Date: 10/13/92 Time: 13:40

Lab File ID: >CADC1 Init. Calib. Date(s): 09/21/92 10/13/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		$\overline{RRF}$	RRF050	%D
Dibenzofuran		1.603	1.736	8.3
2,4-Dinitrotoluene		.554	.588	6.3
Diethylphthalate		1.481	1.635	10.4
4-Chlorophenyl-phenylether		.665	.728	9.5
Fluorene		1.189	1.413	18.9
4-Nitroaniline		.354	.407	15.1
4,6-Dinitro-2-methylphenol		.163	.183	12.0
N-Nitrosodiphenylamine	*	.279	.317	13.9*
4-Bromophenyl-phenylether		.121	.127	4.5
Hexachlorobenzene		.346	.349	1.1
Pentachlorophenol	*	.213	.160	24.9*
Phenanthrene		.916	1.052	14.8
Anthracene		.958	1.087	13.5
Di-n-butylphthalate		1.300	1.475	13.5
Fluoranthene	*	1.041	1.191	14.4*
Pyrene		1.411	1.450	2.8
Butylbenzylphthalate		.761	.766	.7
3,3'-Dichlorobenzidine		.247	.430	74.1
Benzo(a)anthracene		1.093	1.183	8.3
Chrysene		1.049	1.213	15.7
Bis(2-Ethylhexyl)phthalate		.845	.993	17.4
Di-n-octylphthalate	*	1.971	1.989	.9*
Benzo(b)fluoranthene		1.404	1.315	6.3
Benzo(k)fluoranthene		1.166	1.287	10.4
Benzo(a)pyrene	*	1.075	1.141	6.1*
Indeno(1,2,3-cd)pyrene		.829	1.052	26.9
Dibenz(a,h)anthracene		.655	.846	29.1
Benzo(g,h,i)perylene		.674	.882	30.8
Nitrobenzene-d5		.513	.529	3.2
2-Fluorobiphenyl		1.297	1.508	16.3
Terphenyl-d14		.974	1.012	3.9
Phenol-d6		1.648	1.746	5.9
2-Fluorophenol		1.321	1.311	.7
2,4,6-Tribromophenol		.106	.112	6.4

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Instrument ID: HPMSDC Calibration Date: 10/19/92 Time: 10:05

Lab File ID: >CAJC1 Init. Calib. Date(s): 09/21/92 10/19/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		$\overline{RRF}$	RRF050	%D
Phenol	*	1.539	1.654	7.5*
bis(2-Chloroethyl)ether		1.323	1.440	8.9
2-Chlorophenol		1.215	1.293	6.5
1,3-Dichlorobenzene		1.438	1.443	.3
1,4-Dichlorobenzene	*	1.368	1.447	5.8*
Benzyl alcohol		1.203	1.306	8.6
1,2-Dichlorobenzene		1.365	1.443	5.7
2-Methylphenol		1.088	1.118	2.7
bis(2-Chloroisopropyl)ether		.849	.799	6.0
4-Methylphenol		1.387	1.545	11.4
N-Nitroso-di-n-propylamine	#	1.204	1.426	18.5#
Hexachloroethane		.523	.630	20.5
Nitrobenzene		.431	.443	2.8
Isophorone		.912	.887	2.8
2-Nitrophenol	*	.207	.232	11.7*
2,4-Dimethylphenol		.292	.281	3.6
Benzoic acid		.076	.129	68.5
bis(2-Chloroethoxy)methane		.501	.514	2.6
2,4-Dichlorophenol		.305	.341	11.7
1,2,4-Trichlorobenzene		.351	.379	8.1
Naphthalene		.888	.985	11.0
4-Chloroaniline		.396	.451	14.0
Hexachlorobutadiene	*	.218	.233	7.2*
4-Chloro-3-methylphenol	*	.272	.291	6.8*
2-Methylnaphthalene		.590	.662	12.2
Hexachlorocyclopentadiene	#	.285	.385	35.2#
2,4,6-Trichlorophenol	*	.435	.468	7.6*
2,4,5-Trichlorophenol		.508	.515	1.5
2-Chloronaphthalene		1.124	1.252	11.3
2-Nitroaniline		.492	.513	4.1
Dimethylphthalate		1.531	1.518	.9
Acenaphthylene		1.629	1.745	7.1
2,6-Dinitrotoluene		.321	.331	3.0
3-Nitroaniline		.547	.628	14.9
Acenaphthene	*	1.090	1.197	9.8*
2,4-Dinitrophenol	#	.217	.233	7.5#
4-Nitrophenol	#	.303	.357	17.9#

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Instrument ID: HPMSDC Calibration Date: 10/19/92 Time: 10:05

Lab File ID: >CAJC1 Init. Calib. Date(s): 09/21/92 10/19/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		$\overline{RRF}$	RRF050	%D
Dibenzofuran		1.603	1.712	6.8
2,4-Dinitrotoluene		.554	.584	5.6
Diethylphthalate		1.481	1.628	9.9
4-Chlorophenyl-phenylether		.665	.712	7.1
Fluorene		1.189	1.378	15.9
4-Nitroaniline		.354	.400	13.0
4,6-Dinitro-2-methylphenol		.163	.176	7.7
N-Nitrosodiphenylamine	*	.279	.319	14.5*
4-Bromophenyl-phenylether		.121	.126	4.3
Hexachlorobenzene		.346	.342	1.0
Pentachlorophenol	*	.213	.192	9.7*
Phenanthrene		.916	1.031	12.5
Anthracene		.958	1.059	10.5
Di-n-butylphthalate		1.300	1.462	12.4
Fluoranthene	*	1.041	1.167	12.1*
Pyrene		1.411	1.481	5.0
Butylbenzylphthalate		.761	.775	1.9
3,3'-Dichlorobenzidine		.247	.367	48.7
Benzo(a)anthracene		1.093	1.182	8.1
Chrysene		1.049	1.225	16.8
Bis(2-Ethylhexyl)phthalate		.845	.998	18.0
Di-n-octylphthalate	*	1.971	2.080	5.6*
Benzo(b)fluoranthene		1.404	1.349	3.9
Benzo(k)fluoranthene		1.166	1.232	5.6
Benzo(a)pyrene	*	1.075	1.131	5.2*
Indeno(1,2,3-cd)pyrene		.829	.950	14.6
Dibenz(a,h)anthracene		.655	.749	14.2
Benzo(g,h,i)perylene		.674	.818	21.4
Nitrobenzene-d5		.513	.534	4.2
2-Fluorobiphenyl		1.297	1.431	10.4
Terphenyl-d14		.974	1.015	4.2
Phenol-d6		1.648	1.750	6.2
2-Fluorophenol		1.321	1.317	.3
2,4,6-Tribromophenol		.106	.105	.3

88

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Lab File ID (Standard): >CADC1 Date Analyzed: 10/13/92

Instrument ID: HPMSDC Time Analyzed: 13:40

		IS1(DCB) AREA #	RT	IS2(NAP) AREA #	RT	IS3(ACE) AREA #	RT
	12 HOUR STD	57728	10.68	201117	14.42	105302	19.90
	UPPER LIMIT	115456	11.18	402234	14.92	211604	20.40
	LOWER LIMIT	28864	10.18	100559	13.92	52901	19.40
	EPA SAMPLE NO.						
1	SBLK03	53202	10.67	187974	14.40	103292	19.89
2	10391WMMS	51038	10.69	175483	14.41	101258	19.88
3	10391WXMSD	54777	10.69	185523	14.41	104130	19.89
4	1141WB	52066	10.67	182181	14.40	100416	19.89
5	10391W	53431	10.67	184591	14.39	99541	19.89
6	1041W	53310	10.68	186205	14.40	103542	19.89
7	10492W	53527	10.67	187285	14.39	108040	19.89
8	10391WM	52140	10.67	186602	14.39	105286	19.89
9	10391WX	49525	10.68	178957	14.40	103037	19.89
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NAP) = Naphthalene-d8
IS3 (ACE) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

page 1 of 1.

FORM VIII SV-1 1/87 Rev

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Lab File ID (Standard): >CADC1 Date Analyzed: 10/13/92

Instrument ID: HPMSDC Time Analyzed: 13:40

		IS4(PHN) AREA #	RT	IS5(CHR) AREA #	RT	IS6(PER) AREA #	RT
	12 HOUR STD	205276	24.55	171238	30.49	152972	33.66
	UPPER LIMIT	410552	25.05	342476	30.99	305944	34.16
	LOWER LIMIT	102638	24.05	85619	29.99	76486	33.16
	EPA SAMPLE NO.						
1	SBLK03	194195	24.53	166674	30.45	108380	33.62
2	10391WMMS	198490	24.53	170084	30.46	108015	33.63
3	10391WXMSD	200693	24.54	173233	30.46	109997	33.63
4	1141WB	187576	24.54	162291	30.46	110469	33.62
5	10391W	186555	24.54	160990	30.45	110890	33.63
6	1041W	192148	24.53	156937	30.45	104764	33.62
7	10492W	202798	24.54	165264	30.45	117094	33.62
8	10391WM	193539	24.54	160726	30.45	107973	33.63
9	10391WX	191599	24.54	155815	30.45	102562	33.63
10							
11							
12							
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19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CHR) = Chrysene-d12
IS6 (PER) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Lab File ID (Standard): >CAJC1 Date Analyzed: 10/19/92

Instrument ID: HPMSDC Time Analyzed: 10:05

		IS1(DCB) AREA #	RT	IS2(NAP) AREA #	RT	IS3(ACE) AREA #	RT
	12 HOUR STD	55336	10.68	203768	14.41	116842	19.89
	UPPER LIMIT	110672	11.18	407536	14.91	233684	20.39
	LOWER LIMIT	27668	10.18	101884	13.91	58421	19.39
	EPA SAMPLE NO.						
1	SBLK04	52526	10.67	183961	14.39	105497	19.87
2	1091W	56135	10.67	196182	14.40	109567	19.88
3	10992W	55860	10.67	194726	14.40	109453	19.88
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NAP) = Naphthalene-d8
IS3 (ACE) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 10391W

Lab File ID (Standard): >CAJC1 Date Analyzed: 10/19/92

Instrument ID: HPMSDC Time Analyzed: 10:05

		IS4(PHN) AREA #	RT	IS5(CHR) AREA #	RT	IS6(PER) AREA #	RT
	12 HOUR STD	223428	24.54	178086	30.47	154624	33.64
	UPPER LIMIT	446856	25.04	356172	30.97	309248	34.14
	LOWER LIMIT	111714	24.04	89043	29.97	77312	33.14
	EPA SAMPLE NO.						
1	SBLK04	210827	24.52	179851	30.44	108230	33.62
2	1091W	214262	24.53	188981	30.45	114981	33.63
3	10992W	218138	24.53	190003	30.46	111171	33.63
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CHR) = Chrysene-d12
IS6 (PER) = Perylene-d12

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev

ORTEK
ENVIRONMENTAL LABORATORY
414-498-2222
FAX: 414-498-4067
2496 West Mason Street | P.O. Box 12435 | Green Bay, WI 54307-2435

GC/MS SEMIVOLATILE ORGANIC ANALYSIS

Client:	Woodward-Clyde	Project Name/Desc.:	NL/Taracorp
Address:	2318 Millpark Dr.	Project Number:	89MC114V
	Maryland Heights, Missouri 63043	Batch Number:	9210057
Phone:	(314) 429-0100	COC Number:	460223
FAX:	(314) 429-0462		
		Case No.:	CLYDE
Contact:	Cynthia Pavelka	SDG No.:	1011W

SAMPLE SUMMARY

Client Sample No.	EPA Sample No.	Ortek Lab Sample ID
WMW10110GGW	1011W	129955
WMW10110GGWRE	1011WRE	129955RE
WMW108D0GGW	108DW	129956
WMW108D0GGWRE	108DWRE	129956RE
WMW108D0GGWD	108DWD	129957
WMW108D0GGWDRE	108DWDRE	129957RE

COMMENTS: SEMIVOLATILE ORGANIC ANALYSIS PERFORMED BY MODIFIED EPA METHOD 8270 ON A DB-5MS CAPILLARY COLUMN

1.) The instrument ID for Semivolatile Organic Analysis is HPMSD-C. The blanks associated with samples are SBLK03 and SBLK05.

2.) The acid fraction surrogates were all low for the three samples. A re-extract of the samples showed that acid surrogates were still out of QC limits. The loss of surrogate is attributed to a matrix effect and both analyses are reported.

3.) The blank associated with the re-extractions was out-of-control for two base-neutral surrogates. As no further sample was left and since the samples, re-extracts and original blank were all acceptable for base-neutral surrogate recovery, no further action was taken.

4.) The MS/MSD associated with these samples were reported with a different batch. The corresponding Form 3 is included with this batch to further document the QC. These two samples (10391WMMS and 10391WXMSD) are also present on Forms 2,4,5, and 8.

"Q" COLUMN QUALIFIERS:
- U - Compound analyzed for but not detected
- B - Indicates the analyte is found in the associated method blank
- J - Estimated value, concentration of analyte below quantitation limit
- E - Compound exceeds calibration range, but did not saturate the detector; actual concentrations could be higher than reported
- D - Compound identified in the analysis at a secondary dilution
- N - Indicates presumptive evidence of a compound (identified based on mass spectral library search)

Signed: John C. Rother Name: John C. Rother

Title: GC/MS/EC Supervisor Date: 11/13/92

CHAIN OF CUSTODY RECORD

SHEET 1 of 2

460223

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO:	PROJECT NAME:
87MC114V	NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabott

DATE	TIME	SAMPLE I.D. NUMBER 9210057	NO. OF CONTAINERS	CONTAINER DESCRIPTION / ANALYSES REQUESTED: VOLATILE ORGANICS 40 ml vials, teflon lids HCL <2pH, 4°C	SEMI-VOLATILE ORGANICS 1L Amber Glass 4°C	Pesticides & PCB's 1L Amber Glass 4°C	METALS 1L Poly Bottle Nitric Acid <2pH 4°C		REMARKS
10/7/92	1050	WMW101-10GGW 129955	8	3	2	2	1		
									Date Due: 10/25/92
									0, 02, 4

Nothing Follows Wendy Rabott

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy Rabott	10/7/92 1515		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Proj Due: 10/29/92		Gloria Doxtator	10-8-92 10:15

METHOD OF SHIPMENT: FED EX

AIRBILL NO: 5384 3994 0.3°C

CHAIN OF CUSTODY RECORD

SHEET 2 of 2

460223

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 87MC114V

PROJECT NAME: NL/TARACORP SUPERFUND SITE

SAMPLER'S: (Signature) Wendy Rabott

DATE	TIME	SAMPLE I.D. NUMBER 9210057	NO. OF CONTAINERS	CONTAINER DESCRIPTION / ANALYSES REQUESTED: VOLATILE ORGANICS 40 ml vials, Teflon 1d HCL <2pH, 4°C	SEMIVOLATILE ORGANICS 1L Amber Glass 4°C	Pesticides & PCB's 1L Amber Glass 4°C	METALS 1L Poly Bottle Nitric Acid <2pH 4°C		REMARKS
10/7/92	0955	WMW108-DOGGW 129956	8	3	2	2	1		
↓	1000	WMW108-DOGGWD 129957	8	3	2	2	1		
↓	1015	WMW115-10GGTB 129958	2	2					TRIP BLANK
									Date Due: 10/25/92
									0, O2, 4

Nothing Follows Wendy Rabott

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Wendy Rabott	10/7/92 1515		
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
Proj Due: 10/29/92		Gloria Doxtator	10-8-92 10.15

METHOD OF SHIPMENT: FED EX

AIRBILL NO: [illegible]

ORTEK

CHAIN OF CUSTODY OUT OF CONTROL FORM 460223

COMPANY NAME: NL WOODWARD-CLYDE CONTACT PERSON:

PROJECT NAME: NL/TARACORP REPORTED BY: Gloria Doxtator

BATCH NUMBER: 9210057 SAMPLENUMBER(S): 129956-129957

DATE: 10-8-92 PHONE NUMBER: 314-429-0100

[ ] HOLD TIME [ ] SAMPLE TEMPERATURE ____ F [ ] IMPROPER CONTAINER

[ ] IMPROPER PRESERVATIVE [ ] METHODOLOGY [ ] INSUFFICIENT VOLUME

DESCRIPTION TIME ON BOTTLES IS OPPOSITE OF TIME/SAMPLE I.D NUMBER ON CHAIN OF CUSTODY FOR SAMPLES WMW108-D066W & WMW108-D066W'D

C L I E N T

RESPONSE Please use times as shown on Chain of Custody as per client request (Wendy Reinhalt 314-429-0100)

DATE 10-8-92 INITIALS [signature]

CC: WORKING FILE DAVE SCHUMACHER MARYJO DOXTATOR PHIL SCOTT MARCIA KUEHL PAT JEFFERS KIM MENOMINEE NANCY COOK TORI GRUBBS MIKE SUHA

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1011W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129955

Sample wt/vol: 1000 **(g/mL)** mL **Lab File ID:** CAD10

Level: **(low/med)** LOW **Date Received:** 10/08/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: **(SepF/Cont/Sonc)** SepF **Date Analyzed:** 10/13/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1011W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129955

Sample wt/vol: 1000 (g/mL) mL **Lab File ID:** CAD10

Level: (low/med) LOW **Date Received:** 10/08/92

% Moisture: not dec. dec. **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U R

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1011W

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129955

Sample wt/vol: 1000 **(g/mL)** mL **Lab File ID:** CAD10

Level: **(low/med)** LOW **Date Received:** 10/08/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: **(SepF/Cont/Sonc)** SepF **Date Analyzed:** 10/13/92

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

Number of TICs found: 7 CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
0	UNKNOWN	8.51	11	J
0	UNKNOWN	9.00	28	J
0	UNKNOWN	15.85	22	J
0	UNKNOWN	30.79	210	J
0	UNKNOWN	35.58	61	J
0	UNKNOWN	36.88	43	J
0	UNKNOWN	38.45	62	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1011WRE

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129955RE

Sample wt/vol: 910 (g/mL) mL **Lab File ID:** CAJ05

Level: (low/med) LOW **Date Received:** 10/08/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/14/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

CONCENTRATION UNITS: ug/l

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
108-95-2	Phenol	11	U R
111-44-4	bis(2-Chloroethyl)Ether	11	U
95-57-8	2-Chlorophenol	11	U
541-73-1	1,3-Dichlorobenzene	11	U
106-46-7	1,4-Dichlorobenzene	11	U
100-51-6	Benzyl Alcohol	11	U
95-50-1	1,2-Dichlorobenzene	11	U
95-48-7	2-Methylphenol	11	U
39638-32-9	bis(2-Chloroisopropyl)Ether	11	U
106-44-5	4-Methylphenol	11	U
621-64-7	N-Nitroso-Di-n-Propylamine	11	U
67-72-1	Hexachloroethane	11	U
98-95-3	Nitrobenzene	11	U
78-59-1	Isophorone	11	U
88-75-5	2-Nitrophenol	11	U
105-67-9	2,4-Dimethylphenol	11	U
65-85-0	Benzoic Acid	55	U
111-91-1	bis(2-Chloroethoxy)Methane	11	U
120-83-2	2,4-Dichlorophenol	11	U
120-82-1	1,2,4-Trichlorobenzene	11	U
91-20-3	Naphthalene	11	U
106-47-8	4-Chloroaniline	11	U
87-68-3	Hexachlorobutadiene	11	U
59-50-7	4-Chloro-3-Methylphenol	11	U
91-57-6	2-Methylnaphthalene	11	U
77-47-4	Hexachlorocyclopentadiene	11	U
88-06-2	2,4,6-Trichlorophenol	11	U
95-95-4	2,4,5-Trichlorophenol	55	U
91-58-7	2-Chloronaphthalene	11	U
88-74-4	2-Nitroaniline	55	U
131-11-3	Dimethyl Phthalate	11	U
208-96-8	Acenaphthylene	11	U
606-20-2	2,6-Dinitrotoluene	11	U R

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1011WRE

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129955RE

Sample wt/vol: 910 (g/mL) mL **Lab File ID:** CAJ05

Level: (low/med) LOW **Date Received:** 10/08/92

% Moisture: not dec. dec. **Date Extracted:** 10/14/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	55	U R
83-32-9	Acenaphthene	11	U
51-28-5	2,4-Dinitrophenol	55	U
100-02-7	4-Nitrophenol	55	U
132-64-9	Dibenzofuran	11	U
121-14-2	2,4-Dinitrotoluene	11	U
84-66-2	Diethylphthalate	11	U
7005-72-3	4-Chlorophenyl-phenylether	11	U
86-73-7	Fluorene	11	U
100-10-6	4-Nitroaniline	55	U
534-52-1	4,6-Dinitro-2-Methylphenol	55	U
86-30-6	N-Nitrosodiphenylamine (1)	11	U
101-55-3	4-Bromophenyl-phenylether	11	U
118-74-1	Hexachlorobenzene	11	U
87-86-5	Pentachlorophenol	55	U
85-01-8	Phenanthrene	11	U
120-12-7	Anthracene	11	U
84-74-2	Di-n-Butylphthalate	11	U
206-44-0	Fluoranthene	11	U
129-00-0	Pyrene	11	U
85-68-7	Butylbenzylphthalate	11	U
91-94-1	3,3'-Dichlorobenzidine	22	U
56-55-3	Benzo(a)Anthracene	11	U
218-01-9	Chrysene	11	U
117-81-7	bis(2-Ethylhexyl)Phthalate	4	BJ
117-84-0	Di-n-Octyl Phthalate	11	U
205-99-2	Benzo(b)Fluoranthene	11	U
207-08-9	Benzo(k)Fluoranthene	11	U
50-32-8	Benzo(a)Pyrene	11	U
193-39-5	Indeno(1,2,3-cd)Pyrene	11	U
53-70-3	Dibenz(a,h)Anthracene	11	U
191-24-2	Benzo(g,h,i)Perylene	11	U R

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1011WRE

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129955RE

Sample wt/vol: 910 **(g/mL)** mL **Lab File ID:** CAJ05

Level: **(low/med)** LOW **Date Received:** 10/08/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/14/92

Extraction: **(SepF/Cont/Sonc)** SepF **Date Analyzed:** 10/19/92

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

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

CAS NO.	COMPOUND	RT	EST. CONC.	Q
79345	Ethane, 1,1,2,2-tetrachloro-	8.48	11	J
0	UNKNOWN	8.53	15	J
0	UNKNOWN	9.37	5	J
0	UNKNOWN	10.0	32	J
0	UNKNOWN	13.24	5	J
0	UNKNOWN	15.90	38	J
0	UNKNOWN	35.60	60	J
0	UNKNOWN	38.48	60	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DW

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129956

Sample wt/vol: 850 (g/mL) mL **Lab File ID:** CAD11

Level: (low/med) LOW **Date Received:** 10/08/92

% Moisture: not dec. dec. **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	(ug/L or ug/Kg)	Q
108-95-2	Phenol	12	U R
111-44-4	bis(2-Chloroethyl)Ether	12	U
95-57-8	2-Chlorophenol	12	U
541-73-1	1,3-Dichlorobenzene	12	U
106-46-7	1,4-Dichlorobenzene	12	U
100-51-6	Benzyl Alcohol	12	U
95-50-1	1,2-Dichlorobenzene	12	U
95-48-7	2-Methylphenol	12	U
39638-32-9	bis(2-Chloroisopropyl)Ether	12	U
106-44-5	4-Methylphenol	12	U
621-64-7	N-Nitroso-Di-n-Propylamine	12	U
67-72-1	Hexachloroethane	12	U
98-95-3	Nitrobenzene	12	U
78-59-1	Isophorone	12	U
88-75-5	2-Nitrophenol	12	U
105-67-9	2,4-Dimethylphenol	12	U
65-85-0	Benzoic Acid	59	U
111-91-1	bis(2-Chloroethoxy)Methane	12	U
120-83-2	2,4-Dichlorophenol	12	U
120-82-1	1,2,4-Trichlorobenzene	12	U
91-20-3	Naphthalene	12	U
106-47-8	4-Chloroaniline	12	U
87-68-3	Hexachlorobutadiene	12	U
59-50-7	4-Chloro-3-Methylphenol	12	U
91-57-6	2-Methylnaphthalene	12	U
77-47-4	Hexachlorocyclopentadiene	12	U
88-06-2	2,4,6-Trichlorophenol	12	U
95-95-4	2,4,5-Trichlorophenol	59	U
91-58-7	2-Chloronaphthalene	12	U
88-74-4	2-Nitroaniline	59	U
131-11-3	Dimethyl Phthalate	12	U
208-96-8	Acenaphthylene	12	U
606-20-2	2,6-Dinitrotoluene	12	U R

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DW

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129956

Sample wt/vol: 850 **(g/mL)** mL **Lab File ID:** CAD11

Level: (low/med) LOW **Date Received:** 10/08/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	59	U R
83-32-9	Acenaphthene	12	U
51-28-5	2,4-Dinitrophenol	59	U
100-02-7	4-Nitrophenol	59	U
132-64-9	Dibenzofuran	12	U
121-14-2	2,4-Dinitrotoluene	12	U
84-66-2	Diethylphthalate	12	U
7005-72-3	4-Chlorophenyl-phenylether	12	U
86-73-7	Fluorene	12	U
100-10-6	4-Nitroaniline	59	U
534-52-1	4,6-Dinitro-2-Methylphenol	59	U
86-30-6	N-Nitrosodiphenylamine (1)	12	U
101-55-3	4-Bromophenyl-phenylether	12	U
118-74-1	Hexachlorobenzene	12	U
87-86-5	Pentachlorophenol	59	U
85-01-8	Phenanthrene	12	U
120-12-7	Anthracene	12	U
84-74-2	Di-n-Butylphthalate	1	J
206-44-0	Fluoranthene	12	U
129-00-0	Pyrene	12	U
85-68-7	Butylbenzylphthalate	12	U
91-94-1	3,3'-Dichlorobenzidine	24	U
56-55-3	Benzo(a)Anthracene	12	U
218-01-9	Chrysene	12	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	BJ
117-84-0	Di-n-Octyl Phthalate	12	U
205-99-2	Benzo(b)Fluoranthene	12	U
207-08-9	Benzo(k)Fluoranthene	12	U
50-32-8	Benzo(a)Pyrene	12	U
193-39-5	Indeno(1,2,3-cd)Pyrene	12	U
53-70-3	Dibenz(a,h)Anthracene	12	U ✓
191-24-2	Benzo(g,h,i)Perylene	12	U R

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DW

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Matrix: (soil/water) WATER Lab Sample ID: 129956

Sample wt/vol: 850 (g/mL) mL Lab File ID: CAD11

Level: (low/med) LOW Date Received: 10/08/92

% Moisture: not dec. dec. Date Extracted: 10/12/92

Extraction: (SepF/Cont/Sonc) SepF Date Analyzed: 10/13/92

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

Number of TICs found: 11 CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
0	UNKNOWN	10.06	47	J
0	UNKNOWN	11.05	9	J
0	UNKNOWN	16.19	47	J
629629	Pentadecane	23.20	8	J
0	UNKNOWN	24.29	8	J
2091294	9-Hexadecenoic acid	27.95	10	J
0	UNKNOWN	31.18	7	J
85609	Phenol, 4,4'-butylidenebis[2-(1,1-di	31.58	47	J
538238	Octanoic acid, 1,2,3-propanetriyl es	33.40	10	J
0	UNKNOWN	35.74	210	J
0	UNKNOWN	38.80	270	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWRE

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129956RE

Sample wt/vol: 1030 (g/mL) mL **Lab File ID:** CAJ06

Level: (low/med) LOW **Date Received:** 10/08/92

% Moisture: not dec. dec. **Date Extracted:** 10/14/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	48	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	48	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	48	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWRE

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Matrix: (soil/water) WATER Lab Sample ID: 129956RE

Sample wt/vol: 1030 (g/mL) mL Lab File ID: CAJ06

Level: (low/med) LOW Date Received: 10/08/92

% Moisture: not dec. dec. Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SepF Date Analyzed: 10/19/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	48	U R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	48	U
100-02-7	4-Nitrophenol	48	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	48	U
534-52-1	4,6-Dinitro-2-Methylphenol	48	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	48	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	19	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U R

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWRE

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129956RE

Sample wt/vol: 1030 **(g/mL)** mL **Lab File ID:** CAJ06

Level: (low/med) LOW **Date Received:** 10/08/92

% Moisture: not dec. **dec.** **Date Extracted:** 10/14/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

Number of TICs found: 18 CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
0	UNKNOWN	10.04	37	J
0	UNKNOWN	13.25	9	J
0	UNKNOWN	13.64	6	J
0	UNKNOWN	16.07	130	J
629629	Pentadecane	23.20	7	J
143282	9-Octadecen-1-ol, (Z)-	27.29	5	J
2091294	9-Hexadecenoic acid	27.92	7	J
5353253	Ethanol, 2-(9-octadecenyloxy)-, (Z)-	29.16	5	J
0	UNKNOWN	30.72	8	J
0	UNKNOWN	30.99	14	J
85609	Phenol, 4,4'-butylidenebis[2-(1,1-di	31.56	57	J
0	UNKNOWN	32.36	11	J
0	UNKNOWN	33.42	26	J
0	UNKNOWN	35.48	24	J
0	UNKNOWN	35.76	590	J
0	UNKNOWN	36.91	6	J
0	UNKNOWN	38.29	7	J
0	UNKNOWN	38.76	700	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWD

Lab Name: ORTEX Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Matrix: (soil/water) WATER Lab Sample ID: 129957

Sample wt/vol: 990 (g/mL) mL Lab File ID: CAD12

Level: (low/med) LOW Date Received: 10/08/92

% Moisture: not dec. dec. Date Extracted: 10/12/92

Extraction: (SepF/Cont/Sonc) SepF Date Analyzed: 10/13/92

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWD

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Matrix: (soil/water) WATER Lab Sample ID: 129957

Sample wt/vol: 990 (g/mL) mL Lab File ID: CAD12

Level: (low/med) LOW Date Received: 10/08/92

% Moisture: not dec. dec. Date Extracted: 10/12/92

Extraction: (SepF/Cont/Sonc) SepF Date Analyzed: 10/13/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	5	J
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U R

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWD

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Matrix: (soil/water) WATER Lab Sample ID: 129957

Sample wt/vol: 990 (g/mL) mL Lab File ID: CAD12

Level: (low/med) LOW Date Received: 10/08/92

% Moisture: not dec. dec. Date Extracted: 10/12/92

Extraction: (SepF/Cont/Sonc) SepF Date Analyzed: 10/13/92

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

Number of TICs found: 18 CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
3212677	2-Hydroxy-2,4-dimethyl-3-pentanone	7.57	11	J
0	UNKNOWN	10.05	140	J
0	UNKNOWN	10.81	12	J
0	UNKNOWN	11.05	12	J
0	UNKNOWN	13.26	8	J
0	UNKNOWN	15.68	5	J
60322	Hexanoic acid, 6-amino-	16.15	190	J
0	UNKNOWN	27.92	8	J
629970	Docosane	29.07	4	J
0	UNKNOWN	30.78	140	J
0	UNKNOWN	30.99	240	J
85609	Phenol, 4,4'-butylidenebis[2-(1,1-di	31.56	56	J
538238	Octanoic acid, 1,2,3-propanetriyl es	33.40	21	J
0	UNKNOWN	35.42	19	J
0	UNKNOWN	35.73	520	J
0	UNKNOWN	36.95	74	J
0	UNKNOWN	38.23	7	J
0	UNKNOWN	38.68	620	J

13

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWDRE

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Matrix: (soil/water) WATER Lab Sample ID: 129957RE

Sample wt/vol: 1020 (g/mL) mL Lab File ID: CAJ07

Level: (low/med) LOW Date Received: 10/08/92

% Moisture: not dec. dec. Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SepF Date Analyzed: 10/19/92

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

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	49	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	49	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	49	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWDRE

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Matrix: (soil/water) WATER Lab Sample ID: 129957RE

Sample wt/vol: 1020 (g/mL) mL Lab File ID: CAJ07

Level: (low/med) LOW Date Received: 10/09/92

% Moisture: not dec. dec. Date Extracted: 10/14/92

Extraction: (SepF/Cont/Sonc) SepF Date Analyzed: 10/19/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	49	U R
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	49	U
100-02-7	4-Nitrophenol	49	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	49	U
534-52-1	4,6-Dinitro-2-Methylphenol	49	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	49	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

108DWDRE

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 129957RE

Sample wt/vol: 1020 (g/mL) mL **Lab File ID:** CAJ07

Level: (low/med) LOW **Date Received:** 10/08/92

% Moisture: not dec. dec. **Date Extracted:** 10/14/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

Number of TICs found: 20 CONCENTRATION UNITS: ug/L (ug/L or ug/Kg)

CAS NO.	COMPOUND	RT	EST. CONC.	Q
0	/UNKNOWN"	10.08	39	J
0	UNKNOWN	13.26	14	J
0	UNKNOWN	13.65	10	J
124072	Octanoic acid	15.31	7	J
0	UNKNOWN	16.23	260	J
0	UNKNOWN	17.59	5	J
120401	Dodecanamide, N,N-bis(2-hydroxyethyl	21.12	8	J
629629	Pentadecane	23.20	5	J
57103	Hexadecanoic acid	26.36	5	J
2733882	15-Tetracosenoic acid, methyl ester,	27.93	9	J
0	UNKNOWN	30.77	96	J
0	UNKNOWN	30.94	170	J
85609	Phenol, 4,4'-butylidenebis[2-(1,1-di	31.55	10	J
0	UNKNOWN	32.35	14	J
538238	Octanoic acid, 1,2,3-propanetriyl es	33.42	26	J
0	UNKNOWN	35.46	24	J
0	UNKNOWN	35.75	580	J
0	UNKNOWN	36.92	42	J
0	UNKNOWN	38.28	7	J
0	UNKNOWN	38.74	680	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK03

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 1012BLK

Sample wt/vol: 1000 **(g/mL)** mL **Lab File ID:** CAD01

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

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: **(SepF/Cont/Sonc)** SepF **Date Analyzed:** 10/13/92

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/l (ug/L or ug/Kg)	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK03

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 1012BLK

Sample wt/vol: 1000 **(g/mL)** mL **Lab File ID:** CAD01

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

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK03

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 1012BLK

Sample wt/vol: 1000 **(g/mL)** mL **Lab File ID:** CAD01

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

% Moisture: not dec. **dec.** **Date Extracted:** 10/12/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/13/92

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

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

CAS NO.	COMPOUND	RT	EST. CONC.	Q
	NO TICs FOUND			

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK05

Contract:

Lab Name: ORTEK

SDG No.: 1011W

Lab Code: ORTEK Case No.: CLYDE SAS No.:

Lab Sample ID: 1014BLK

Matrix: (soil/water) WATER

Lab File ID: CAJ04

Sample wt/vol: 1000 (g/mL) mL

Date Received:

Level: (low/med) LOW

Date Extracted: 10/14/92

% Moisture: not dec. dec.

Date Analyzed: 10/19/92

Extraction: (SepF/Cont/Sonc) SepF

Dilution Factor: 1

GPC Cleanup: (Y/N) N pH:

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	50	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	10	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	50	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	10	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene		
606-20-2	2,6-Dinitrotoluene		

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK05

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 1014BLK

Sample wt/vol: 1000 (g/mL) mL **Lab File ID:** CAJ04

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

% Moisture: not dec. dec. **Date Extracted:** 10/14/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	1	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLK05

Lab Name: ORTEK **Contract:**

Lab Code: ORTEK **Case No.:** CLYDE **SAS No.:** **SDG No.:** 1011W

Matrix: (soil/water) WATER **Lab Sample ID:** 1014BLK

Sample wt/vol: 1000 **(g/mL) mL** **Lab File ID:** CAJ04

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

% Moisture: not dec. **dec.** **Date Extracted:** 10/14/92

Extraction: (SepF/Cont/Sonc) SepF **Date Analyzed:** 10/19/92

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

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

CAS NO.	COMPOUND	RT	EST. CONC.	Q
630024	Octacosane	29.06	5	J
630035	Nonacosane	29.73	8	J
630024	Octacosane	30.35	9	J
0	UNKNOWN	30.77	97	J
55333998	Eicosane, 7-hexyl-	30.95	13	
630024	Octacosane	31.60	6	J
55429840	Tetracosane, 11-decyl-	32.30	5	J
0	UNKNOWN	36.91	31	J

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 ( )#	TOT OUT
01	SBLK03	58	67	68	26	38	51		0
02	10391WMMS	68	72	71	25	34	50		0
03	10391WXMSD	72	76	76	23	31	50		0
04	1011W	58	68	71	4 *	0	7 *		2
05	108DW	70	73	70	0	0	9 *		1
06	108DWD	60	67	66	0	0	6 *		1
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
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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-d6	(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

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	S7 ( )#	TOT OUT
01	SBLK05	28 *	33 *	38	21	29	46		2
02	1011WRE	69	78	69	2 *	1 *	26		2
03	108DWRE	47	57	54	6 *	0	12		1
04	108DWDRE	70	80	71	6 *	2 *	23		2
05									
06									
07									
08									
09									
10									
11									
12									
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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-d6	(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: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Matrix Spike - EPA Sample No.: 10391WM

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
Phenol	100	0	34	34	12- 89
2-Chlorophenol	100	0	66	66	27-123
1,4-Dichlorobenzene	50	0	45	90	36- 97
N-Nitroso-di-n-propylam	50	0	45	90	41-116
1,2,4-Trichlorobenzene	50	0	44	88	39- 98
4-Chloro-3-methylphenol	100	0	72	72	23- 97
Acenaphthene	50	0	44	88	46-118
4-Nitrophenol	100	0	44	44	10- 80
2,4-Dinitrotoluene	50	0	40	81	24- 96
Pentachlorophenol	100	0	101	101	9-103
Pyrene	50	0	43	87	26-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	100	31	31	9	42	12- 89
2-Chlorophenol	100	62	62	5	40	27-123
1,4-Dichlorobenzene	50	45	90	1	28	36- 97
N-Nitroso-di-n-propylam	50	46	92	3	38	41-116
1,2,4-Trichlorobenzene	50	45	90	3	28	39- 98
4-Chloro-3-methylphenol	100	67	67	7	42	23- 97
Acenaphthene	50	46	91	4	31	46-118
4-Nitrophenol	100	49	49	11	50	10- 80
2,4-Dinitrotoluene	50	43	85	5	38	24- 96
Pentachlorophenol	100	107	107 *	6	50	9-103
Pyrene	50	45	91	4	31	26-127

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: 1 out of 22 outside limits

COMMENTS: _____

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Contract:

Lab Name: ORTEK SDG No.: 1011W

Lab code: ORTEK Case No.: CLYDE SAS No.: Lab Sample ID: 1012BLK

Lab File ID: >CAD01 Extraction:(Sepf/Cont/Sonc) SEPF

Date Extracted: 10/12/92 Time Analyzed: 14:32

Date Analyzed: 10/13/92 Level:(low/med) LOW

Matrix: (soil/water) WATER

Instrument ID: HPMSDC

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	10391WMMS	129920MS	>CAD02	10/13/92
2	10391WXMSD	129921MSD	>CAD03	10/13/92
3	1011W	129955	>CAD10	10/13/92
4	108DW	129956	>CAD11	10/13/92
5	108DWD	129957	>CAD12	10/13/92
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COMMENTS:

87

FORM IV SV

4E

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Lab File ID: >CAJ04 Lab Sample ID: 1014BLK

Date Extracted: 10/14/92 Extraction:(Sepf/Cont/Sonc) SEPF

Date Analyzed: 10/19/92 Time Analyzed: 13:30

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

Instrument ID: HPMSDC

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	1011WRE	129955RE	>CAJ05	10/19/92
2	108DWRE	129956RE	>CAJ06	10/19/92
3	108DWDRE	129957RE	>CAJ07	10/19/92
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COMMENTS: _____

FORM IV SV 1/87 Rev.

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Lab File ID: >C9LD1 DFTPP Injection Date: 9/21/92

Instrument ID: HPMSDC DFTPP Injection Time: 7:33

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	61.3
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.9
275	10.0 - 30.0% of mass 198	21.4
365	Greater than 1.00% of mass 198	2.5
441	Present, but less than mass 443	11.8
442	Greater than 40.0% of mass 198	77.1
443	17.0 - 23.0% of mass 442	15.2 (19.6)2

1-Value is % of mass 69 2-Value is % of mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD020	20UG/MLBNA	>C9LI1	09/21/92	09:04
02	SSTD050	50UG/MLBNA	>C9LI2	09/21/92	09:53
03	SSTD080	80UG/MLBNA	>C9LI3	09/21/92	10:44
04	SSTD120	120UG/MLBNA	>C9LI4	09/21/92	11:33
05	SSTD160	160UG/MLBNA	>C9LI5	09/21/92	12:23
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FORM V SV 1/87 Rev.

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Lab File ID: >CADD1 DFTPP Injection Date: 10/13/92

Instrument ID: HPMSDC DFTPP Injection Time: 13:20

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	52.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	64.1
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.7
275	10.0 - 30.0% of mass 198	21.1
365	Greater than 1.00% of mass 198	2.2
441	Present, but less than mass 443	10.3
442	Greater than 40.0% of mass 198	70.1
443	17.0 - 23.0% of mass 442	13.8 (19.6)2

1-Value is % of mass 69 2-Value is % of mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	50CCCBNA	>CADC1	10/13/92	13:40
02	SBLK03	1012BLK	>CAD01	10/13/92	14:32
03	10391WMMS	129920MS	>CAD02	10/13/92	15:22
04	10391WXMSD	129921MSD	>CAD03	10/13/92	16:12
05	1011W	129955	>CAD10	10/13/92	22:11
06	108DW	129956	>CAD11	10/13/92	23:03
07	108DWD	129957	>CAD12	10/13/92	23:53
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FORM V SV 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Contract:

Lab Name: ORTEK SDG No.: 1011W

Lab code: ORTEK Case No.: CLYDE SAS No.:

DFTPP Injection Date: 10/19/92

Lab File ID: >CAJD1

DFTPP Injection Time: 9:39

Instrument ID: HPMSDC

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	58.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	68.5
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	43.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.4
275	10.0 - 30.0% of mass 198	20.8
365	Greater than 1.00% of mass 198	1.7
441	Present, but less than mass 443	10.4
442	Greater than 40.0% of mass 198	70.7
443	17.0 - 23.0% of mass 442	13.8 (19.5)2

1-Value is % of mass 69 2-Value is % of mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD050	50CCCBNA	>CAJC1	10/19/92	10:05
02	SBLK05	1014BLK	>CAJ04	10/19/92	13:30
03	1011WRE	129955RE	>CAJ05	10/19/92	14:22
04	108DWRE	129956RE	>CAJ06	10/19/92	15:12
05	108DWDRE	129957RE	>CAJ07	10/19/92	16:0[illegible]
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1/87 Rev

FORM V SV

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Instrument ID: HPMSDC Calibration Date(s): 09/21/92

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0

LAB FILE ID: RRF020= >C9LI1 RRF050= >C9LI2
RRF080= >C9LI3 RRF120= >C9LI4 RRF160= >C9LI5

COMPOUND	RRF020	RRF050	RRF080	RRF120	RRF160	$\overline{RRF}$	RSD
Phenol *	1.498	1.674	1.554	1.529	1.439	1.539	5.7*
bis(2-Chloroethyl)ether	1.548	1.452	1.250	1.197	1.168	1.323	12.7
2-Chlorophenol	1.274	1.336	1.186	1.168	1.109	1.215	7.4
1,3-Dichlorobenzene	1.508	1.550	1.438	1.381	1.314	1.438	6.6
1,4-Dichlorobenzene *	1.516	1.518	1.355	1.271	1.181	1.368	10.9*
Benzyl alcohol	1.000	1.260	1.203	1.274	1.277	1.203	9.7
1,2-Dichlorobenzene	1.498	1.520	1.350	1.268	1.188	1.365	10.6
2-Methylphenol	1.180	1.240	1.063	1.019	.940	1.088	11.2
bis(2-Chloroisopropyl)ether	.769	.854	.850	.895	.879	.849	5.8
4-Methylphenol	1.509	1.420	1.254	1.390	1.361	1.387	6.7
N-Nitroso-di-n-propylamine #	1.318	1.517	1.277	1.041	.866	1.204	21.1#
Hexachloroethane	.622	.594	.490	.445	.463	.523	15.2
Nitrobenzene	.456	.457	.429	.421	.391	.431	6.4
Isophorone	.901	.965	.927	.902	.867	.912	4.0
2-Nitrophenol *	.215	.229	.214	.192	.188	.207	8.2*
2,4-Dimethylphenol	.296	.306	.289	.285	.284	.292	3.1
Benzoic acid	.076	.076	.072	.078	.080	.076	3.8
bis(2-Chloroethoxy)methane	.531	.536	.507	.482	.448	.501	7.3
2,4-Dichlorophenol	.335	.339	.308	.281	.262	.305	11.0
1,2,4-Trichlorobenzene	.398	.381	.348	.324	.302	.351	11.2
Naphthalene	1.063	.990	.885	.784	.717	.888	16.1
4-Chloroaniline	.311	.463	.425	.401	.378	.396	14.3
Hexachlorobutadiene *	.261	.245	.216	.193	.174	.218	16.5*
4-Chloro-3-methylphenol *	.285	.301	.275	.259	.240	.272	8.6*
2-Methylnaphthalene	.705	.652	.574	.533	.485	.590	15.1
Hexachlorocyclopentadiene #	.225	.315	.311	.301	.272	.285	13.1#
2,4,6-Trichlorophenol *	.454	.487	.448	.408	.376	.435	9.9*
2,4,5-Trichlorophenol	.517	.595	.531	.478	.418	.508	12.9
2-Chloronaphthalene	1.234	1.274	1.148	1.040	.925	1.124	12.7
2-Nitroaniline	.447	.536	.511	.496	.471	.492	7.1
Dimethylphthalate	1.541	1.673	1.565	1.493	1.386	1.531	6.8
Acenaphthylene	1.979	1.818	1.589	1.453	1.304	1.629	16.7
2,6-Dinitrotoluene	.361	.342	.307	.301	.294	.321	9.1
3-Nitroaniline	.316	.584	.626	.632	.576	.547	24.0
Acenaphthene *	1.265	1.254	1.108	.986	.838	1.090	16.7*
2,4-Dinitrophenol #	.089	.216	.245	.266	.268	.217	34.3#

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: ORTEK Contract: SDG No.: 1011W

Lab Code: ORTEK Case No.: CLYDE SAS No.:

Instrument ID: HPMSDC Calibration Date(s): 09/21/92

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0

LAB FILE ID: RRF020= >C9LI1 RRF050= >C9LI2 RRF080= >C9LI3 RRF120= >C9LI4 RRF160= >C9LI5

COMPOUND	RRF020	RRF050	RRF080	RRF120	RRF160	RRF	RSD
4-Nitrophenol	# .202	.323	.337	.334	.317	.303	18.8#
Dibenzofuran	1.782	1.812	1.634	1.463	1.323	1.603	13.0
2,4-Dinitrotoluene	.535	.615	.572	.543	.502	.554	7.6
Diethylphthalate	1.715	1.808	1.603	1.286	.993	1.481	22.7
4-Chlorophenyl-phenylether	.749	.760	.681	.607	.528	.665	14
Fluorene	1.452	1.432	1.265	1.004	.790	1.189	24
4-Nitroaniline	.264	.379	.374	.389	.364	.354	14.
4,6-Dinitro-2-methylphenol	.124	.176	.171	.173	.170	.163	13.4
N-Nitrosodiphenylamine	* .318	.326	.283	.250	.216	.279	16.5*
4-Bromophenyl-phenylether	.132	.136	.118	.111	.108	.121	10.3
Hexachlorobenzene	.375	.382	.343	.323	.306	.346	9.4
Pentachlorophenol	* .175	.228	.224	.222	.216	.213	10.2*
Phenanthrene	1.089	1.018	.888	.815	.772	.916	6
Anthracene	1.127	1.164	.910	.825	.764	.958	18.7
Di-n-butylphthalate	1.578	1.465	1.281	1.145	1.034	1.300	17.2
Fluoranthene	* 1.268	1.148	1.016	.922	.850	1.041	16.2
Pyrene	1.504	1.470	1.376	1.344	1.359	1.411	5.1
Butylbenzylphthalate	.800	.807	.745	.728	.724	.761	5.2
3,3'-Dichlorobenzidine	.197	.236	.257	.276	.268	.247	12.8
Benzo(a)anthracene	1.188	1.220	1.091	1.004	.962	1.093	10.
Chrysene	1.181	1.229	1.070	.921	.844	1.049	15.
Bis(2-Ethylhexyl)phthalate	1.104	1.045	.882	.668	.528	.845	.
Di-n-octylphthalate	* 2.398	2.145	1.966	1.796	1.549	1.971	.
Benzo(b)fluoranthene	1.286	1.376	1.430	1.475	1.455	1.404	5.
Benzo(k)fluoranthene	1.309	1.257	1.139	1.104	1.022	1.166	0.
Benzo(a)pyrene	* 1.058	1.118	1.107	1.084	1.006	1.075	4
Indeno(1,2,3-cd)pyrene	.721	.844	.864	.872	.847	.829	7
Dibenz(a,h)anthracene	.560	.676	.685	.684	.672	.655	8
Benzo(g,h,i)perylene	.608	.697	.704	.687	.675	.674	5
Nitrobenzene-d5	.518	.542	.514	.509	.482	.513	
2-Fluorobiphenyl	1.514	1.492	1.304	1.152	1.023	1.297	1
Terphenyl-d14	1.058	1.032	.957	.917	.907	.974	
Phenol-d6	1.703	1.807	1.628	1.607	1.495	1.648	
2-Fluorophenol	1.261	1.420	1.304	1.334	1.283	1.321	
2,4,6-Tribromophenol	.107	.118	.105	.101	.097	.106	

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Instrument ID: HPMSDC Calibration Date: 10/13/92 Time: 13:40

Lab File ID: >CADC1 Init. Calib. Date(s): 09/21/92 10/13/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D
Phenol	*	1.539	1.647	7.0*
bis(2-Chloroethyl)ether		1.323	1.420	7.4
2-Chlorophenol		1.215	1.297	6.8
1,3-Dichlorobenzene		1.438	1.444	.4
1,4-Dichlorobenzene	*	1.368	1.454	6.3*
Benzyl alcohol		1.203	1.068	11.2
1,2-Dichlorobenzene		1.365	1.454	6.5
2-Methylphenol		1.088	1.139	4.7
bis(2-Chloroisopropyl)ether		.849	.651	23.3
4-Methylphenol		1.387	1.511	9.0
N-Nitroso-di-n-propylamine	#	1.204	1.275	5.9#
Hexachloroethane		.523	.625	19.6
Nitrobenzene		.431	.440	2.0
Isophorone		.912	.885	3.0
2-Nitrophenol	*	.207	.229	10.5*
2,4-Dimethylphenol		.292	.293	.3
Benzoic acid		.076	.036	52.7
bis(2-Chloroethoxy)methane		.501	.503	.5
2,4-Dichlorophenol		.305	.342	12.0
1,2,4-Trichlorobenzene		.351	.384	9.6
Naphthalene		.888	.987	11.2
4-Chloroaniline		.396	.455	14.9
Hexachlorobutadiene	*	.218	.237	8.9*
4-Chloro-3-methylphenol	*	.272	.281	3.2*
2-Methylnaphthalene		.590	.644	9.3
Hexachlorocyclopentadiene	#	.285	.421	47.7#
2,4,6-Trichlorophenol	*	.435	.473	8.9*
2,4,5-Trichlorophenol		.508	.554	9.0
2-Chloronaphthalene		1.124	1.299	15.6
2-Nitroaniline		.492	.519	5.4
Dimethylphthalate		1.531	1.546	1.0
Acenaphthylene		1.629	1.839	12.9
2,6-Dinitrotoluene		.321	.344	7.2
3-Nitroaniline		.547	.662	21.1
Acenaphthene	*	1.090	1.252	14.8*
2,4-Dinitrophenol	#	.217	.248	14.6#
4-Nitrophenol	#	.303	.262	13.5#

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Contract:

Lab Name: ORTEK SDG No.: 1011W

Lab Code: ORTEK Case No.: CLYDE SAS No.:

Instrument ID: HPMSDC Calibration Date: 10/13/92 Time: 13:40

Lab File ID: >CADC1 Init. Calib. Date(s): 09/21/92 10/13/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		$\overline{RRF}$	RRF050	%D
Dibenzofuran		1.603	1.736	8.3
2,4-Dinitrotoluene		.554	.588	6.3
Diethylphthalate		1.481	1.635	10.4
4-Chlorophenyl-phenylether		.665	.728	9.5
Fluorene		1.189	1.413	18.9
4-Nitroaniline		.354	.407	15.1
4,6-Dinitro-2-methylphenol		.163	.183	12.0
N-Nitrosodiphenylamine	*	.279	.317	13.9*
4-Bromophenyl-phenylether		.121	.127	4.5
Hexachlorobenzene		.346	.349	1.1
Pentachlorophenol	*	.213	.160	24.9*
Phenanthrene		.916	1.052	14.8
Anthracene		.958	1.087	13.5
Di-n-butylphthalate		1.300	1.475	13.5
Fluoranthene	*	1.041	1.191	14.4*
Pyrene		1.411	1.450	2.8
Butylbenzylphthalate		.761	.766	.7
3,3'-Dichlorobenzidine		.247	.430	74.1
Benzo(a)anthracene		1.093	1.183	8.3
Chrysene		1.049	1.213	15.7
Bis(2-Ethylhexyl)phthalate		.845	.993	17.4
Di-n-octylphthalate	*	1.971	1.989	.9*
Benzo(b)fluoranthene		1.404	1.315	6.3
Benzo(k)fluoranthene		1.166	1.287	10.4
Benzo(a)pyrene	*	1.075	1.141	6.1*
Indeno(1,2,3-cd)pyrene		.829	1.052	26.9
Dibenz(a,h)anthracene		.655	.846	29.1
Benzo(g,h,i)perylene		.674	.882	30.8
Nitrobenzene-d5		.513	.529	3.2
2-Fluorobiphenyl		1.297	1.508	16.3
Terphenyl-d14		.974	1.012	3.9
Phenol-d6		1.648	1.746	5.9
2-Fluorophenol		1.321	1.311	.7
2,4,6-Tribromophenol		.106	.112	6.4

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Instrument ID: HPMSDC Calibration Date: 10/19/92 Time: 10:05

Lab File ID: >CAJC1 Init. Calib. Date(s): 09/21/92 10/19/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		$\overline{RRF}$	RRF050	%D
Phenol	*	1.539	1.654	7.5*
bis(2-Chloroethyl)ether		1.323	1.440	8.9
2-Chlorophenol		1.215	1.293	6.5
1,3-Dichlorobenzene		1.438	1.443	.3
1,4-Dichlorobenzene	*	1.368	1.447	5.8*
Benzyl alcohol		1.203	1.306	8.6
1,2-Dichlorobenzene		1.365	1.443	5.7
2-Methylphenol		1.088	1.118	2.7
bis(2-Chloroisopropyl)ether		.849	.799	6.0
4-Methylphenol		1.387	1.545	11.4
N-Nitroso-di-n-propylamine	#	1.204	1.426	18.5#
Hexachloroethane		.523	.630	20.5
Nitrobenzene		.431	.443	2.8
Isophorone		.912	.887	2.8
2-Nitrophenol	*	.207	.232	11.7*
2,4-Dimethylphenol		.292	.281	3.6
Benzoic acid		.076	.129	68.5
bis(2-Chloroethoxy)methane		.501	.514	2.6
2,4-Dichlorophenol		.305	.341	11.7
1,2,4-Trichlorobenzene		.351	.379	8.1
Naphthalene		.888	.985	11.0
4-Chloroaniline		.396	.451	14.0
Hexachlorobutadiene	*	.218	.233	7.2*
4-Chloro-3-methylphenol	*	.272	.291	6.8*
2-Methylnaphthalene		.590	.662	12.2
Hexachlorocyclopentadiene	#	.285	.385	35.2#
2,4,6-Trichlorophenol	*	.435	.468	7.6*
2,4,5-Trichlorophenol		.508	.515	1.5
2-Chloronaphthalene		1.124	1.252	11.3
2-Nitroaniline		.492	.513	4.1
Dimethylphthalate		1.531	1.518	.9
Acenaphthylene		1.629	1.745	7.1
2,6-Dinitrotoluene		.321	.331	3.0
3-Nitroaniline		.547	.628	14.9
Acenaphthene	*	1.090	1.197	9.8*
2,4-Dinitrophenol	#	.217	.233	7.5#
4-Nitrophenol	#	.303	.357	17.9#

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ORTEK Contract:

Lab Code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Instrument ID: HPMSDC Calibration Date: 10/19/92 Time: 10:05

Lab File ID: >CAJC1 Init. Calib. Date(s): 09/21/92 10/19/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		$\overline{RRF}$	RRF050	%D
Dibenzofuran		1.603	1.712	6.8
2,4-Dinitrotoluene		.554	.584	5.6
Diethylphthalate		1.481	1.628	9.9
4-Chlorophenyl-phenylether		.665	.712	7.1
Fluorene		1.189	1.378	15.9
4-Nitroaniline		.354	.400	13.0
4,6-Dinitro-2-methylphenol		.163	.176	7.7
N-Nitrosodiphenylamine	*	.279	.319	14.5*
4-Bromophenyl-phenylether		.121	.126	4.3
Hexachlorobenzene		.346	.342	1.0
Pentachlorophenol	*	.213	.192	9.7*
Phenanthrene		.916	1.031	12.5
Anthracene		.958	1.059	10.5
Di-n-butylphthalate		1.300	1.462	12.4
Fluoranthene	*	1.041	1.167	12.1*
Pyrene		1.411	1.481	5.0
Butylbenzylphthalate		.761	.775	1.9
3,3'-Dichlorobenzidine		.247	.367	48.7
Benzo(a)anthracene		1.093	1.182	8.1
Chrysene		1.049	1.225	16.8
Bis(2-Ethylhexyl)phthalate		.845	.998	18.0
Di-n-octylphthalate	*	1.971	2.080	5.6*
Benzo(b)fluoranthene		1.404	1.349	3.9
Benzo(k)fluoranthene		1.166	1.232	5.6
Benzo(a)pyrene	*	1.075	1.131	5.2*
Indeno(1,2,3-cd)pyrene		.829	.950	14.6
Dibenz(a,h)anthracene		.655	.749	14.2
Benzo(g,h,i)perylene		.674	.818	21.4
Nitrobenzene-d5		.513	.534	4.2
2-Fluorobiphenyl		1.297	1.431	10.4
Terphenyl-d14		.974	1.015	4.2
Phenol-d6		1.648	1.750	6.2
2-Fluorophenol		1.321	1.317	.3
2,4,6-Tribromophenol		.106	.105	.3

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Lab File ID (Standard): >CADC1 Date Analyzed: 10/13/92

Instrument ID: HPMSDC Time Analyzed: 13:40

		IS1(DCB) AREA #	RT	IS2(NAP) AREA #	RT	IS3(ACE) AREA #	RT
	12 HOUR STD	57728	10.68	201117	14.42	105802	19.90
	UPPER LIMIT	115456	11.18	402234	14.92	211604	20.40
	LOWER LIMIT	28864	10.18	100559	13.92	52901	19.40
	EPA SAMPLE NO.						
1	SBLK03	53202	10.67	187974	14.40	103292	19.89
2	10391WMMS	51038	10.69	175483	14.41	101258	19.88
3	10391WXMSD	54777	10.69	185523	14.41	104130	19.89
4	1011W	49221	10.67	174799	14.39	98665	19.88
5	108DW	53160	10.67	177355	14.40	102148	19.89
6	108DWD	53276	10.67	178934	14.41	102115	19.89
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NAP) = Naphthalene-d8
IS3 (ACE) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

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8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: ORTEK Contract:

Lab code: ORTEK Case No.: CLYDE SAS No.: SDG No.: 1011W

Lab File ID (Standard): >CADC1 Date Analyzed: 10/13/92

Instrument ID: HPMSDC Time Analyzed: 13:40

		IS4(PHN) AREA #	RT	IS5(CHR) AREA #	RT	IS6(PER) AREA #	RT
	12 HOUR STD	205276	24.55	171238	30.49	152972	33.66
	UPPER LIMIT	410552	25.05	342476	30.99	305944	34.16
	LOWER LIMIT	102638	24.05	85619	29.99	76486	33.16
	EPA SAMPLE NO.						
1	SBLK03	194195	24.53	166674	30.45	108380	33.62
2	10391WMMS	198490	24.53	170084	30.46	108015	33.63
3	10391WXMSD	200693	24.54	173233	30.46	109997	33.63
4	1011W	184304	24.53	157903	30.45	102925	33.62
5	108DW	190825	24.54	170463	30.46	110744	33.63
6	108DWD	196309	24.55	169490	30.46	110183	33.63
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CHR) = Chrysene-d12
IS6 (PER) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

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