Monitoring Well Sampling Event

at

Hercules, Inc.
613 West 7th Street
Hattiesburg, Ms

presented to:

Charles Jordan, Environmental Supervisor
Hercules, Inc.
Hattiesburg, MS

June 20 - 25, 1998
1st Quarterly Sampling
of 1998

by

Michael S. Bonner, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

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1.0 INTRODUCTION

At the request of Mr. Charlie Jordan, Environmental Supervisor with Hercules Inc. of Hattiesburg, MS, Bonner Analytical Testing Company sampled six monitoring wells which were previously installed at the site during December, 1997. This sampling event, which took place on June 24 – 25, 1998, was the second of four quarterly events directed by the Mississippi Department of Environmental Quality (MDEQ).

2.0 PURGING

Prior to purging, each well was gauged from north side top of casing (TOC) to assess depth to water and well depth. After well gauging was completed, a dedicated bailer was placed in the well and three to five well volumes were removed. pH, temperature, conductivity, and turbidity were recorded after each well volume. When two successive measurements of temperature and conductivity were found to be stable within 10%, purging was terminated and samples were collected.

Monitoring Well 1 (MW1) bailed dry after two well volumes (4.0 gallons). MW2 and MW3 required four well volumes to stabilize, while MW4, MW5, and MW6 required five well volumes. After five well volumes, field turbidity measurements of 421 and 448 NTU were reported for MW4 and MW5. Elevated turbidity was reported in these wells during the initial sample collection in December, 1997. Turbidity reading of 18.3 to 59 NTU were reported for the remaining wells.

3.0 SAMPLING & ANALYSIS

Samples were collected immediately following the purging process utilizing disposable Teflon bailers. MW1, MW2, MW3, and MW6 were tested for eight RCRA metals. MW4 and MW5 were tested for metals, volatiles,

and semivolatiles as directed by MDEQ. Analytical protocols were EPA 200 series and SW846-8260/8270 as outlined in the work plan. Additionally, one trip blank and one equipment blank was analyzed for each parameter as part of the QA/QC protocol.

Volatile and semivolatile organics were quantitated using the standard compound list. Those remaining compounds in the 8260/8270 comprehensive list were screened as Tentatively Identified Compounds (TIC). There was no attempt to address any other TICs. Two compounds, Acetophenone (51.6 ppb) and Dioxation (113.3 ppb) were tentatively identified. Due to the tentative nature of this identification, a generic identification was used to describe these analytes, as suggested by Hercules data review consultants. The Acetophenone TIC was identified as Aromatic Hydrocarbon compound and the Dioxation TIC was identified as an Organophosphorous compound.

4.0 RESULTS

There were no significant hits for the eight listed RCRA metals. Barium was detected at levels ranging from 0.044 ppm to 0.363 ppm. No SW846/8260 volatile compounds were found. One aromatic hydrocarbon SW846/8270 compound was tentatively identified at 51.6 ppb. One Organophosphorous compound was tentatively identified at 113.3 ppb.

5.0 DISCUSSION

Groundwater flow direction has not been determined at this time due to survey problems. Upon completion of surveys, groundwater flow direction will be completed.

APPENDIX I

BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD
HATTIESBURG, MS 39402
PH. (601) 264-2854

Client: HERCULES, INC.

File Number: BT46083-46084 Sample Date/Time: See Below
Collected By: Client Date/Time Rec'd: 06-25-98 @ 0900

2ND QUARTER, 1998

Analyte/Method	MW-1 06-25-98	MW-2 06-24-98	MDL	Date/Time/Analyst
Arsenic/200.15	ND	ND	0.003	07-13-98/1043/JMR
Barium/200.15	0.165	0.081	0.00005	07-13-98/1730/JMR
Cadmium/200.15	ND	ND	0.0003	07-13-98/1730/JMR
Chromium/200.15	ND	ND	0.0003	07-13-98/1730/JMR
Lead/200.15	ND	ND	0.003	07-13-98/1730/JMR
Mercury/245.1	ND	ND	0.0002	07-14-98/1535/JMR
Selenium/200.15	ND	ND	0.001	08-11-98/1005/GMR
Silver/272.1	ND	ND	0.002	07-21-98/1121/JMR

Data reported in mg/L unless otherwise noted. All analyses performed in accordance with 40 CFR 136 and amendments.

MDL = Method Detection Limit

Certified by: _____
Michael S. Bonner, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

sr

BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD
HATTIESBURG, MS 39402
PH. (601) 264-2854

Client: HERCULES, INC.

File Number: BT46085-46086
Collected By: Client

Sample Date/Time: See Below
Date/Time Rec'd: 06-25-98 @ 0900

2ND QUARTER, 1998

Analyte/Method	MW-3 06-24-98	MW-4 06-24-98	MDL	Date/Time/Analyst
Arsenic/200.15	ND	ND	0.003	07-13-98/1043/JMR
Barium/200.15	0.044	0.230	0.00005	07-13-98/1730/JMR
Cadmium/200.15	ND	ND	0.0003	07-13-98/1730/JMR
Chromium/200.15	ND	ND	0.0003	07-13-98/1730/JMR
Lead/200.15	ND	ND	0.003	07-13-98/1730/JMR
Mercury/245.1	ND	ND	0.0002	07-14-98/1535/JMR
Selenium/200.15	ND	ND	0.001	08-11-98/1005/GMR
Silver/272.1	ND	ND	0.002	07-21-98/1121/JMR

Data reported in mg/L unless otherwise noted. All analyses performed in accordance with 40 CFR 136 and amendments.

MDL = Method Detection Limit

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2703 OAK GROVE ROAD
HATTIESBURG, MS 39402
PH. (601) 264-2854

Client: HERCULES, INC.

File Number: BT46087-46088 Sample Date/Time: See Below
Collected By: Client Date/Time Rec'd: 06-25-98 @ 0900

2ND QUARTER, 1998

Analyte/Method	MW-5 06-24-98	MW-6 06-24-98	MDL	Date/Time/Analyst
Arsenic/200.15	0.011	ND	0.003	07-13-98/1043/JMR
Barium/200.15	0.363	0.120	0.00005	07-13-98/1730/JMR
Cadmium/200.15	ND	ND	0.0003	07-13-98/1730/JMR
Chromium/200.15	ND	ND	0.0003	07-13-98/1730/JMR
Lead/200.15	ND	ND	0.003	07-13-98/1730/JMR
Mercury/245.1	ND	ND	0.0002	07-14-98/1535/JMR
Selenium/200.15	ND	ND	0.001	08-11-98/1005/GMR
Silver/272.1	ND	ND	0.002	07-21-98/1121/JMR

Data reported in mg/L unless otherwise noted. All analyses performed in accordance with 40 CFR 136 and amendments.

MDL = Method Detection Limit

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2703 OAK GROVE ROAD
HATTIESBURG, MS 39402
PH. (601) 264-2854

Client: HERCULES, INC.

File Number: BT46089-46090 Sample Date/Time: See Below
Collected By: Client Date/Time Rec'd: 06-25-98 @ 0900

2ND QUARTER, 1998

Analyte/Method	Trip Blank 06-24-98	Equipment Blank 06-25-98	MDL	Date/Time/Analyst
Arsenic/200.15	ND	ND	0.003	07-13-98/1043/JMR
Barium/200.15	ND	ND	0.00005	07-13-98/1730/JMR
Cadmium/200.15	ND	ND	0.0003	07-13-98/1730/JMR
Chromium/200.15	ND	ND	0.0003	07-13-98/1730/JMR
Lead/200.15	ND	ND	0.003	07-13-98/1730/JMR
Mercury/245.1	ND	ND	0.0002	07-14-98/1535/JMR
Selenium/200.15	ND	ND	0.001	08-11-98/1005/GMR
Silver/272.1	ND	ND	0.002	07-21-98/1121/JMR

Data reported in mg/L unless otherwise noted. All analyses performed in accordance with 40 CFR 136 and amendments.

MDL = Method Detection Limit

Certified by: _____
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BONNER ANALYTICAL TESTING COMPANY

sr

BONNER ANALYTICAL TESTING COMPANY
2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 268-7084 Fax: (601) 268-7084

CLIENT: HERCULES DATE: 06-24-98

LOCATION: HATTIESBURG, MS

Monitoring Well 5	Time	pH - S.U.	Temp °C	Cond. umhos/cm	Turbidity NTU	Remarks
Total Depth TOC 18.3'	1015	6.24	24.8	1100	221	Foamy,yellow water
Depth to Water TOC 10.45'	1030	6.41	23.4	1100	659	
Well Depth BLS N/A	1045	6.45	22.8	1100	647	
Quantity per Volume 1.7 Gal.	1100	6.42	22.9	1100	521	
LNAPL - No DNAPL - No	1115	6.47	22.8	1050	448	

Monitoring Well 4	Time	pH - S.U.	Temp °C	Cond. umhos/cm	Turbidity NTU	Remarks
Total Depth TOC 18.95'	1145	6.04	25.4	600	335	Chalky, white colored water
Depth to Water TOC 10.9'	1200	6.10	25.4	300	110	
Well Depth BLS N/A	1215	6.05	24.4	550	330	
Quantity per Volume 1.36 Gal	1230	6.11	24.7	550	299	
LNAPL – No DNAPL – No	1245	6.21	24.8	550	421	

Monitoring Well 2	Time	pH - S.U.	Temp °C	Cond. umhos/cm	Turbidity NTU	Remarks
Total Depth TOC 20.45'	1300	5.62	24.4	138	9.2	Readings were consistent
Depth to Water TOC 7.98'	1315	5.91	22.5	126	78	so only needed 4 well volumes
Well Depth BLS N/A	1330	5.97	23.8	123	62.5	
Quantity per Volume 2.12	1345	6.13	22.1	130	59	
LNAPL - No DNAPL - No						

* Turbidity exceeds 5 NTU; Remove 5 additional well volumes
Well Volume = 0.17 x Water column in Feet
LNAPL - Light Non Aqueous Phase Liquid
DNAPL - Dense Non Aqueous Phase Liquid
TOC - Top o Casing (North Side)
BLS - Below Land Surface

BONNER ANALYTICAL TESTING COMPANY
2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 268-7084 Fax: (601) 268-7084

CLIENT: HERCULES DATE: 06-24-98

LOCATION: HATTIESBURG, MS

Monitoring Well 3	Time	pH - S.U.	Temp °C	Cond. umhos/cm	Turbidity NTU	Remarks
Total Depth TOC 18.95'	1400	5.90	24.4	100	27.7	Readings were consistent
Depth to Water TOC 8.55'	1415	5.55	24.4	80	37.6	so we only needed 4 well volumes
Well Depth BLS N/A	1430	5.51	24.4	50	26.6	
Quantity per Volume 1.77 Gal.	1445	5.46	24.4	90	18.3	
LNAPL - No DNAPL - No						

Monitoring Well 6	Time	pH - S.U.	Temp °C	Cond. umhos/cm	Turbidity NTU	Remarks
Total Depth TOC 23.65'	1500	6.54	27.4	120	7.6	
Depth to Water TOC 9.90'	1515	6.24	26.5	190	102.5	
Well Depth BLS N/A	1530	6.22	26.6	195	75.9	
Quantity per Volume 2.34 Gal	1545	6.18	26.6	190	46.9	
LNAPL - No DNAPL - No	1600	6.31	26.6	190	24.0	

Monitoring Well 1	Time	pH - S.U.	Temp °C	Cond. umhos/cm	Turbidity NTU	Remarks
Total Depth TOC	1615	6.17	24.6	120	606	Chalky white water
Depth to Water TOC	1630	6.09	23.3	132	536	Bailed well dry at 4 galllons
Well Depth BLS N/A	1645					
Quantity per Volume						
LNAPL - DNAPL -						

* Turbidity exceeds 5 NTU; Remove 5 additional well volumes
Well Volume = 0.17 x Water column in Feet
LNAPL - Light Non Aqueous Phase Liquid
DNAPL - Dense Non Aqueous Phase Liquid
TOC - Top o Casing (North Side)
BLS - Below Land Surface

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-4
File #: BT46086

	Date	Time	Analyst
Collected:	6/24/98	12:15	BATCO
Extracted:	6/25/98	8:30	JMR
Analyzed:	6/28/98	14:04	JMR

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT46086			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
Phenol	108-95-2	5.2	ND			ND			122.13	150.00	81.42	127.81	150.00	85.21
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			109.75	150.00	73.17	119.32	150.00	79.55
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			66.56	100.00	66.56	73.80	100.00	73.80
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.8	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			93.77	100.00	93.77	100.73	100.00	100.73
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			82.02	100.00	82.02	86.80	100.00	86.80
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			ND			ND		
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			170.70	150.00	113.80	170.82	150.00	113.88
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			ND			ND		
Acenaphthene	83-32-9	8.3	ND			ND			111.47	100.00	111.47	114.86	100.00	114.86
2,4-Dinitrophenol	51-28-5	14.2	ND			ND			ND			ND		
4-Nitrophenol	100-02-7	8.6	ND			ND			224.77	150.00	149.85	227.43	150.00	151.62
Dibenzofuran	132-64-9	8.4	ND			ND			ND			ND		
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			115.75	100.00	115.75	118.16	100.00	118.16
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-4
File #: BT46086

	Date	Time	Analyst
Collection:	6/24/98	12:15	BATCO
Extraction:	6/25/98	8:30	JMR
Analysis:	6/28/98	14:04	JMR

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT46086 Detected Amount ug/L (ppb)	BT46086 Spike Amount ug	BT46086 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Spike Amount ug	Matrix Spike Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Spike Amount ug	Matrix Spike Duplicate Spike % Recovery
N-Nitrosodiphenylamine	86-30-8	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			186.46	150.00	124.31	193.70	150.00	129.13
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			101.73	100.00	101.73	100.60	100.00	100.60
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			NO		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**
2-Fluorophenol			141.62	200.00	70.81	72.10	200.00	36.05	74.88	200.00	37.44	78.15	200.00	39.08
Phenol-d5			72.49	200.00	36.25	48.58	200.00	24.29	50.36	200.00	25.18	51.24	200.00	25.62
Nitrobenzene-d5			128.24	100.00	128.24 *	69.95	100.00	69.95	68.90	100.00	68.90	69.42	100.00	69.42
2-Fluorobiphenyl			168.20	100.00	168.20 *	69.13	100.00	89.13	67.11	100.00	67.11	69.83	100.00	69.83
2,4,6-Tribromophenol			241.27	200.00	120.64	210.83	200.00	105.42	192.37	200.00	96.19	197.79	200.00	98.90
Terphenyl-d14			193.89	100.00	193.89 *	103.87	100.00	103.87	76.69	100.00	76.69	77.00	100.00	77.00

* = Results Outside of QA Limits due to matrix interference

Certified by:

Micheal S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client: Hercules
Sample Matrix: Water
Sample Collection Date : 06/24/98
Sample Analysis Date: 06/28/98
Dilution Factor: 2
Sample Weight/Volume: 1000ml
Number TICs Found: 2*

File #: BT46086
Lab Sample ID: MW-4

GC Column Length: 30M
GC Column ID: 0.25mm
Method Code: 8270
Concentration Units: ug / L (ppb)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION
98-86-2	Aromatic Hydrocarbon	12.72	51.61
78-34-2	Organophosphorus Cpd.	24.1	113.28

* Only SW 846 Method 8270 analytes listed as TICs.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-5
File #: BT46087

	Date	Time	Analyst
Collected:	6/24/98	10:30	BATCO
Extracted:	6/25/98	8:30	JMR
Analyzed:	6/28/98	14:58	JMR

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT46087			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
Phenol	108-95-2	5.2	ND			ND			122.13	150.00	81.42	127.81	150.00	85.21
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			109.75	150.00	73.17	119.32	150.00	79.55
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			66.56	100.00	66.56	73.80	100.00	73.80
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			93.77	100.00	93.77	100.73	100.00	100.73
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			NO		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			82.02	100.00	82.02	86.80	100.00	86.80
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			ND			ND		
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			170.70	150.00	113.80	170.82	150.00	113.88
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.8	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			ND			ND		
Acenaphthene	83-32-9	8.3	ND			ND			111.47	100.00	111.47	114.86	100.00	114.86
2,4-Dinitrophenol	51-28-5	14.2	ND			ND			ND			ND		
4-Nitrophenol	100-02-7	8.8	ND			ND			224.77	150.00	149.85	227.43	150.00	151.62
Dibenzofuran	132-64-9	8.4	ND			ND			ND			ND		
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			115.75	100.00	115.75	118.16	100.00	118.16
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-5
File #: BT46087

	Date	Time	Analyst
Collection:	6/24/98	10:30	BATCO
Extraction:	6/25/98	8:30	JMR
Analysis:	6/28/98	14:58	JMR

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT46087			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			186.46	150.00	124.31	193.70	150.00	129.13
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	208-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			101.73	100.00	101.73	100.60	100.00	100.60
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
2-Fluorophenol			182.38	200.00	91.19	72.10	200.00	36.05	74.88	200.00	37.44	78.15	200.00	39.08
Phenol-d5			89.25	200.00	44.63	48.58	200.00	24.29	50.36	200.00	25.18	51.24	200.00	25.62
Nitrobenzene-d5			109.88	100.00	109.88	69.95	100.00	69.95	68.90	100.00	68.90	69.42	100.00	69.42
2-Fluorobiphenyl			87.67	100.00	87.67	69.13	100.00	69.13	67.11	100.00	67.11	69.83	100.00	69.83
2,4,6-Tribromophenol			202.15	200.00	101.08	210.83	200.00	105.42	192.37	200.00	96.19	197.79	200.00	98.90
Terphenyl-d14			99.71	100.00	99.71	103.87	100.00	103.87	76.89	100.00	76.69	77.00	100.00	77.00

Certified by:

Micheal S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client: Hercules
Sample Matrix: Water
Sample Collection Date : 06/24/98
Sample Analysis Date: 06/28/98
Dilution Factor: 2
Sample Weight/Volume: 1000ml
Number TICs Found: 0*

File #: BT46087
Lab Sample ID: MW-5

GC Column Length: 30M
GC Column ID: 0.25mm
Method Code: 8270
Concentration Units: ug / L (ppb)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

* Only SW 846 Method 8270 analytes listed as TICs.

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules

File # : BT46086

Sample Matrix : Water

Lab Sample ID : MW-4

Sample Collection Date : 06/24/98

Sample Analysis Date : 07/02/98

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0.53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Method Code: 8260

Number TICs Found : 0 *

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

* Only SW 846 Method 8260 analytes listed as TICs.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW #4
File #: BT46086

	Date	Time	Analyst
Collected:	06/24/98	12:15	BATCO
Received:	06/26/98	8:00	CMB
Analyzed:	07/02/98	14:35	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT46087)			MATRIX SPIKE DUP (BT46087)		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			40.0	250.0	80.0	39.6	250.0	79.2
Benzene	71-43-2	2.00	ND			ND			43.9	250.0	87.8	44.2	250.0	88.4
Trichloroethene	79-01-6	2.50	ND			ND			45.5	250.0	91.0	45.3	250.0	90.6
Toluene	108-88-3	2.50	ND			ND			46.2	250.0	92.4	46.8	250.0	93.6
Chlorobenzene	108-90-7	2.00	ND			ND			50.5	250.0	101.0	51.4	250.0	102.8
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	3.05			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalene	91-20-3	3.00	ND			ND			ND			ND		
n-Propylbenzene	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW #5
File #: BT46087

	Date	Time	
Collected:	06/24/98	10:30	BATCO
Received:	06/26/98	8:00	CMB
Analyzed:	07/02/98	17:05	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT46087)			MATRIX SPIKE DUP (BT46087)		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ng	% Recovery		Amount ng	% Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			40.0	250.0	80.0	39.6	250.0	79.2
Benzene	71-43-2	2.00	ND			ND			43.9	250.0	87.8	44.2	250.0	88.4
Trichloroethene	79-01-6	2.50	ND			ND			45.5	250.0	91.0	45.3	250.0	90.6
Toluene	108-88-3	2.50	ND			ND			46.2	250.0	92.4	46.8	250.0	93.6
Chlorobenzene	108-90-7	2.00	ND			ND			50.5	250.0	101.0	51.4	250.0	102.8
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalene	91-20-3	3.00	ND			ND			ND			ND		
n-Propylbenzene	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW #5
File #: BT46087

	Date	Time	Analyst
Collected:	06/24/98	10:30	BATCO
Received:	06/26/98	8:00	CMB
Analysis:	07/02/98	17:05	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		48.5	250.0	97.0	49.6	250.0	99.2	45.9	250.0	91.8	47.8	250.0	95.6
Toluene-d8	2037-26-5		50.2	250.0	100.4	51.0	250.0	102.0	48.7	250.0	97.4	48.9	250.0	97.8
4-Bromofluorobenzene	460-00-4		46.8	250.0	93.6	48.0	250.0	96.0	49.0	250.0	98.0	47.2	250.0	94.4

Certified by:

Michael S. Bonner, Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: TRIP BLANK
File #: BT46089

	Date	Time	Analyst
Collected:	6/24/98	NA	BATCO
Extracted:	6/25/98	11:15	JMR
Analyzed:	6/28/98	12:50	JMR

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT46089 Detected Amount ug/L (ppb)	BT46089 Spike Amount ug	BT46089 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Amount ug	Matrix Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Amount ug	Matrix Spike Duplicate % Recovery
Phenol	108-95-2	5.2	ND			ND			122.13	150.00	81.42	127.81	150.00	85.21
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			109.75	150.00	73.17	119.32	150.00	79.55
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			66.56	100.00	66.56	73.80	100.00	73.80
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			93.77	100.00	93.77	100.73	100.00	100.73
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			82.02	100.00	82.02	86.80	100.00	86.80
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			ND			ND		
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			170.70	150.00	113.80	170.82	150.00	113.88
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			ND			ND		
Acenaphthene	83-32-9	8.3	ND			ND			111.47	100.00	111.47	114.86	100.00	114.86
2,4-Dinitrophenol	51-28-5	14.2	ND			ND			ND			ND		
4-Nitrophenol	100-02-7	8.6	ND			ND			224.77	150.00	149.85	227.43	150.00	151.62
Dibenzofuran	132-64-9	8.4	ND			ND			ND			ND		
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			115.75	100.00	115.75	118.16	100.00	118.16
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: TRIP BLANK
File #: BT46089

	Date	Time	Analyst
Collection:	6/24/98	NA	BATCO
Extraction:	6/25/98	11:15	JMR
Analysis:	6/28/98	12:50	JMR

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT46089 Detected Amount ug/L (ppb)	BT46089 Spike Amount ug	BT46089 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Spike Amount ug	Matrix Spike Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Spike Amount ug	Matrix Spike Duplicate Spike % Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			186.46	150.00	124.31	193.70	150.00	129.13
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			101.73	100.00	101.73	100.60	100.00	100.60
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**
2-Fluorophenol			78.12	200.00	39.06	72.10	200.00	36.05	74.88	200.00	37.44	78.15	200.00	39.08
Phenol-d5			54.96	200.00	27.48	48.58	200.00	24.29	50.36	200.00	25.18	51.24	200.00	25.62
Nitrobenzene-d5			50.67	100.00	50.67	69.95	100.00	69.95	66.90	100.00	66.90	69.42	100.00	69.42
2-Fluorobiphenyl			65.57	100.00	65.57	69.13	100.00	69.13	67.11	100.00	67.11	69.83	100.00	69.83
2,4,6-Tribromophenol			172.03	200.00	86.02	210.83	200.00	105.42	192.37	200.00	96.19	197.79	200.00	98.90
Terphenyl-d14			98.42	100.00	98.42	103.87	100.00	103.87	76.69	100.00	76.69	77.00	100.00	77.00

Certified by:

Micheal S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: EQUIPTMENT BLANK
File #: BT46090

	Date	Time	Analyst
Collected:	6/25/98	8:00AM	BATCO
Extracted:	6/25/98	11:15	JMR
Analyzed:	6/26/98	22:49	JMR

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT46090			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
Phenol	108-95-2	5.2	ND			ND			122.13	150.00	81.42	127.81	150.00	85.21
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			109.75	150.00	73.17	119.32	150.00	79.55
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			66.56	100.00	66.56	73.80	100.00	73.80
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			93.77	100.00	93.77	100.73	100.00	100.73
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			82.02	100.00	82.02	86.80	100.00	86.80
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			ND			ND		
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			170.70	150.00	113.80	170.82	150.00	113.88
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			ND			ND		
Acenaphthene	83-32-9	8.3	ND			ND			111.47	100.00	111.47	114.86	100.00	114.86
2,4-Dinitrophenol	51-28-5	14.2	ND			ND			ND			ND		
4-Nitrophenol	100-02-7	8.6	ND			ND			224.77	150.00	149.85	227.43	150.00	151.62
Dibenzofuran	132-64-9	8.4	ND			ND			ND			ND		
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			115.75	100.00	115.75	118.16	100.00	118.16
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: EQUIPTMENT BLANK
File #: BT46090

	Date	Time	Analyst
Collection:	6/25/98	8:00AM	BATCO
Extraction:	6/25/98	11:15	JMR
Analysis:	6/26/98	22:49	JMR

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT46090 Detected Amount ug/L (ppb)	BT46090 Spike Amount ug	BT46090 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Spike Amount ug	Matrix Spike Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Spike Amount ug	Matrix Spike Duplicate Spike % Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			186.46	150.00	124.31	193.70	150.00	129.13
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			101.73	100.00	101.73	100.60	100.00	100.60
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**
2-Fluorophenol			51.65	200.00	25.83	72.10	200.00	36.05	74.88	200.00	37.44	78.15	200.00	39.08
Phenol-d5			37.39	200.00	18.70	48.58	200.00	24.29	50.36	200.00	25.18	51.24	200.00	25.62
Nitrobenzene-d5			35.75	100.00	35.75	69.95	100.00	69.95	66.90	100.00	66.90	69.42	100.00	69.42
2-Fluorobiphenyl			44.42	100.00	44.42	69.13	100.00	69.13	67.11	100.00	67.11	69.83	100.00	69.83
2,4,6-Tribromophenol			135.59	200.00	67.80	210.83	200.00	105.42	192.37	200.00	96.19	197.79	200.00	98.90
Terphenyl-d14			112.18	100.00	112.18	103.87	100.00	103.87	76.69	100.00	76.69	77.00	100.00	77.00

Certified by:

Micheal S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules

File # : BT46087

Sample Matrix : Water

Lab Sample ID : MW-5

Sample Collection Date : 06/24/98

Sample Analysis Date : 07/02/98

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0.53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Method Code: 8260

Number TICs Found : 1 *

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION
78-93-3	Acetone	8.83	34.9

* Only SW 846 Method 8260 analytes listed as TICs.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: Hercules
Location: Trip Blank
File #: BT46089

	Date	Time	Analyst
Collected:	06/24/98		BATCO
Received:	06/26/98	8:00	CMB
Analyzed:	07/03/98	18:45	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT46087)			MATRIX SPIKE DUP (BT46087)		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			40.0	250.0	80.0	39.6	250.0	79.2
Benzene	71-43-2	2.00	ND			ND			43.9	250.0	87.8	44.2	250.0	88.4
Trichloroethene	79-01-6	2.50	ND			ND			45.5	250.0	91.0	45.3	250.0	90.6
Toluene	108-88-3	2.50	ND			ND			46.2	250.0	92.4	46.8	250.0	93.6
Chlorobenzene	108-90-7	2.00	ND			ND			50.5	250.0	101.0	51.4	250.0	102.8
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalene	91-20-3	3.00	ND			ND			ND			ND		
n-Propylbenzene	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: Hercules
Location: Trip Blank
File #: BT46089

	Date	Time	Analyst
Collected:	06/24/98		BATCO
Received:	06/26/98	8:00	CMB
Analysis:	07/03/98	18:45	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		50.2	250.0	100.4	50.3	250.0	100.6	45.9	250.0	91.8	47.8	250.0	95.6
Toluene-d8	2037-26-5		49.6	250.0	99.2	52.4	250.0	104.8	48.7	250.0	97.4	48.9	250.0	97.8
4-Bromofluorobenzene	460-00-4		49.6	250.0	99.2	51.7	250.0	103.4	49.0	250.0	98.0	47.2	250.0	94.4

Certified by:

Michael S. Bonner, Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules

Sample Matrix : Water

Sample Collection Date : 06/24/98

Sample Analysis Date : 07/02/98

Dilution Factor : 1

Sample Weight/ Volume : 5.0 (g/mL) mL

Number TICs Found : 0 *

File # : BT46089

Lab Sample ID : Trip Blank

GC Column Length : 105 M

GC Column ID : 0.53 mm

Method Code: 8260

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

* Only SW 846 Method 8260 analytes listed as TICs.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: Hercules
Location: Field Blank
File #: BT46090

Collected:	06/25/98	8:00	BATCO
Received:	06/26/98	8:00	CMB
Analyzed:	07/02/98	18:06	CRR
	Date	Time	Analyst

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT46087)			MATRIX SPIKE DUP (BT46087)		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ng	% Recovery		Amount ng	% Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			40.0	250.0	80.0	39.6	250.0	79.2
Benzene	71-43-2	2.00	ND			ND			43.9	250.0	87.8	44.2	250.0	88.4
Trichloroethene	79-01-6	2.50	ND			ND			45.5	250.0	91.0	45.3	250.0	90.6
Toluene	108-88-3	2.50	ND			ND			46.2	250.0	92.4	46.8	250.0	93.6
Chlorobenzene	108-90-7	2.00	ND			ND			50.5	250.0	101.0	51.4	250.0	102.8
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalene	91-20-3	3.00	ND			ND			ND			ND		
n-Propylbenzene	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY
QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: Hercules
Location: Field Blank
File #: BT46090

	Date	Time	Analyst
Collected:	06/25/98	8:00	BATCO
Received:	06/26/98	8:00	CMB
Analysis:	07/02/98	18:06	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		48.9	250.0	97.8	49.6	250.0	99.2	45.9	250.0	91.8	47.8	250.0	95.6
Toluene-d8	2037-26-5		49.6	250.0	99.2	51.0	250.0	102.0	48.7	250.0	97.4	48.9	250.0	97.8
4-Bromofluorobenzene	460-00-4		48.2	250.0	96.4	48.0	250.0	96.0	49.0	250.0	98.0	47.2	250.0	94.4

Certified by:

Michael S. Bonner, Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules

File # : BT46090

Sample Matrix : Water

Lab Sample ID : Equipment Blank

Sample Collection Date : 06/25/98

Sample Analysis Date : 07/02/98

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0.53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Method Code: 8260

Number TICs Found : 0 *

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

* Only SW 846 Method 8260 analytes listed as TICs.

APPENDIX II

BONNER ANALYTICAL TESTING COMPANY

Phone: (601) 264-2854
2703 Oak Grove Road Hattiesburg, MS 39402
Fax: (601) 268-7084

"Testing Your World for a Safer Tomorrow"

1

YOUR COMPANY NAME: Hercules

YOUR COMPANY ADDRESS: Hattiesburg

NAME OF PERSON TO CONTACT: Charlie Jordan

CONTACT PERSON'S PHONE:

2

YOUR PROJECT NO.:	YOUR P.O.#	YOUR PROJECT NAME:
		#2 Quarter

3 **4**

YOUR SAMPLE DESCRIPTION:	DATE	TIME	MATRIX	VOA's	Semi VOA	As Ba Cd	Cr Pb Hg	Se Ag			NUMBER OF CONTAINERS	PRESERVATIONS	**5** REMARK
MW-1	6/25	1055				✓	–	✓					BT46083
MW-2	6/24	1405				✓	✓	✓					BT46084
MW-3	6/24	1450				✓	✓	✓					BT46085
MW-4	6/24	1215		✓	✓	✓	✓	✓					BT46086
MW-5	6/24	1030		✓	✓	✓	✓	✓					BT46087
MW-6	6/24	1635				✓	✓	✓					BT46088
Trip Blank	6/24			✓	✓	✓	✓	✓					BT46089
Equipment Blank	6/25	0800		✓	✓	✓	✓	✓					BT46090

Turnaround Time

Detection Limits Special Limits Requir
Yes No

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)

6

METHOD OF SHIPMENT	SHIPPED BY: (Signature)	COURIER (Signature)	RECEIVED FOR BATCO BY: (Signature)	DATE/TIME

SAMPLE REMAINDER DISPOSAL

☐ RETURN SAMPLE REMAINDER TO CLIENT VIA _____
(SOME SHIPPING CHARGES MAY BE INCURRED)

☐ I REQUEST BATCO TO DISPOSE OF ALL SAMPLE REMAINDERS

_____ (Signature) _____ (Date)

IF SAMPLE REMAINDER IS DETERMINED TO BE HAZARDOUS, A MINIMUM ADDITIONAL CHARGE OF $25.00 PER SAMPLE WILL BE ASSESSED FOR DISPOSAL

REVISION DATE

APPENDIX III

Monitoring Well Installation
Sampling & Analysis

at

Hercules, Inc.
613 West 7th Street
Hattiesburg, Ms

presented to:

Charles Jordan, Environmental Supervisor
Hercules, Inc.
Hattiesburg, MS

December 8 - 15, 1997

by

Michael S. Bonner, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

TABLE OF CONTENTS

INTRODUCTION

At the request of Mr. Charlie Jordan, Environmental Supervisor with Hercules Inc. of Hattiesburg, MS, Bonner Analytical Testing Company installed six monitoring wells and subsequently developed, purged and sampled these wells during the period of December 8-15, 1997. Samples were analyzed for thirteen heavy metals, volatile organics, semivolatile organics, pesticides, and PCBs.

Details relating to the project were presented in the work plan approved by the Mississippi Department of Environmental Quality (MDEQ) and Hercules Incorporated dated July 31, 1997.

1.0 MONITORING WELL INSTALLATION

Six two inch I.D. flush thread schedule 40 PVC monitoring wells were installed. The well locations (MW-1 through MW-6) are designated in the site map located in Appendix C. Boreholes were advanced utilizing hollow stem drilling technology. Well depths ranged between fifteen and twenty feet below land surface (BLS). A ten foot screened interval was used in each well. Screened slots were 0.01 inches.

Wells were completed as follows:

1. Coarse sand was tremied to the top of the screened interval.
2. Fine sand was tremied to two feet above the screened interval.
3. Hydrated 10% Bentonite was tremied one to two feet above the fine sand.
4. 90/10 grout was tremied to one foot BLS.
5. After 24 hours the well was completed.

6. The well was completed to surface with concrete to include a 2'x2'x4"concrete pad with elevation marker, protective casing with locks, four 3 inch protective pipes filled with concrete and then painted.

Pertinent information relating to boring, well construction, purging and sampling are presented in Table 1 and Appendices A - F.

2.0 WELL DEVELOPMENT

Wells were allowed to cure a minimum of 24 hours prior to development. Wells were developed by a combination of bailing, pumping and surging.

MW-1 was designated as the background well. This well bailed dry after removal of 5.5 gallons of water. The turbidity was > 100 NTUs at this point. However, upon recovery, and after purging, a turbidity of 13.9 NTU was achieved.

MW-5 could not be developed below a 19 NTU turbidity due to a persistent yellow color. The remaining wells MW-2, MW-3, MW-4 and MW-6 were developed to a final turbidity below 5 NTUs.

3.0 PURGING

Prior to purging and immediately after removing the well cap, each well was tested for organic vapors using a field organic vapor analyzer equipped with a flame ionization detector. MW-4 and MW-5 produced vapor space readings greater than 100,000 ppm. The remaining wells gave no response.

Next, each well was gauged from the north side top of casing to assess depth to water and well depth to +0.01'. Prior to purging pH, temperature, conductivity and turbidity were determined.

After the removal of five well volumes pH, temperature, conductivity and turbidity measurements were repeated twice more within 20 minutes. All wells produced water that was stable within ±10% as required. However, MW1 and MW5 produced turbidity values of 13.0 and 24.4 NTU's, respectively. MW-1 and MW-5 were purged further, removing 5 additional well volumes. However, the turbidities remained elevated at 13.9 and 25.1 NTU's, respectively.

4.0 SAMPLING

Samples were collected immediately following the purging process utilizing disposable Teflon bailers. Samples were collected for volatile organics method SW846/8260, semi volatile organics method SW846/8270, pesticide/PCB method SW846/8081 and thirteen heavy metals utilizing the appropriate EPA/200 series protocol as outlined in the work plan.

5.0 ANALYSIS

All samples were analyzed for volatile organics utilizing the 8260 standard list of compounds. The remaining 8260 compound list was evaluated as TICs. Semivolatile organics, Method 8270, were evaluated using the standard list and the remaining compound list was evaluated as TICs. The results of these analyses are presented in Appendix D.

TABLE 1
BOREHOLE AND WELL CONSTRUCTION DATA

Well ID #	1	2	3
Date of Construction	12-09-97	12-09-97	12-09-97
Borehole & Well Casing Diameter	2"	2"	2"
Well Depth +0.01 ft.	17'	17'	15'
Casing Length	7'	7'	5'
Casing Materials	PVC Schedule 40	PVC Schedule 40	PVC Schedule 40
Casing & Screen Joint Type	Flush Thread	Flush Thread	Flush Thread
Screened Intervals	10'	10'	10'
Screen Materials	PVC Flushthread	PVC Flushthread	PVC Flushthread
Screen Slot Size/ Design	0.01	0.01	0.01
Filter Pack Material & Size	Sand <0.1" (<5%) 0.01"-0.039" (>50%) >0.039" (<35%)	Sand <0.1" (<5%) 0.01"-0.039" (>50%) >0.039" (<35%)	Sand <0.1" (<5%) 0.01"-0.039" (>50%) >0.039" (<35%)
Calculated/Actual Filter Pack Volume	4.42 ft^3	4.08 ft^3	4.42 ft^3
Filter Pack Placement Method	Tremmie	Tremmie	Tremmie
Annular Sealant Composition	Bentonite/90:10 Grout	Bentonite/90:10 Grout	Bentonite/90:10 Grout
Annular Sealant Placement Method	Tremmie	Tremmie	Tremmie
Calculated/Actual Annular Sealant Vol.	0.34 ft^3	0.85 ft^3	0.17 ft^3
Surface Sealant Composition	3,000 PSI Concrete	3,000 PSI Concrete	3,000 PSI Concrete
Surface Seal Placement Method	Tremmie	Tremmie	Tremmie
Calculated/Actual Surface Sealant Vol.	0.34 ft^3	0.17 ft^3	0.17 ft^3
Surface Seal Design	2x2x4' Pad	2x2x4' Pad	2x2x4' Pad
Well Development Procedure	Bailing, Pumping & Surge Block	Bailing, Pumping & Surge Block	Bailing, Pumping & Surge Block
Turbidity Measurement	13.9 NTU	1.9 NTU	0.5 NTU
Type/Design of Protective Casing	3" x 3" rectangular steel	3" x 3" rectangular steel	3" x 3" rectangular steel
Well Cap & Lock	Yes	Yes	Yes
Ground Surface Elevation (+0.01)			
Survey Reference Point Elevation on Well Casing (+0.01 ft.)			
Top of Well Casing Elevation (+0.01)			
Top of Protective Steel Casing Elevation (+0.01 ft.)			

BOREHOLE AND WELL CONSTRUCTION DATA

Well ID.#	4	5	6
Date of Construction	12-09-97	12-08-97	12-08-97
Borehole & Well Casing Diameter	2"	2"	2"
Well Depth +0.01 ft.	15.0'	15'	18'
Casing Length	5'	5'	8'
Casing Materials	PVC Schedule 40	PVC Schedule 40	PVC Schedule 40
Casing & Screen Joint Type	Flush Thread	Flush Thread	Flush Thread
Screened Intervals	10'	10'	10'
Screen Materials	PVC Flushthread	PVC Flushthread	PVC Flushthread
Screen Slot Size/ Design	0.01	0.01	0.01
Filter Pack Material & Size	Sand <0.1" (<5%) 0.01"-0.039" (>50%) >0.039" (<35%)	Sand <0.1" (<5%) 0.01"-0.039" (>50%) >0.039" (<35%)	Sand <0.1" (<5%) 0.01"-0.039" (>50%) >0.039" (<35%)
Calculated/Actual Filter Pack Volume	4.25 ft^3	4.25 ft^3	4.08 ft^3
Filter Pack Placement Method	Tremmie	Tremmie	Tremmie
Annular Sealant Composition	Bentonite/90:10 Grout	Bentonite/90:10 Grout	Bentonite/90:10 Grout
Annular Sealant Placement Method	Tremmie	Tremmie	Tremmie
Calculated/Actual Annular Sealant Vol.	0.17 ft^3	0.17 ft^3	0.34 ft^3
Surface Sealant Composition	3,000 PSI Concrete	3,000 PSI Concrete	3,000 PSI Concrete
Surface Seal Placement Method	Tremmie	Tremmie	Tremmie
Calculated/Actual Surface Sealant Vol.	0.17 ft^3	0.17 ft^3	0.34 ft^3
Surface Seal Design	2x2x4' Pad	2x2x4' Pad	2x2x4' Pad
Well Development Procedure	Bailing, Pumping & Surge Block	Bailing, Pumping & Surge Block	Bailing, Pumping & Surge Block
Turbidity Measurement	0.8 NTU	25.1 NTU	0.3 NTU
Type/Design of Protective Casing	3" x 3" rectangular steel	3" x 3" rectangular steel	3" x 3" rectangular steel
Well Cap & Lock	Yes	Yes	Yes
Ground Surface Elevation (+0.01)			
Survey Reference Point Elevation on Well Casing (+0.01 ft.)			
Top of Well Casing Elevation (+0.01)			
Top of Protective Steel Casing Elevation (+0.01 ft.)			

APPENDIX A

Bonner Analytical Testing Company

2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 264-2854 Fax: (601) 268-7084

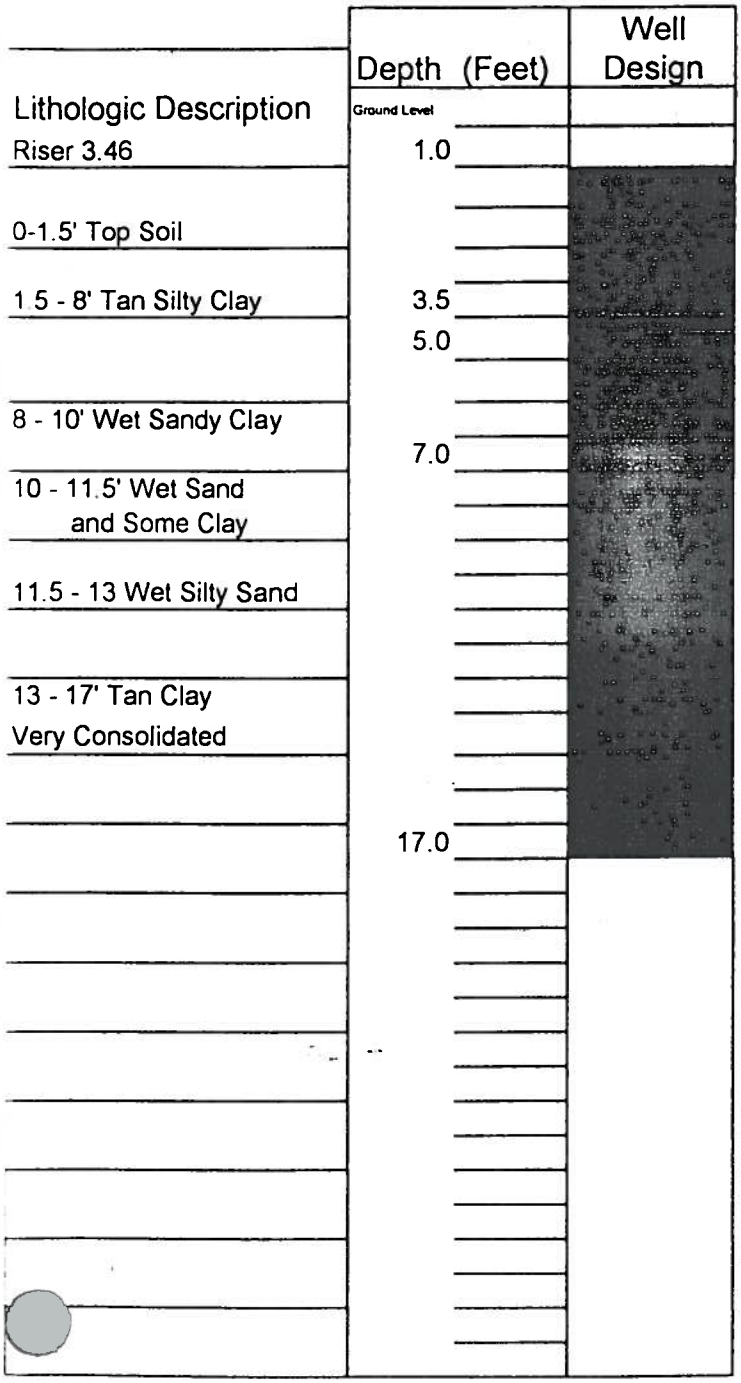
MONITORING WELL CONSTRUCTION DIAGRAM

Driller Permit #: 0-527
Client: Hercules
Address: Hattiesburg, MS

Boring No.: 1
Date Started: 12/9/97
Date Finished: 12/9/97

Surface Elevation:
LS/Top of Casing:
Well Installed on Completion: YES

KEY: ☐ Concrete ▒ Grout ▒ Bentonite Seal ▒ Sand Pack ▒ Screen



Well Loc:
Section: 4
Township: 4N
Range: 13W
Well Usage:

Development Method

- ☐ Bailer
- ☐ Airlift
- ☐ Nitrogen
- ☐ Submersible Pump
- ☒ Other: Peristaltic Pump

Well Dev. Time:
Volume:

Well Construction Materials:

Protective Cover:
- ☐ Manhole
- ☒ Protective Casing
- ☐ Other:

Riser Material: PVC Flushthread
Well Diameter: 2"
Screen Material: PVC Flushthread
Screen Slot Size: 0.01

Bentonite Plug: ☒
Grout: ☒

Sand: Quantity 5 Bags @100 lbs ea of #2
1 Bag @ 100 lbs ea of #1

Initial Water Level 7.82'
Water Level at Development 7.82'

Bonner Analytical Testing Company
2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 264-2854 Fax: (601) 268-7084

MONITORING WELL CONSTRUCTION DIAGRAM

Driller Permit #: 0-527
Client: Hercules
Address: Hattiesburg, MS

Boring No.: 2
Date Started: 12/9/97
Date Finished: 12/9/97

Surface Elevation:
LS/Top of Casing:
Well Installed on Completion: YES

KEY: ☐ Concrete ■ Grout ■ Bentonite Seal ■ Sand Pack ■ Screen

Lithologic Description	Depth (Feet)	Well Design
	Ground Level	
	0.5	
3.48' Riser		
	2.5	
0 - 2.5' Black Top Soil		
	5.0	
2.5 - 4.0' Tan Silty Clay		
	7.0	
4-5' Silty Sand		
5 - 8' Moist Sand		
8-10' Wet Sand		
10 - 13.5' Water/Silt/Sand		
13.5 - 14.5' Water/Silt/Sand and Small Rocks	17.0	
14.5 - 17' Water/Silt/Sand		
	35	

Well Loc:
Section: 4
Township: 4N
Range: 13W
Well Usage:

Development Method

- ☐ Bailer
- ☐ Airlift
- ☐ Nitrogen
- ☐ Submersible Pump
- ☒ Other: Peristaltic Pump

Well Dev. Time:
Volume:

Well Construction Materials:

Protective Cover:
- ☐ Manhole
- ☒ Protective Casing
- ☐ Other:

Riser Material: PVC Flushthread
Well Diameter: 2"
Screen Material: PVC Flushthread
Screen Slot Size: 0.01

Bentonite Plug: ☒
Grout: ☒

Sand: Quantity: 4 Bags @100 lbs ea of #2
1 Bag @ 100 lbs ea of #1

Initial Water Level 6.83'
Water Level at Development: 6.83'

Bonner Analytical Testing Company
2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 264-2854 Fax: (601) 268-7084

MONITORING WELL CONSTRUCTION DIAGRAM

Driller Permit #: 0-527
Client: Hercules
Address: Hattiesburg, MS

Boring No.: 3
Date Started: 12/9/97
Date Finished: 12/9/97

Surface Elevation:
LS/Top of Casing:
Well Installed on Completion: YES

KEY: ☐ Concrete ■ Grout ■ Bentonite Seal ■ Sand Pack ■ Screen

Lithologic Description	Depth (Feet)	Well Design
	Ground Level	
	0.50	
3.99' Riser		
	1.5	
0 - 1.5' Top Soil	2.0	
1.5 - 4' Silt (Sandy)		
	5.0	
4 - 8' Moist Sandy Silt Some Clay		
8 - 9.5' Wet Silty Sand		
9.5 - 14 Water/Silt/Sand		
14.5' Very Consolidated Clay		
	15.0	
	35	

Well Loc:
Section: 4
Township: 4N
Range: 13W
Well Usage:

Development Method

- ☐ Bailer
- ☐ Airlift
- ☐ Nitrogen
- ☐ Submersible Pump
- ☒ Other: Peristaltic Pump

Well Dev. Time:
Volume:

Well Construction Materials:

Protective Cover:
- ☐ Manhole
- ☒ Protective Casing
- ☐ Other:

Riser Material: PVC Flushthread
Well Diameter: 2"
Screen Material: PVC Flushthread
Screen Slot Size: 0.01

Bentonite Plug: ☒
Grout: ☒

Sand: Quantity 3 Bags @ 100 lbs ea of #2
1 Bag @ 100 lbs ea of #4

Initial Water Level 7.37'
Water Level at Development 7.37'

Bonner Analytical Testing Company
2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 264-2854 Fax: (601) 268-7084

MONITORING WELL CONSTRUCTION DIAGRAM

Driller Permit #: 0-527
Client: Hercules
Address: Hattiesburg, MS

Boring No.: 4
Date Started: 12/9/97
Date Finished: 12/9/97

Surface Elevation:
LS/Top of Casing:
Well Installed on Completion: YES

KEY: Concrete | Grout | Bentonite Seal | Sand Pack | Screen

Lithologic Description	Depth (Feet)	Well Design
	Ground Level	
3.49' Riser	1.5	
0-4' Top Soil (Black)	2.5	
4 - 5' Grey Silty Sand	5.0	
5-7' Grey Sand		
7 - 11 ' Tan Sand		
11 - 13' Moist Light Grey Sand Some Silt/Small Rocks		
13 - 15' Moist Silt & Consolidated Clay	15.0	
	35	

Well Loc:
Section: 4
Township: 4N
Range: 13W
Well Usage:

Development Method

- [ ] Bailer
- [ ] Airlift
- [ ] Nitrogen
- [ ] Submersible Pump
- [x] Other: Peristaltic Pump

Well Dev. Time:
Volume:

Well Construction Materials:

Protective Cover:
- [ ] Manhole
- [x] Protective Casing
- [ ] Other:

Riser Material: PVC Flushthread
Well Diameter: 2"
Screen Material: PVC Flushthread
Screen Slot Size: 0 01

Bentonite Plug: [x]
Grout: [x]

Sand: Quantity 5 Bags @ 100 lbs ea of #2
1 Bag @ 100 lbs ea of #4

Initial Water Level 10 93'
Water Level at Development: 10 93'

Bonner Analytical Testing Company
2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 264-2854 Fax: (601) 268-7084

MONITORING WELL CONSTRUCTION DIAGRAM

Driller Permit #: 0-527
Client: Hercules
Address: Hattiesburg, MS

Boring No.: 5
Date Started: 12/8/97
Date Finished: 12/8/97

Surface Elevation:
LS/Top of Casing:
Well Installed on Completion: YES

KEY: ☐ Concrete ▒ Grout ▒ Bentonite Seal ▒ Sand Pack ▒ Screen

Lithologic Description	Depth (Feet)	Well Design
	Ground Level	
3.59' Riser	1.5	
	2.5	
0 - 5' Fill & Debris		
	5.0	
6 -7.5' Tan Moist Grity Clay		
7.5 - 9' Tan Silty Moist Soft Sand		
9 - 11.5' Tan Wet Silty Sand		
11.5 - 15' Silty Water		
	15.0	
	20.5	
	25.0	
	30.0	
	35	

Well Loc:
Section: 4
Township: 4N
Range: 13W
Well Usage:

Development Method

- ☐ Bailer
- ☐ Airlift
- ☐ Nitrogen
- ☐ Submersible Pump
- ☒ Other: Peristaltic Pump

Well Dev. Time:
Volume:

Well Construction Materials:

Protective Cover:
- ☐ Manhole
- ☒ Protective Casing
- ☐ Other:

Riser Material: PVC Flushthread
Well Diameter: 2"
Screen Material: PVC Flushthread
Screen Slot Size: 0.01

Bentonite Plug: ☒
Grout: ☒

Sand: Quantity: 4 Bags @ 100 lbs ea of #2
1.5 Bags @ 100 lbs ea #4

Initial Water Level: 10.12'
Water Level at Development: 10.12'

Bonner Analytical Testing Company
2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 264-2854 Fax: (601) 268-7084

MONITORING WELL CONSTRUCTION DIAGRAM

Driller Permit #: 0-527
Client: Hercules
Address: Hattiesburg, MS

Boring No.: 6
Date Started: 12/8/97
Date Finished: 12/8/97

Surface Elevation:
LS/Top of Casing:
Well Installed on Completion: YES

KEY: ☐ Concrete ■ Grout ■ Bentonite Seal ■ Sand Pack ■ Screen

Lithologic Description	Depth (Feet)	Well Design
	Ground Level	
	1.0	
5.25' Riser		
0-2' Brown Fill Top Soil	5.0	
	6.0	
2 - 4' Tan Top Soil		
	8.0	
4 - 5' Light Tan Sand		
5 - 8' Light Tan Sand		
8 - 10 ' Light Tan Grity Clay		
10 - 11' Light Tan Wet Sandy Clay		
11 - 13' Light Tan Wet Sandy Clay		
13 - 15' Light Brown Wet Sandy Clay	18.0	
15 - 17' Wet Consolidated Clay		
17 - 18' Heavy Consolidated Clay		
	35	

Well Loc:
Section: 4
Township: 4N
Range: 13W
Well Usage:

Development Method

- ☐ Bailer
- ☐ Airlift
- ☐ Nitrogen
- ☐ Submersible Pump
- ☒ Other: Peristaltic Pump

Well Dev. Time:
Volume:

Well Construction Materials:

Protective Cover:
- ☐ Manhole
- ☒ Protective Casing
- ☐ Other:

Riser Material: PVC Flushthread
Well Diameter: 2"
Screen Material: PVC Flushthread
Screen Slot Size: 0.01

Bentonite Plug: ☒
Grout: ☒

Sand: Quantity: 4 Bags @ 100 lbs ea of #2
1 Bag @ 100 lbs ea of #4

Initial Water Level 9.56'
Water Level at Development: 9.56'

APPENDIX B

Bonner Analytical Testing Company

2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 264-2854 Fax: (601) 268-7084

CLIENT: HERCULES DATE: 12-13/15-97

LOCATION: Hercules Landfill and Sludge Pit

Monitoring Well #1	Time	pH S.U.	Temp degrees C	Conductivity micromhos/cm	Turbidity NTU	REMARKS
Total Depth TOC 20.46'	1645	5.34	18.5	51	55	FID = 0 ppm
Depth to Water TOC 7.82'	1655	5.52	19.8	83	13.5	
Well Depth BLS 17.00'	1705	5.66	19.9	89	13.0	Sampled @ 1710 Bailed 11 Gallons
Quan. Per Volume 2.15 Gallons	1720	5.65	19.9	92	*13.9	Bailed 11 Gallons add'l
LNAPL - NO DNAPL - NO						

Monitoring Well #2	Time	pH S.U.	Temp degrees C	Conductivity micromhos/cm	Turbidity NTU	REMARKS
Total Depth TOC 20.48'	1550	5.67	16.9	112	5	FID = 0 ppm
Depth to Water TOC 6.83'	1600	5.63	17.6	110	1.9	
Well Depth BLS 17.00'	1610	5.69	17.5	112	1.9	
Quan. Per Volume 2.32 Gallons						Sampled @ 1620 Bailed 12 Gallons
LNAPL - NO DNAPL - NO						

Monitoring Well #3	Time	pH S.U.	Temp degrees C	Conductivity micromhos/cm	Turbidity NTU	REMARKS
Total Depth TOC 18.96'	1515	5.36	17.6	60	4.4	FID = 0 ppm
Depth to Water TOC 7.37'	1520	5.22	16.8	50	0.4	
Well Depth BLS 15.00'	1535	5.18	16.8	50	0.5	
Quan. Per Volume 1.97 Gallons						Sampled @ 1540 Bailed 10 Gallons
LNAPL - NO DNAPL - NO						

*Turbidity exceeds 5 NTU; Remove 5 additional well volumes

Well Volume = 0.17 * Water Column in Feet.

LNAPL - Light Non Aqueous Phase Liquid

DNAPL - Dense Non Aqueous Phase Liquid

TOC - Top of Casing (North Side)

BLS - Below Land Surface

Bonner Analytical Testing Company

2703 Oak Grove Road, Hattiesburg, MS 39402 Phone: (601) 264-2854 Fax: (601) 268-7084

CLIENT: HERCULES DATE: 12-13/15-97

LOCATION: Hercules Landfill and Sludge Pit

Monitoring Well #4	Time	pH S.U.	Temp degrees C	Conductivity micromhos/cm	Turbidity NTU	REMARKS
Total Depth TOC 18.99'	NA	5.34	18.5	350	1.7	FID > 100,000 ppm
Depth to Water TOC 10.93'	NA	6.08	19.7	520	0.9	
Well Depth BLS 15.00'	NA	6.12	19.6	510	0.8	
Quan. Per Volume 1.37 Gallons		6.21	19.5			Bailed 7 Gallons
LNAPL - NO DNAPL - NO						

Monitoring Well #5	Time	pH S.U.	Temp degrees C	Conductivity micromhos/cm	Turbidity NTU	REMARKS
Total Depth TOC 18.59'	1133	6.62	19.5	580	42	FID >100,000 ppm
Depth to Water TOC 10.12'	1140	6.5	19.9	520	26.1	
Well Depth BLS 15.00'	1155	6.41	19.5	520	24.4	Sampled @ 1210 Bailed 7.5 Gallons
Quan. Per Volume 1.44 Gallons	1210	6.4	19.5	515	*25.1	Bailed 7.5 Gallons add'l
LNAPL - NO DNAPL - NO						

Monitoring Well #6	Time	pH S.U.	Temp degrees C	Conductivity micromhos/cm	Turbidity NTU	REMARKS
Total Depth TOC 23.25'	1630	5.88	21.5	198	2.9	FID = 0 ppm
Depth to Water TOC 9.56'	1640	5.91	21.2	185	0.3	
Well Depth BLS 18.00'	1655	6.06	21.4	170	0.3	
Quan. Per Volume 2.32 Gallons						Sampled @ 1500 Bailed 12 Gallons
LNAPL - NO DNAPL - NO						

*Turbidity exceeds 5 NTU; Remove 5 additional well volumes

Well Volume = 0.17 x Water Column in Feet.

LNAPL - Light Non Aqueous Phase Liquid

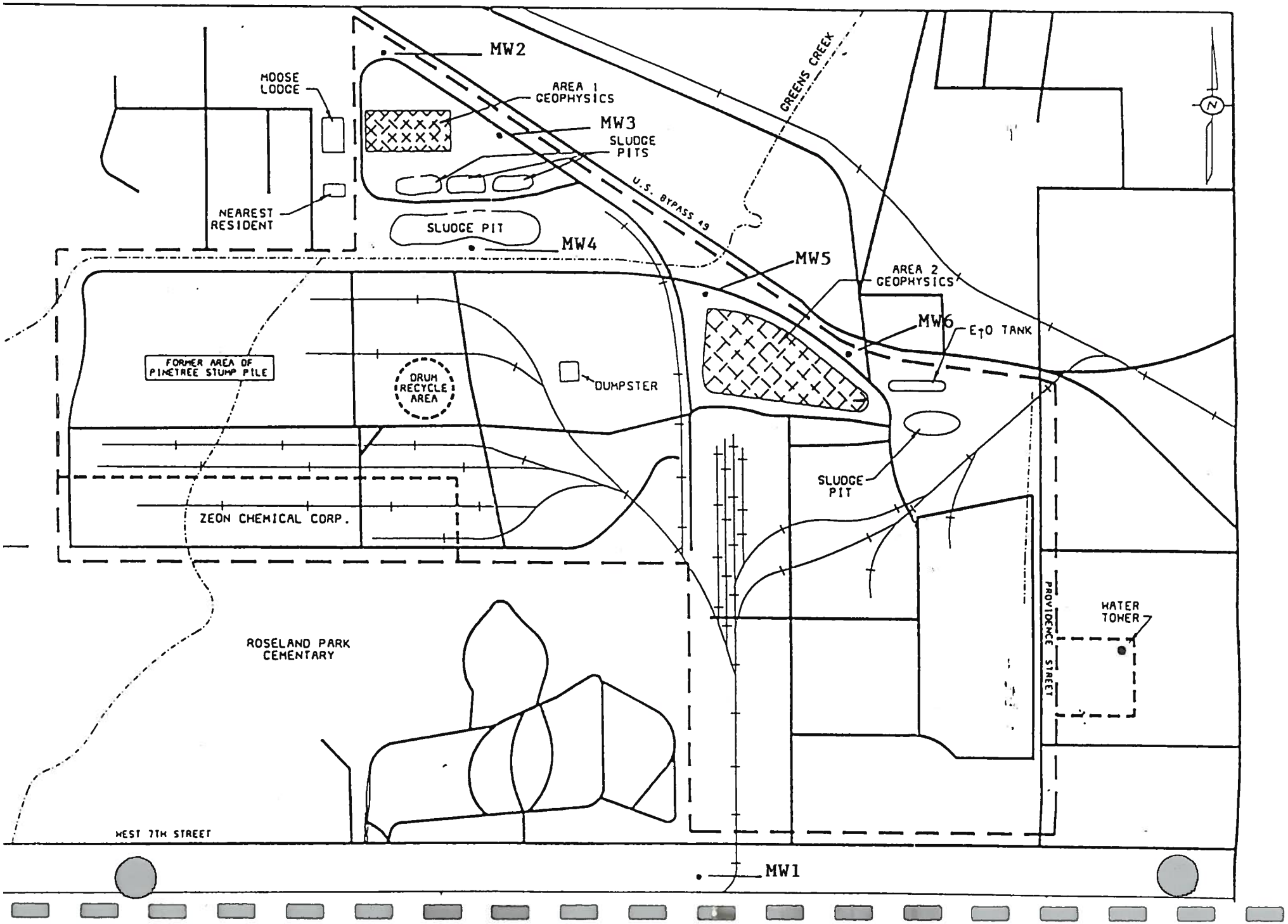
DNAPL - Dense Non Aqueous Phase Liquid

TOC - Top of Casing (North Side)

BLS - Below Land Surface

APPENDIX C

HERCULES, INC.
HATTIESBURG, MS
MONITORING WELL LOCATIONS



APPENDIX D

BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD
HATTIESBURG, MS 39402
PH. (601) 264-2854

Client: HERCULES

File Number: BT42539-42541
Collected By: DOC

Sample Date/Time:
Date/Time Rec'd: 12-16-97 @ 1120

Analyte/Method #	MW-1	MW-2	MW-3	MDL	Date/Time/Analyst
Antimony/200.7	ND	ND	ND	0.02	01-12-98/1121/JMR
Arsenic/200.15	0.0067	0.0022	ND	0.002	01-13-98/1633/JMR
Beryllium/200.7	0.0076	ND	ND	0.001	01-12-98/1121/JMR
Cadmium/213.1	ND	ND	ND	0.04	12-22-97/1129/GMR
Chromium/200.7	0.116	ND	ND	0.01	01-12-98/1121/JMR
Copper/200.7	0.075	ND	ND	0.01	01-14-98/1211/JMR
Lead/239.1	0.132	ND	ND	0.02	12-22-97/1024/GMR
Mercury/245.2	ND	ND	ND	0.0004	01-14-98/1510/GMR
Nickel/200.7	0.052	ND	ND	0.01	01-12-98/1121/JMR
Selenium/200.15	ND	ND	ND	0.002	01-13-98/1633/JMR
Silver/272.1	ND	ND	ND	0.06	12-23-97/0903/GMR
Thallium/200.7	ND	ND	ND	0.025	02-13-98/1234/JMR
Zinc/289.1	0.190	ND	ND	0.02	12-18-97/1448/GMR

Data reported in mg/L unless otherwise noted. All analyses performed in accordance with 40 CFR 136 and amendments.

MDL = Method Detection Limit.

Certified by: Michael S. Bonner

Michael S. Bonner, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

sr

BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD
HATTIESBURG, MS 39402
PH. (601) 264-2854

Client: HERCULES

File Number: BT42542-42544
Collected By: DOC

Sample Date/Time:
Date/Time Rec'd: 12-16-97 @ 1120

Analyte/Method #	MW-4	MW-5	MW-6	MDL	Date/Time/Analyst
Antimony/200.7	ND	ND	ND	0.02	01-12-98/1121/JMR
Arsenic/200.15	0.1536	0.1035	ND	0.002	01-13-98/1633/JMR
Beryllium/200.7	0.014	ND	ND	0.001	01-12-98/1121/JMR
Cadmium/213.1	ND	ND	ND	0.04	12-22-97/1129/GMR
Chromium/200.7	0.223	0.046	0.015	0.01	01-12-98/1121/JMR
Copper/200.7	0.154	ND	ND	0.01	01-14-98/1211/JMR
Lead/239.1	ND	ND	ND	0.02	12-22-97/1024/GMR
Mercury/245.2	0.0007	0.0007	0.0007	0.0004	01-14-98/1510/GMR
Nickel/200.7	0.312	0.025	ND	0.01	01-12-98/1121/JMR
Selenium/200.15	ND	ND	ND	0.002	01-13-98/1633/JMR
Silver/272.1	ND	ND	ND	0.06	12-23-97/0903/GMR
Thallium/200.7	ND	ND	ND	0.025	02-13-98/1234/JMR
Zinc/289.1	0.361	0.089	ND	0.02	12-18-97/1448/GMR

Data reported in mg/L unless otherwise noted. All analyses performed in accordance with 40 CFR 136 and amendments.

MDL = Method Detection Limit.

Certified by: _____
Michael S. Bonner, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

sr

BONNER ANALYTICAL TESTING COMPANY
2703 OAK GROVE ROAD
HATTIESBURG, MS 39402
PH. (601) 264-2854

Client: HERCULES

File Number: BT42545-42546 Sample Date/Time:
Collected By: DOC Date/Time Rec'd: 12-16-97 @ 1120

Analyte/Method #	Trip Blank	Equipment Blank	MDL	Date/Time/Analyst
Antimony/200.7	ND	ND	0.02	01-12-98/1121/JMR
Arsenic/200.15	ND	ND	0.002	01-13-98/1633/JMR
Beryllium/200.7	ND	ND	0.001	01-12-98/1121/JMR
Cadmium/213.1	ND	ND	0.04	12-22-97/1129/GMR
Chromium/200.7	ND	ND	0.01	01-12-98/1121/JMR
Copper/200.7	ND	ND	0.01	01-14-98/1211/JMR
Lead/239.1	ND	ND	0.02	12-22-97/1024/GMR
Mercury/245.2	ND	ND	0.0004	01-14-98/1510/GMR
Nickel/200.7	ND	ND	0.01	01-12-98/1121/JMR
Selenium/200.15	ND	ND	0.002	01-13-98/1633/JMR
Silver/272.1	ND	ND	0.06	12-23-97/0903/GMR
Thallium/200.7	ND	ND	0.025	02-13-98/1234/JMR
Zinc/289.1	ND	ND	0.02	12-18-97/1448/GMR

Data reported in mg/L unless otherwise noted. All analyses performed in accordance with 40 CFR 136 and amendments.

MDL = Method Detection Limit.

Certified by: _____
Michael S. Bonner, Ph.D.
BONNER ANALYTICAL TESTING COMPANY

BONNER ANALYTICAL TESTING COMPANY
QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
PESTICIDE/POLYCHLORINATED BIPHENYLS - ECD ANALYSIS DATA

Client: Hercules
Sample ID: MW-1
File #: BT42539

	Date	Time	Analyst
Collected:	12/15/97	17:30	DOC
Extracted:	12/18/97	9:45	RML
Analyzed:	12/23/97	1:42	RML

Sample Type: Water
Extraction Method: SW846 3510
Analysis Metho: SW846 8081A

COMPOUNDS	MDL ug/L (ppb)	SAMPLE Detected Amount ug/L (ppb)	SAMPLE Spike Amount ug	SAMPLE Spike % Recovery	METHOD BLANK Detected Amount ug/L (ppb)	METHOD BLANK Spike Amount ug	METHOD BLANK Spike % Recovery	MATRIX SPIKE Detected Amount ug/L (ppb)	MATRIX SPIKE Spike Amount ug	MATRIX SPIKE Spike % Recovery	MATRIX SPIKE DUPLICATE Detected Amount ug/L (ppb)	MATRIX SPIKE DUPLICATE Spike Amount ug	MATRIX SPIKE DUPLICATE Spike % Recovery
1P. Aldrin *	0.05	ND			ND			192.4	250.0	76.96	220.8	250.0	88.32
2P. Alpha-BHC	0.05	ND			ND								
3P. Beta-BHC	0.05	ND			ND								
4P. Gamma-BHC *	0.05	ND			ND			212.8	250.0	85.12	239.5	250.0	95.80
5P. Delta-BHC	0.05	ND			ND								
6P. Chlordane	0.50	ND			ND								
7P. 4,4'-DDT *	0.10	ND			ND			421.9	500.0	84.38	446.3	500.0	89.26
8P. 4,4'-DDE	0.10	ND			ND								
9P. 4,4'-DDD	0.05	ND			ND								
10P. Dieldrin *	0.10	ND			ND			456.5	500.0	91.30	499.5	500.0	99.90
11P. Alpha-Endosulfan	0.10	ND			ND								
12P. Beta-Endosulfan	0.10	ND			ND								
13P. Endosulfan Sulfate	0.10	ND			ND								
14P. Endrin *	0.10	ND			ND			461.1	500.0	92.22	503.6	500.0	100.72
15P. Endrin Aldehyde	0.10	ND			ND								
16P. Heptachlor *	0.05	ND			ND			214.5	250.0	85.80	212.4	250.0	84.96
17P. Heptachlor Epoxide	0.10	ND			ND								
18P. PCB1242	0.50	ND			ND								
19P. PCB1254	1.00	ND			ND								
20P. PCB1221	0.50	ND			ND								
21P. PCB1232	0.50	ND			ND								
22P. PCB1248	1.00	ND			ND								
23P. PCB1260	1.00	ND			ND								
24P. PCB1016	0.50	ND			ND								
25P. Toxaphene	1.00	ND			ND								
SURROGATE COMPOUNDS		Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Decachlorobiphenyl		21.53	20.00	107.65	18.25	20.00	91.25	21.68	20.00	108.40	21.58	20.00	107.90

* = Matrix Spiking Compounds

Certified by: _____
Michael S. Bonner, Ph.D
BONNER ANALYTICAL TESTING COMPANY

BONNER ANALYTICAL TESTING COMPANY
QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
PESTICIDE/POLYCHLORINATED BIPHENYLS - ECD ANALYSIS DATA

Client: Hercules
Sample ID: MW-2
File #: BT42540

	Date	Time	Analyst
Collected:	12/15/97	16:20	DOC
Extracted:	12/18/97	9:45	RML
Analyzed:	12/23/97	2:29	RML

Sample Type: Water
Extraction Method: SW846 3510
Analysis Metho: SW846 8081A

COMPOUNDS	MDL ug/L (ppb)	SAMPLE Detected Amount ug/L (ppb)	SAMPLE Spike Amount ug	SAMPLE Spike % Recovery	METHOD BLANK Detected Amount ug/L (ppb)	METHOD BLANK Spike Amount ug	METHOD BLANK Spike % Recovery	MATRIX SPIKE Detected Amount ug/L (ppb)	MATRIX SPIKE Spike Amount ug	MATRIX SPIKE Spike % Recovery	MATRIX SPIKE DUPLICATE Detected Amount ug/L (ppb)	MATRIX SPIKE DUPLICATE Spike Amount ug	MATRIX SPIKE DUPLICATE Spike % Recovery
1P. Aldrin *	0.05	ND			ND			192.4	250.0	76.96	220.8	250.0	88.32
2P. Alpha-BHC	0.05	ND			ND								
3P. Beta-BHC	0.05	ND			ND								
4P. Gamma-BHC *	0.05	ND			ND			212.8	250.0	85.12	239.5	250.0	95.80
5P. Delta-BHC	0.05	ND			ND								
6P. Chlordane	0.50	ND			ND								
7P. 4,4'-DDT *	0.10	ND			ND			421.9	500.0	84.38	446.3	500.0	89.26
8P. 4,4'-DDE	0.10	ND			ND								
9P. 4,4'-DDD	0.05	ND			ND								
10P. Dieldrin *	0.10	ND			ND			456.5	500.0	91.30	499.5	500.0	99.90
11P. Alpha-Endosulfan	0.10	ND			ND								
12P. Beta-Endosulfan	0.10	ND			ND								
13P. Endosulfan Sulfate	0.10	ND			ND								
14P. Endrin *	0.10	ND			ND			461.1	500.0	92.22	503.6	500.0	100.72
15P. Endrin Aldehyde	0.10	ND			ND								
16P. Heptachlor *	0.05	ND			ND			214.5	250.0	85.80	212.4	250.0	84.96
17P. Heptachlor Epoxide	0.10	ND			ND								
18P. PCB1242	0.50	ND			ND								
19P. PCB1254	1.00	ND			ND								
20P. PCB1221	0.50	ND			ND								
21P. PCB1232	0.50	ND			ND								
22P. PCB1248	1.00	ND			ND								
23P. PCB1260	1.00	ND			ND								
24P. PCB1016	0.50	ND			ND								
25P Toxaphene	1.00	ND			ND								
SURROGATE COMPOUNDS		Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Decachlorobiphenyl		20.37	20.00	101.85	18.25	20.00	91.25	21.68	20.00	108.40	21.58	20.00	107.90

* = Matrix Spiking Compounds

Certified by: _____
Michael S. Bonner, Ph.D
BONNER ANALYTICAL TESTING COMPANY

BONNER ANALYTICAL TESTING COMPANY
QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
PESTICIDE/POLYCHLORINATED BIPHENYLS - ECD ANALYSIS DATA

Client: Hercules
Sample ID: MW-3
File #: BT42541

Collected: 12/15/97 15:40 DOC
Extracted: 12/18/97 9:45 RML
Analyzed: 12/23/97 3:17 RML
Date Time Analyst

Sample Type: Water
Extraction Method: SW846 3510
Analysis Metho: SW846 8081A

COMPOUNDS	MDL ug/L (ppb)	SAMPLE Detected Amount ug/L (ppb)	SAMPLE Spike Amount ug	SAMPLE Spike % Recovery	METHOD BLANK Detected Amount ug/L (ppb)	METHOD BLANK Spike Amount ug	METHOD BLANK Spike % Recovery	MATRIX SPIKE Detected Amount ug/L (ppb)	MATRIX SPIKE Spike Amount ug	MATRIX SPIKE Spike % Recovery	MATRIX SPIKE DUPLICATE Detected Amount ug/L (ppb)	MATRIX SPIKE DUPLICATE Spike Amount ug	MATRIX SPIKE DUPLICATE Spike % Recovery
1P. Aldrin *	0.05	ND			ND			192.4	250.0	76.96	220.8	250.0	88.32
2P. Alpha-BHC	0.05	ND			ND								
3P. Beta-BHC	0.05	ND			ND								
4P. Gamma-BHC *	0.05	ND			ND			212.8	250.0	85.12	239.5	250.0	95.80
5P. Delta-BHC	0.05	ND			ND								
6P. Chlordane	0.50	ND			ND								
7P. 4,4'-DDT *	0.10	ND			ND			421.9	500.0	84.38	446.3	500.0	89.26
8P. 4,4'-DDE	0.10	ND			ND								
9P. 4,4'-DDD	0.05	ND			ND								
10P. Dieldrin *	0.10	ND			ND			456.5	500.0	91.30	499.5	500.0	99.90
11P. Alpha-Endosulfan	0.10	ND			ND								
12P. Beta-Endosulfan	0.10	ND			ND								
13P. Endosulfan Sulfate	0.10	ND			ND								
14P. Endrin *	0.10	ND			ND			461.1	500.0	92.22	503.6	500.0	100.72
15P. Endrin Aldehyde	0.10	ND			ND								
16P. Heptachlor *	0.05	ND			ND			214.5	250.0	85.80	212.4	250.0	84.96
17P. Heptachlor Epoxide	0.10	ND			ND								
18P. PCB1242	0.50	ND			ND								
19P. PCB1254	1.00	ND			ND								
20P. PCB1221	0.50	ND			ND								
21P. PCB1232	0.50	ND			ND								
22P. PCB1248	1.00	ND			ND								
23P. PCB1260	1.00	ND			ND								
24P. PCB1016	0.50	ND			ND								
25P. Toxaphene	1.00	ND			ND								
SURROGATE COMPOUNDS		Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Decachlorobiphenyl		19.76	20.00	98.80	18.25	20.00	91.25	21.68	20.00	108.40	21.58	20.00	107.90

* = Matrix Spiking Compounds

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QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
PESTICIDE/POLYCHLORINATED BIPHENYLS - ECD ANALYSIS DATA

Client: Hercules
Sample ID: MW-4
File #: BT42542

	Date	Time	Analyst
Collected:	12/12/97	13:10	DOC
Extracted:	12/18/97	9:45	RML
Analyzed:	12/23/97	4:05	RML

Sample Type: Water
Extraction Method: SW846 3510
Analysis Metho: SW846 8081A

COMPOUNDS	MDL ug/L (ppb)	SAMPLE Detected Amount ug/L (ppb)	SAMPLE Spike Amount ug	SAMPLE Spike % Recovery	METHOD BLANK Detected Amount ug/L (ppb)	METHOD BLANK Spike Amount ug	METHOD BLANK Spike % Recovery	MATRIX SPIKE Detected Amount ug/L (ppb)	MATRIX SPIKE Spike Amount ug	MATRIX SPIKE Spike % Recovery	MATRIX SPIKE DUPLICATE Detected Amount ug/L (ppb)	MATRIX SPIKE DUPLICATE Spike Amount ug	MATRIX SPIKE DUPLICATE Spike % Recovery
1P. Aldrin *	0.05	ND			ND			192.4	250.0	76.96	220.8	250.0	88.32
2P. Alpha-BHC	0.05	ND			ND								
3P. Beta-BHC	0.05	ND			ND								
4P. Gamma-BHC *	0.05	ND			ND			212.8	250.0	85.12	239.5	250.0	95.80
5P. Delta-BHC	0.05	ND			ND								
6P. Chlordane	0.50	ND			ND								
7P. 4,4'-DDT *	0.10	ND			ND			421.9	500.0	84.38	446.3	500.0	89.26
8P. 4,4'-DDE	0.10	ND			ND								
9P. 4,4'-DDD	0.05	ND			ND								
10P. Dieldrin *	0.10	ND			ND			456.5	500.0	91.30	499.5	500.0	99.90
11P. Alpha-Endosulfan	0.10	ND			ND								
12P. Beta-Endosulfan	0.10	ND			ND								
13P. Endosulfan Sulfate	0.10	ND			ND								
14P. Endrin *	0.10	ND			ND			461.1	500.0	92.22	503.6	500.0	100.72
15P. Endrin Aldehyde	0.10	ND			ND								
16P. Heptachlor *	0.05	ND			ND			214.5	250.0	85.80	212.4	250.0	84.96
17P. Heptachlor Epoxide	0.10	ND			ND								
18P. PCB1242	0.50	ND			ND								
19P. PCB1254	1.00	ND			ND								
20P. PCB1221	0.50	ND			ND								
21P. PCB1232	0.50	ND			ND								
22P. PCB1248	1.00	ND			ND								
23P. PCB1260	1.00	ND			ND								
24P. PCB1016	0.50	ND			ND								
25P. Toxaphene	1.00	ND			ND								
SURROGATE COMPOUNDS		Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Decachlorobiphenyl		14.50	20.00	72.50	18.25	20.00	91.25	21.68	20.00	108.40	21.58	20.00	107.90

* = Matrix Spiking Compounds

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QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
PESTICIDE/POLYCHLORINATED BIPHENYLS - ECD ANALYSIS DATA

Client: Hercules
Sample ID: MW-5
File #: BT42543

	Date	Time	Analyst
Collected:	12/12/97	9:00	DOC
Extracted:	12/18/97	9:45	RML
Analyzed:	12/23/97	4:52	RML

Sample Type: Water
Extraction Method: SW846 3510
Analysis Metho: SW846 8081A

COMPOUNDS	MDL ug/L (ppb)	SAMPLE Detected Amount ug/L (ppb)	SAMPLE Spike Amount ug	SAMPLE Spike % Recovery	METHOD BLANK Detected Amount ug/L (ppb)	METHOD BLANK Spike Amount ug	METHOD BLANK Spike % Recovery	MATRIX SPIKE Detected Amount ug/L (ppb)	MATRIX SPIKE Spike Amount ug	MATRIX SPIKE Spike % Recovery	MATRIX SPIKE DUPLICATE Detected Amount ug/L (ppb)	MATRIX SPIKE DUPLICATE Spike Amount ug	MATRIX SPIKE DUPLICATE Spike % Recovery
1P. Aldrin *	0.05	ND			ND			192.4	250.0	76.96	220.8	250.0	88.32
2P. Alpha-BHC	0.05	ND			ND								
3P. Beta-BHC	0.05	ND			ND								
4P. Gamma-BHC *	0.05	ND			ND			212.8	250.0	85.12	239.5	250.0	95.80
5P. Delta-BHC	0.05	ND			ND								
6P. Chlordane	0.50	ND			ND								
7P. 4,4'-DDT *	0.10	ND			ND			421.9	500.0	84.38	446.3	500.0	89.26
8P. 4,4'-DDE	0.10	ND			ND								
9P. 4,4'-DDD	0.05	ND			ND								
10P. Dieldrin *	0.10	ND			ND			456.5	500.0	91.30	499.5	500.0	99.90
11P. Alpha-Endosulfan	0.10	ND			ND								
12P. Beta-Endosulfan	0.10	ND			ND								
13P. Endosulfan Sulfate	0.10	ND			ND								
14P. Endrin *	0.10	ND			ND			461.1	500.0	92.22	503.6	500.0	100.72
15P. Endrin Aldehyde	0.10	ND			ND								
16P. Heptachlor *	0.05	ND			ND			214.5	250.0	85.80	212.4	250.0	84.96
17P. Heptachlor Epoxide	0.10	ND			ND								
18P. PCB1242	0.50	ND			ND								
19P. PCB1254	1.00	ND			ND								
20P. PCB1221	0.50	ND			ND								
21P. PCB1232	0.50	ND			ND								
22P. PCB1248	1.00	ND			ND								
23P. PCB1260	1.00	ND			ND								
24P. PCB1016	0.50	ND			ND								
25P. Toxaphene	1.00	ND			ND								
SURROGATE COMPOUNDS		Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Decachlorobiphenyl		17.58	20.00	87.90	18.25	20.00	91.25	21.68	20.00	108.40	21.58	20.00	107.90

* = Matrix Spiking Compounds

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QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
PESTICIDE/POLYCHLORINATED BIPHENYLS - ECD ANALYSIS DATA

Client: Hercules
Sample ID: MW-6
File #: BT42544

	Date	Time	Analyst
Collected:	12/12/97	13:10	DOC
Extracted:	12/18/97	9:45	RML
Analyzed:	12/23/97	5:40	RML

Sample Type: Water
Extraction Method: SW846 3510
Analysis Metho: SW846 8081A

COMPOUNDS	MDL ug/L (ppb)	SAMPLE Detected Amount ug/L (ppb)	SAMPLE Spike Amount ug	SAMPLE Spike % Recovery	METHOD BLANK Detected Amount ug/L (ppb)	METHOD BLANK Spike Amount ug	METHOD BLANK Spike % Recovery	MATRIX SPIKE Detected Amount ug/L (ppb)	MATRIX SPIKE Spike Amount ug	MATRIX SPIKE Spike % Recovery	MATRIX SPIKE DUPLICATE Detected Amount ug/L (ppb)	MATRIX SPIKE DUPLICATE Spike Amount ug	MATRIX SPIKE DUPLICATE Spike % Recovery
1P. Aldrin *	0.05	ND			ND								
2P. Alpha-BHC	0.05	ND			ND			192.4	250.0	76.96	220.8	250.0	88.32
3P. Beta-BHC	0.05	ND			ND								
4P. Gamma-BHC *	0.05	ND			ND								
5P. Delta-BHC	0.05	ND			ND			212.8	250.0	85.12	239.5	250.0	95.80
6P. Chlordane	0.50	ND			ND								
7P. 4,4'-DDT *	0.10	ND			ND								
8P. 4,4'-DDE	0.10	ND			ND			421.9	500.0	84.38	446.3	500.0	89.26
9P. 4,4'-DDD	0.05	ND			ND								
10P. Dieldrin *	0.10	ND			ND								
11P. Alpha-Endosulfan	0.10	ND			ND			456.5	500.0	91.30	499.5	500.0	99.90
12P. Beta-Endosulfan	0.10	ND			ND								
13P. Endosulfan Sulfate	0.10	ND			ND								
14P. Endrin *	0.10	ND			ND								
15P. Endrin Aldehyde	0.10	ND			ND			461.1	500.0	92.22	503.6	500.0	100.72
16P. Heptachlor *	0.05	ND			ND								
17P. Heptachlor Epoxide	0.10	ND			ND			214.5	250.0	85.80	212.4	250.0	84.96
18P. PCB1242	0.50	ND			ND								
19P. PCB1254	1.00	ND			ND								
20P. PCB1221	0.50	ND			ND								
21P. PCB1232	0.50	ND			ND								
22P. PCB1248	1.00	ND			ND								
23P. PCB1260	1.00	ND			ND								
24P. PCB1016	0.50	ND			ND								
25P. Toxaphene	1.00	ND			ND								
SURROGATE COMPOUNDS		Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Decachlorobiphenyl		19.36	20.00	96.80	18.25	20.00	91.25	21.68	20.00	108.40	21.58	20.00	107.90

* = Matrix Spiking Compounds

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QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
PESTICIDE/POLYCHLORINATED BIPHENYLS - ECD ANALYSIS DATA

Client: Hercules
Sample ID: Trip Blank
File #: BT42545

	Date	Time	Analyst
Collected:	12/12/97		DOC
Extracted:	12/18/97	9:45	RML
Analyzed:	12/23/97	6:27	RML

Sample Type: Water
Extraction Method: SW846 3510
Analysis Metho: SW846 8081A

COMPOUNDS	MDL ug/L (ppb)	SAMPLE Detected Amount ug/L (ppb)	SAMPLE Spike Amount ug	SAMPLE Spike % Recovery	METHOD BLANK Detected Amount ug/L (ppb)	METHOD BLANK Spike Amount ug	METHOD BLANK Spike % Recovery	MATRIX SPIKE Detected Amount ug/L (ppb)	MATRIX SPIKE Spike Amount ug	MATRIX SPIKE Spike % Recovery	MATRIX SPIKE DUPLICATE Detected Amount ug/L (ppb)	MATRIX SPIKE DUPLICATE Spike Amount ug	MATRIX SPIKE DUPLICATE Spike % Recovery
1P. Aldrin *	0.05	ND			ND			192.4	250.0	76.96	220.8	250.0	88.32
2P. Alpha-BHC	0.05	ND			ND								
3P. Beta-BHC	0.05	ND			ND								
4P. Gamma-BHC *	0.05	ND			ND			212.8	250.0	85.12	239.5	250.0	95.80
5P. Delta-BHC	0.05	ND			ND								
6P. Chlordane	0.50	ND			ND								
7P. 4,4'-DDT *	0.10	ND			ND			421.9	500.0	84.38	446.3	500.0	89.26
8P. 4,4'-DDE	0.10	ND			ND								
9P. 4,4'-DDD	0.05	ND			ND								
10P. Dieldrin *	0.10	ND			ND			456.5	500.0	91.30	499.5	500.0	99.90
11P. Alpha-Endosulfan	0.10	ND			ND								
12P. Beta-Endosulfan	0.10	ND			ND								
13P. Endosulfan Sulfate	0.10	ND			ND								
14P. Endrin *	0.10	ND			ND			461.1	500.0	92.22	503.6	500.0	100.72
15P. Endrin Aldehyde	0.10	ND			ND								
16P. Heptachlor *	0.05	ND			ND			214.5	250.0	85.80	212.4	250.0	84.96
17P. Heptachlor Epoxide	0.10	ND			ND								
18P. PCB1242	0.50	ND			ND								
19P. PCB1254	1.00	ND			ND								
20P. PCB1221	0.50	ND			ND								
21P. PCB1232	0.50	ND			ND								
22P. PCB1248	1.00	ND			ND								
23P. PCB1260	1.00	ND			ND								
24P. PCB1016	0.50	ND			ND								
25P. Toxaphene	1.00	ND			ND								
SURROGATE COMPOUNDS		Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Decachlorobiphenyl		21.91	20.00	109.55	18.25	20.00	91.25	21.68	20.00	108.40	21.58	20.00	107.90

* = Matrix Spiking Compounds

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QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
PESTICIDE/POLYCHLORINATED BIPHENYLS - ECD ANALYSIS DATA

Client: Hercules
Sample ID: Equipment Blank
File #: BT42546

	Date	Time	Analyst
Collected	12/15/97		DOC
Extracted	12/18/97	9:45	RML
Analyzed	12/23/97	7:15	RML

Sample Type: Water
Extraction Method: SW846 3510
Analysis Metho: SW846 8081A

COMPOUNDS	MDL ug/L (ppb)	SAMPLE Detected Amount ug/L (ppb)	SAMPLE Spike Amount ug	SAMPLE Spike % Recovery	METHOD BLANK Detected Amount ug/L (ppb)	METHOD BLANK Spike Amount ug	METHOD BLANK Spike % Recovery	MATRIX SPIKE Detected Amount ug/L (ppb)	MATRIX SPIKE Spike Amount ug	MATRIX SPIKE Spike % Recovery	MATRIX SPIKE DUPLICATE Detected Amount ug/L (ppb)	MATRIX SPIKE DUPLICATE Spike Amount ug	MATRIX SPIKE DUPLICATE Spike % Recovery
1P. Aldrin *	0.05	ND			ND			192.4	250.0	76.96	220.8	250.0	88.32
2P. Alpha-BHC	0.05	ND			ND								
3P. Beta-BHC	0.05	ND			ND								
4P. Gamma-BHC *	0.05	ND			ND			212.8	250.0	85.12	239.5	250.0	95.80
5P. Delta-BHC	0.05	ND			ND								
6P. Chlordane	0.50	ND			ND								
7P. 4,4'-DDT *	0.10	ND			ND			421.9	500.0	84.38	446.3	500.0	89.26
8P. 4,4'-DDE	0.10	ND			ND								
9P. 4,4'-DDD	0.05	ND			ND								
10P. Dieldrin *	0.10	ND			ND			456.5	500.0	91.30	499.5	500.0	99.90
11P. Alpha-Endosulfan	0.10	ND			ND								
12P. Beta-Endosulfan	0.10	ND			ND								
13P. Endosulfan Sulfate	0.10	ND			ND								
14P. Endrin *	0.10	ND			ND			461.1	500.0	92.22	503.6	500.0	100.72
15P. Endrin Aldehyde	0.10	ND			ND								
16P. Heptachlor *	0.05	ND			ND			214.5	250.0	85.80	212.4	250.0	84.96
17P. Heptachlor Epoxide	0.10	ND			ND								
18P. PCB1242	0.50	ND			ND								
19P. PCB1254	1.00	ND			ND								
20P. PCB1221	0.50	ND			ND								
21P. PCB1232	0.50	ND			ND								
22P. PCB1248	1.00	ND			ND								
23P. PCB1260	1.00	ND			ND								
24P. PCB1016	0.50	ND			ND								
25P. Toxaphene	1.00	ND			ND								
SURROGATE COMPOUNDS		Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Decachlorobiphenyl		20.42	20.00	102.10	18.25	20.00	91.25	21.68	20.00	108.40	21.58	20.00	107.90

* = Matrix Spiking Compounds

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QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 1
File #: BT42539

	Date	Time	Analyst
Collected:	12/15/97	17:30	BATCO
Received:	12/16/97	11:20	RWC
Analyzed:	12/18/97	12:20	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT42541)			MATRIX SPIKE DUP (BT42541)		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			52.2	250.0	104.4	51.3	250.0	102.6
Benzene	71-43-2	2.00	ND			ND			52.4	250.0	104.8	51.5	250.0	103.0
Trichloroethene	79-01-6	2.50	ND			ND			52.5	250.0	105.0	53.0	250.0	106.0
Toluene	108-88-3	2.50	ND			ND			53.1	250.0	106.2	53.1	250.0	106.2
Chlorobenzene	108-90-7	2.00	ND			ND			52.9	250.0	105.8	54.0	250.0	108.0
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalene	91-20-3	3.00	ND			ND			ND			ND		
n-Propylbenzene	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 1
File #: BT42539

	Date	Time	Analyst
Collected:	12/15/97	17:30	BATCO
Received:	12/16/97	11:20	RWC
Analysis:	12/18/97	12:20	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE Detected Amount ug/L (ppb)	SAMPLE Spike Amount ug	SAMPLE Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	MATRIX SPIKE Detected Amount ug/L (ppb)	MATRIX SPIKE Spike Amount ng	MATRIX SPIKE Spike % Recovery	MATRIX SPIKE DUP Detected Amount ug/L (ppb)	MATRIX SPIKE DUP Spike Amount ng	MATRIX SPIKE DUP Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**
Dibromofluoromethane	1868-53-7		49.5	250.0	99.0	46.6	250.0	93.2	46.0	250.0	92.0	46.7	250.0	93.4
Toluene-d8	2037-26-5		44.9	250.0	89.8	49.2	250.0	98.4	46.1	250.0	92.2	45.9	250.0	91.8
4-Bromofluorobenzene	460-00-4		47.0	250.0	94.0	49.7	250.0	99.4	47.9	250.0	95.8	48.9	250.0	97.8

Certified by:

Michael S. Bonner, Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : HERCULES

File # : BT42539

Sample Matrix : Water

Lab Sample ID : MW-1

Sample Collection Date : 12/15/97

Sample Analysis Date : 12/18/97

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0.53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Number TICs Found : 0

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW 846 method 8260 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 2
File #: BT42540

	Date	Time	
Collected:	12/15/97	16:20	BATCO
Received:	12/16/97	11:20	RWC
Analyzed:	12/18/97	13:21	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT42541)			MATRIX SPIKE DUP (BT42541)		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ng	% Recovery		Amount ng	% Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			52.2	250.0	104.4	51.3	250.0	102.6
Benzene	71-43-2	2.00	ND			ND			52.4	250.0	104.8	51.5	250.0	103.0
Trichloroethene	79-01-6	2.50	ND			ND			52.5	250.0	105.0	53.0	250.0	106.0
Toluene	108-88-3	2.50	ND			ND			53.1	250.0	106.2	53.1	250.0	106.2
Chlorobenzene	108-90-7	2.00	ND			ND			52.9	250.0	105.8	54.0	250.0	108.0
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalene	91-20-3	3.00	ND			ND			ND			ND		
n-Propylbenzene	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

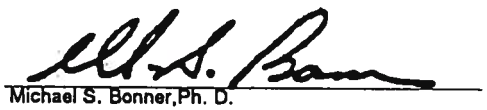
Client: HERCULES
Location: MW - 2
File #: BT42540

	Date	Time	Analyst
Collected:	12/15/97	16:20	BATCO
Received:	12/16/97	11:20	RWC
Analysis:	12/18/97	13:21	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		47.5	250.0	95.0	46.6	250.0	93.2	46.0	250.0	92.0	46.7	250.0	93.4
Toluene-d8	2037-26-5		48.4	250.0	96.8	49.2	250.0	98.4	46.1	250.0	92.2	45.9	250.0	91.8
4-Bromofluorobenzene	460-00-4		45.3	250.0	90.6	49.7	250.0	99.4	47.9	250.0	95.8	48.9	250.0	97.8

Certified by:



Michael S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : HERCULES

File # : BT42540

Sample Matrix : Water

Lab Sample ID : MW-2

Sample Collection Date : 12/15/97

Sample Analysis Date : 12/18/97

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0.53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Number TICs Found : 0

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW 846 method 8260 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 3
File #: BT42541

	Date	Time	Analyst
Collected:	12/15/97	15:40	BATCO
Received:	12/16/97	11:20	RWC
Analyzed:	12/18/97	14:22	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT42541)			MATRIX SPIKE DUP (BT42541)		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			52.2	250.0	104.4	51.3	250.0	102.6
Benzene	71-43-2	2.00	ND			ND			52.4	250.0	104.8	51.5	250.0	103.0
Trichloroethene	79-01-6	2.50	ND			ND			52.5	250.0	105.0	53.0	250.0	106.0
Toluene	108-88-3	2.50	ND			ND			53.1	250.0	106.2	53.1	250.0	106.2
Chlorobenzene	108-90-7	2.00	ND			ND			52.9	250.0	105.8	54.0	250.0	108.0
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalene	91-20-3	3.00	ND			ND			ND			ND		
n-Propylbenzene	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 3
File #: BT42541

	Date	Time	Analyst
Collected:	12/15/97	15:40	BATCO
Received:	12/16/97	11:20	RWC
Analysis:	12/18/97	14:22	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		47.8	250.0	95.6	46.6	250.0	93.2	46.0	250.0	92.0	46.7	250.0	93.4
Toluene-d8	2037-26-5		50.4	250.0	100.8	49.2	250.0	98.4	46.1	250.0	92.2	45.9	250.0	91.8
4-Bromofluorobenzene	460-00-4		48.0	250.0	96.0	49.7	250.0	99.4	47.9	250.0	95.8	48.9	250.0	97.8

Certified by:

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Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : HERCULES

File # : BT42541

Sample Matrix : Water

Lab Sample ID : MW-3

Sample Collection Date : 12/15/97

Sample Analysis Date : 12/18/97

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0.53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Number TICs Found : 0

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW 846 method 8260 compounds only.

BONNER ANALYTICAL TESTING COMPANY
QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 4
File #: BT42542

	Date	Time	Analyst
Collected:	12/12/97	13:10	BATCO
Received:	12/16/97	11:20	RWC
Analyzed:	12/18/97	19:56	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT42541)			MATRIX SPIKE DUP (BT42541)		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			52.2	250.0	104.4	51.3	250.0	102.6
Benzene	71-43-2	2.00	ND			ND			52.4	250.0	104.8	51.5	250.0	103.0
Trichloroethene	79-01-6	2.50	ND			ND			52.5	250.0	105.0	53.0	250.0	106.0
Toluene	108-88-3	2.50	ND			ND			53.1	250.0	106.2	53.1	250.0	106.2
Chlorobenzene	108-90-7	2.00	ND			ND			52.9	250.0	105.8	54.0	250.0	108.0
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalene	91-20-3	3.00	ND			ND			ND			ND		
n-Propylbenzene	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

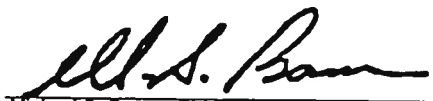
Client: HERCULES
Location: MW - 4
File #: BT42542

	Date	Time	Analyst
Collected:	12/12/97	13:10	BATCO
Received:	12/16/97	11:20	RWC
Analysis:	12/18/97	19:56	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		44.7	250.0	89.4	46.6	250.0	93.2	46.0	250.0	92.0	46.7	250.0	93.4
Toluene-d8	2037-26-5		48.4	250.0	96.8	49.2	250.0	98.4	46.1	250.0	92.2	45.9	250.0	91.8
4-Bromofluorobenzene	460-00-4		48.3	250.0	96.6	49.7	250.0	99.4	47.9	250.0	95.8	48.9	250.0	97.8

Certified by:



Michael S. Bonner, Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : HERCULES

File # : BT42542

Sample Matrix : Water

Lab Sample ID : MW-4

Sample Collection Date : 12/12/97

Sample Analysis Date : 12/18/97

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0.53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Number TICs Found : 2

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION
67-64-1	Acetone	10.6	169
78-93-3	MEK	17.2	182

NOTE: TICs reported for SW 846 method 8260 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 5
File #: BT42543

	Date	Time	Analyst
Collected:	12/12/97	9:00	BATCO
Received:	12/16/97	11:20	RWC
Analyzed:	12/18/97	18:53	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT42541)			MATRIX SPIKE DUP (BT42541)		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			52.2	250.0	104.4	51.3	250.0	102.6
Benzene	71-43-2	2.00	ND			ND			52.4	250.0	104.8	51.5	250.0	103.0
Trichloroethene	79-01-6	2.50	ND			ND			52.5	250.0	105.0	53.0	250.0	106.0
Toluene	108-88-3	2.50	ND			ND			53.1	250.0	106.2	53.1	250.0	106.2
Chlorobenzene	108-90-7	2.00	ND			ND			52.9	250.0	105.8	54.0	250.0	108.0
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	11.0			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalen	91-20-3	3.00	ND			ND			ND			ND		
n-Propylbe	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 5
File #: BT42543

	Date	Time	Analyst
Collected:	12/12/97	9:00	BATCO
Received:	12/16/97	11:20	RWC
Analysis:	12/18/97	18:53	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		45.3	250.0	90.6	46.6	250.0	93.2	46.0	250.0	92.0	46.7	250.0	93.4
Toluene-d8	2037-26-5		49.5	250.0	99.0	49.2	250.0	98.4	46.1	250.0	92.2	45.9	250.0	91.8
4-Bromofluorobenzene	460-00-4		49.2	250.0	98.4	49.7	250.0	99.4	47.9	250.0	95.8	48.9	250.0	97.8

Certified by:

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Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : HERCULES

File # : BT42543

Sample Matrix : Water

Lab Sample ID : MW-5

Sample Collection Date : 12/12/97

Sample Analysis Date : 12/18/97

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0.53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Number TICs Found : 0

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW 846 method 8260 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 6
File #: BT42544

	Date	Time	Analyst
Collected:	12/12/97	13:10	BATCO
Received:	12/16/97	11:20	RWC
Analyzed:	12/18/97	15:23	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT42541)			MATRIX SPIKE DUP (BT42541)		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ng	% Recovery		Amount ng	% Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			52.2	250.0	104.4	51.3	250.0	102.6
Benzene	71-43-2	2.00	ND			ND			52.4	250.0	104.8	51.5	250.0	103.0
Trichloroethene	79-01-6	2.50	ND			ND			52.5	250.0	105.0	53.0	250.0	106.0
Toluene	108-88-3	2.50	ND			ND			53.1	250.0	106.2	53.1	250.0	106.2
Chlorobenzene	108-90-7	2.00	ND			ND			52.9	250.0	105.8	54.0	250.0	108.0
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthal	91-20-3	3.00	ND			ND			ND			ND		
n-Propyl	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY
QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: MW - 6
File #: BT42544

	Date	Time	Analyst
Collected:	12/12/97	13:10	BATCO
Received:	12/16/97	11:20	RWC
Analysis:	12/18/97	15:23	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		49.1	250.0	98.2	46.6	250.0	93.2	46.0	250.0	92.0	46.7	250.0	93.4
Toluene-d8	2037-26-5		49.3	250.0	98.6	49.2	250.0	98.4	46.1	250.0	92.2	45.9	250.0	91.8
4-Bromofluorobenzene	460-00-4		49.2	250.0	98.4	49.7	250.0	99.4	47.9	250.0	95.8	48.9	250.0	97.8

Certified by:

Michael S. Bonner, Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : HERCULES

File # : BT42544

Sample Matrix : Water

Lab Sample ID : MW-6

Sample Collection Date : 12/12/97

Sample Analysis Date : 12/18/97

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0.53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Number TICs Found : 0

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW 846 method 8260 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: Trip Blank
File #: BT42545

	Date	Time	Analyst
Collected:	12/12/97		BATCO
Received:	12/16/97	11:20	RWC
Analyzed:	12/18/97	16:50	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT42541)			MATRIX SPIKE DUP (BT42541)		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ng	% Recovery		Amount ng	% Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			52.2	250.0	104.4	51.3	250.0	102.6
Benzene	71-43-2	2.00	ND			ND			52.4	250.0	104.8	51.5	250.0	103.0
Trichloroethene	79-01-6	2.50	ND			ND			52.5	250.0	105.0	53.0	250.0	106.0
Toluene	108-88-3	2.50	ND			ND			53.1	250.0	106.2	53.1	250.0	106.2
Chlorobenzene	108-90-7	2.00	ND			ND			52.9	250.0	105.8	54.0	250.0	108.0
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalen	91-20-3	3.00	ND			ND			ND			ND		
n-Propylb	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

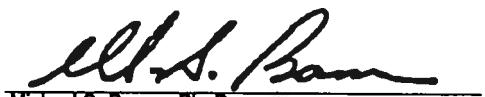
Client: HERCULES
Location: Trip Blank
File #: BT42545

	Date	Time	Analyst
Collected:	12/12/97	0:00	BATCO
Received:	12/16/97	11:20	RWC
Analysis:	12/18/97	16:50	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ng	% Recovery		Amount ng	% Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		48.8	250.0	97.6	46.6	250.0	93.2	46.0	250.0	92.0	46.7	250.0	93.4
Toluene-d8	2037-26-5		47.2	250.0	94.4	49.2	250.0	98.4	46.1	250.0	92.2	45.9	250.0	91.8
4-Bromofluorobenzene	460-00-4		45.9	250.0	91.8	49.7	250.0	99.4	47.9	250.0	95.8	48.9	250.0	97.8

Certified by:



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BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : HERCULES

File # : BT42545

Sample Matrix : Water

Lab Sample ID : Trip Blank

Sample Collection Date : 12/12/97

Sample Analysis Date : 12/18/97

GC Column Length : 105 M

Dilution Factor : 1

GC Column ID : 0,53 mm

Sample Weight/ Volume : 5.0 (g/mL) mL

Number TICs Found : 0

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW 846 method 8260 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: Equipment Blank
File #: BT42546

	Date	Time	Analyst
Collected:	12/15/97		BATCO
Received:	12/16/97	11:20	RWC
Analyzed:	12/18/97	17:51	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE (BT42541)			MATRIX SPIKE DUP (BT42541)		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
1,1-Dichloroethene	75-35-4	2.00	ND			ND			52.2	250.0	104.4	51.3	250.0	102.6
Benzene	71-43-2	2.00	ND			ND			52.4	250.0	104.8	51.5	250.0	103.0
Trichloroethene	79-01-6	2.50	ND			ND			52.5	250.0	105.0	53.0	250.0	106.0
Toluene	108-88-3	2.50	ND			ND			53.1	250.0	106.2	53.1	250.0	106.2
Chlorobenzene	108-90-7	2.00	ND			ND			52.9	250.0	105.8	54.0	250.0	108.0
Bromobenzene	108-86-1	2.50	ND			ND			ND			ND		
Bromochloromethane	74-97-5	2.00	ND			ND			ND			ND		
Bromodichloromethane	75-27-4	2.00	ND			ND			ND			ND		
Bromoform	75-25-2	2.50	ND			ND			ND			ND		
Bromomethane	74-83-9	1.00	ND			ND			ND			ND		
n-Butylbenzene	104-51-8	1.50	ND			ND			ND			ND		
sec-Butylbenzene	135-98-8	2.50	ND			ND			ND			ND		
tert-Butylbenzene	98-06-6	3.00	ND			ND			ND			ND		
Carbon Tetrachloride	56-23-5	2.00	ND			ND			ND			ND		
Chloroethane	75-00-3	3.00	ND			ND			ND			ND		
Chloroform	66-67-3	2.00	ND			ND			ND			ND		
Chloromethane	74-87-3	3.00	ND			ND			ND			ND		
2-Chlorotoluene	95-49-8	3.00	ND			ND			ND			ND		
4-Chlorotoluene	106-43-4	1.50	ND			ND			ND			ND		
Dibromochloromethane	124-48-1	2.00	ND			ND			ND			ND		
1,2-Dibromo-3-chloropropane	96-12-8	4.00	ND			ND			ND			ND		
1,2-Dibromoethane	106-93-4	2.00	ND			ND			ND			ND		
Dibromomethane	74-95-3	2.50	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	2.50	ND			ND			ND			ND		
1,3-Dichlorobenzene	541-73-1	2.00	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	2.00	ND			ND			ND			ND		
Dichlorodifluoromethane	75-71-8	2.00	ND			ND			ND			ND		
1,1-Dichloroethane	75-34-3	2.00	ND			ND			ND			ND		
1,2-Dichloroethane	107-06-2	2.00	ND			ND			ND			ND		
cis-1,2-Dichloroethene	156-59-2	2.50	ND			ND			ND			ND		
trans-1,2-Dichloroethene	156-60-5	2.50	ND			ND			ND			ND		
1,2-Dichloropropane	78-87-5	2.50	ND			ND			ND			ND		
1,3-Dichloropropane	142-28-9	2.50	ND			ND			ND			ND		
2,2-Dichloropropane	594-20-7	2.00	ND			ND			ND			ND		
1,1-Dichloropropene	563-58-6	2.00	ND			ND			ND			ND		
c-1,3-Dichloropropene	10061-01-5	2.00	ND			ND			ND			ND		
t-1,3-Dichloropropene	10061-02-6	2.00	ND			ND			ND			ND		
Ethyl benzene	100-41-4	2.50	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	2.00	ND			ND			ND			ND		
Isopropylbenzene	98-82-8	2.50	ND			ND			ND			ND		
p-Isopropyltoluene	99-87-6	2.00	ND			ND			ND			ND		
Methylene chloride	75-09-2	2.50	ND			ND			ND			ND		
Naphthalen	91-20-3	3.00	ND			ND			ND			ND		
n-Propylb	103-65-1	1.50	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY
QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
VOLATILE ORGANICS - GC/MS ANALYSIS DATA

Client: HERCULES
Location: Equipment Blank
File #: BT42546

	Date	Time	Analyst
Collected:	12/15/97		BATCO
Received:	12/16/97	11:20	RWC
Analysis:	12/18/97	17:51	CRR

Sample Type: Water
Analysis Method: 8260

Compound Name	CAS Number	MDL ug/L (ppb)	SAMPLE			BLANK			MATRIX SPIKE			MATRIX SPIKE DUP		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ng	Spike % Recovery
Styrene	100-42-5	2.00	ND			ND			ND			ND		
1,1,1,2-Tetrachloroethane	630-20-6	2.50	ND			ND			ND			ND		
1,1,2,2-Tetrachloroethane	79-34-5	2.50	ND			ND			ND			ND		
Tetrachloroethene	127-18-4	2.00	ND			ND			ND			ND		
1,2,3-Trichlorobenzene	87-61-6	2.00	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	2.50	ND			ND			ND			ND		
1,1,1-Trichloroethane	71-55-6	2.00	ND			ND			ND			ND		
1,1,2-Trichloroethane	79-00-5	2.50	ND			ND			ND			ND		
Trichlorofluoromethane	75-69-4	2.00	ND			ND			ND			ND		
1,2,3-Trichloropropane	96-18-4	1.50	ND			ND			ND			ND		
1,2,4-Trimethylbenzene	95-63-6	2.00	ND			ND			ND			ND		
1,3,5-Trimethylbenzene	108-67-8	3.00	ND			ND			ND			ND		
Vinyl chloride	75-01-4	2.50	ND			ND			ND			ND		
Xylenes (total)	1330-20-7	4.00	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
Dibromofluoromethane	1868-53-7		48.6	250.0	97.2	46.6	250.0	93.2	46.0	250.0	92.0	46.7	250.0	93.4
Toluene-d8	2037-26-5		46.1	250.0	92.2	49.2	250.0	98.4	46.1	250.0	92.2	45.9	250.0	91.8
4-Bromofluorobenzene	460-00-4		49.0	250.0	98.0	49.7	250.0	99.4	47.9	250.0	95.8	48.9	250.0	97.8

Certified by:

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Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : HERCULES

Sample Matrix : Water

Sample Collection Date : 12/15/97

Sample Analysis Date : 12/18/97

Dilution Factor : 1

Sample Weight/ Volume : 5.0 (g/mL) mL

Number TICs Found : 0

File # : BT42546

Lab Sample ID : Equipment Blank

GC Column Length : 105 M

GC Column ID : 0.53 mm

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW 846 method 8260 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-1
File #: BT42539

	Date	Time	Analyst
Collected:	12/15/97	17:30	BATCO
Extracted:	12/19/97	9:00	CMB
Analyzed:	1/9/98	2:34	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42539			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
Phenol	108-95-2	5.2	ND			ND			89.18	300.00	29.73	99.51	300.00	33.17
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			187.53	300.00	62.51	210.70	300.00	70.23
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			85.60	200.00	42.80	100.12	200.00	50.06
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			136.46	200.00	68.23	160.56	200.00	80.28
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			95.21	200.00	47.61	109.42	200.00	54.71
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			ND			ND		
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			234.19	300.00	78.06	260.60	300.00	86.87
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			ND			ND		
Acenaphthene	83-32-9	9.0	ND			ND			121.78	200.00	60.89	144.73	200.00	72.37
2,4-Dinitrophenol	51-28-5	14.2	ND			ND			ND			ND		
4-Nitrophenol	100-02-7	8.6	ND			ND			112.70	300.00	37.57	107.40	300.00	35.80
Dibenzofuran	132-64-9	8.4	ND			ND			ND			ND		
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			147.75	200.00	73.88	161.78	200.00	80.89
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro 2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-1
File #: BT42539

	Date	Time	Analyst
Collection:	12/15/97	17:30	8ATCO
Extraction:	12/19/97	9:00	CMB
Analysis:	1/9/98	2:34	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42539 Detected Amount ug/L (ppb)	BT42539 Spike Amount ug	BT42539 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Spike Amount ug	Matrix Spike Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Spike Amount ug	Matrix Spike Duplicate Spike % Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			311.90	300.00	103.97	307.08	300.00	102.38
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			174.39	200.00	87.20	180.67	200.00	90.34
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**
2-Fluorophenol			70.41	200.00	35.21	92.22	200.00	46.11	112.38	200.00	56.18	123.26	200.00	61.83
Phenol-d5			53.29	200.00	26.65	64.71	200.00	32.36	78.94	200.00	39.47	87.05	200.00	43.53
Nitrobenzene-d5			85.94	100.00	85.94	74.74	100.00	74.74	97.18	100.00	97.18	104.82	100.00	104.82
2-Fluorobiphenyl			63.85	100.00	63.85	65.54	100.00	65.54	88.97	100.00	86.97	104.87	100.00	104.67
2,4,6-Tribromophenol			169.97	200.00	84.99	226.16	200.00	113.08	273.28	200.00	136.64	286.69	200.00	143.35
Terphenyl-d14			91.50	100.00	91.50	132.90	100.00	132.90	127.86	100.00	127.66	125.04	100.00	125.04

Certified by:

Micheal S. Bonner,Ph. D
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules, Inc.

File # : BT42539

Sample Matrix : Water

Lab Sample ID : MW-1

Sample Collection Date : 12-15-97 @ 1730

Sample Analysis Date : 01-09-98 @ 0234

GC Column Length : 30 M

Dilution Factor : 1.02

GC Column ID : 0.25 mm

Sample Weight/ Volume : 980 mL

Method Code: 8270

Number TICs Found : 0

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW846 method 8270 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-2
File #: BT42540

	Date	Time	Analyst
Collected:	12/15/97	16:20	BATCO
Extracted:	12/19/97	9:00	CMB
Analyzed:	1/9/98	3:27	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42540			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
Phenol	108-95-2	5.2	ND			ND			89.18	300.00	29.73	99.51	300.00	33.17
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			187.53	300.00	62.51	210.70	300.00	70.23
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			85.80	200.00	42.80	100.12	200.00	50.06
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.8	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			136.46	200.00	68.23	160.56	200.00	80.28
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			95.21	200.00	47.61	109.42	200.00	54.71
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			ND			ND		
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			234.19	300.00	78.06	260.60	300.00	86.87
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			ND			ND		
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			121.78	200.00	60.89	144.73	200.00	72.37
Acenaphthene	83-32-9	8.3	ND			ND			ND			ND		
2,4-Dinitrophenol	51-28-5	14.2	ND			ND			112.70	300.00	37.57	107.40	300.00	35.80
4-Nitrophenol	100-02-7	8.6	ND			ND			ND			ND		
Dibenzofuran	132-64-9	8.4	ND			ND			147.75	200.00	73.88	161.78	200.00	80.89
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			ND			ND		
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-2
File #: BT42540

	Date	Time	Analyst
Collection:	12/15/97	16:20	BATCO
Extraction:	12/19/97	9:00	CMB
Analysis:	1/9/98	3:27	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42540 Detected Amount ug/L (ppb)	BT42540 Spike Amount ug	BT42540 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Amount ug	Matrix Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Amount ug	Matrix Spike Duplicate % Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			311.90	300.00	103.97	307.08	300.00	102.36
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			174.39	200.00	87.20	180.67	200.00	90.34
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**
2-Fluorophenol			112.84	200.00	56.42	92.22	200.00	46.11	112.36	200.00	56.18	123.26	200.00	61.63
Phenol-d5			81.20	200.00	40.60	64.71	200.00	32.36	78.94	200.00	39.47	87.05	200.00	43.53
Nitrobenzene-d5			101.23	100.00	101.23	74.74	100.00	74.74	97.18	100.00	97.18	104.82	100.00	104.82
2-Fluorobiphenyl			82.84	100.00	82.84	65.54	100.00	65.54	86.97	100.00	86.97	104.67	100.00	104.67
2,4,6-Tribromophenol			253.26	200.00	126.63	226.16	200.00	113.08	273.28	200.00	136.64	286.69	200.00	143.35
Terphenyl-d14			122.74	100.00	122.74	132.90	100.00	132.90	127.66	100.00	127.66	125.04	100.00	125.04

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BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules, Inc.

Sample Matrix : Water

Sample Collection Date : 12-15-97 @ 1620

Sample Analysis Date : 01-09-98 @ 0327

Dilution Factor : 1.03

Sample Weight/ Volume : 968 mL

Number TICs Found : 0

File # : BT42540

Lab Sample ID : MW-2

GC Column Length : 30 M

GC Column ID : 0.25 mm

Method Code: 8270

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW846 method 8270 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-3
File #: BT42541

	Date	Time	Analyst
Collected:	12/15/97	15:40	8ATCO
Extracted:	12/19/97	9:00	CM8
Analyzed:	1/9/98	4:20	CM8

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42541			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ug/L (ppb)	Spike Amount ug	Spike % Recovery	Detected Amount ng/ul in the extract	Spike Amount ug	Spike % Recovery	Detected Amount ng/ul in the extract	Spike Amount ug	Spike % Recovery
Phenol	108-95-2	5.2	ND			ND			89.18	300.00	29.73	99.51	300.00	33.17
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			187.53	300.00	62.51	210.70	300.00	70.23
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			85.80	200.00	42.80	100.12	200.00	50.06
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			138.46	200.00	68.23	160.56	200.00	80.28
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			95.21	200.00	47.61	109.42	200.00	38.47
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			ND			ND		
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			234.19	300.00	78.06	280.80	300.00	86.87
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			ND			ND		
Acenaphthene	83-32-9	9.0	ND			ND			121.78	200.00	60.89	144.73	200.00	72.37
2,4-Dinitrophenol	51-28-5	14.2	ND			ND			ND			ND		
4-Nitrophenol	100-02-7	8.6	ND			ND			112.70	300.00	37.57	107.40	300.00	35.80
Dibenzofuran	132-64-9	8.4	ND			ND			ND			ND		
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			147.75	200.00	73.88	161.78	200.00	80.89
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-3
File #: BT42541

	Date	Time	Analyst
Collection:	12/15/97	15:40	BATCO
Extraction:	12/19/97	9:00	CMB
Analysis:	1/9/98	4:20	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42541 Detected Amount ug/L (ppb)	BT42541 Spike Amount ug	BT42541 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Spike Amount ug	Matrix Spike Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Spike Amount ug	Matrix Spike Duplicate Spike % Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			311.90	300.00	103.97	307.08	300.00	102.36
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			174.39	200.00	87.20	180.67	200.00	90.34
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**
2-Fluorophenol			85.22	200.00	42.61	92.22	200.00	46.11	112.38	200.00	56.18	123.26	200.00	61.63
Phenol-d5			70.90	200.00	35.45	64.71	200.00	32.36	78.94	200.00	39.47	87.05	200.00	43.53
Nitrobenzene-d5			79.35	100.00	79.35	74.74	100.00	74.74	97.18	100.00	97.18	104.82	100.00	104.82
2-Fluorobiphenyl			75.11	100.00	75.11	65.54	100.00	65.54	86.97	100.00	86.97	104.67	100.00	104.67
2,4,6-Tribromophenol			280.03	200.00	140.02	226.16	200.00	113.08	273.28	200.00	136.64	286.69	200.00	143.35
Terphenyl-d14			139.59	100.00	139.59	132.90	100.00	132.90	127.66	100.00	127.66	125.04	100.00	125.04

Certified by:

Micheal S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules, Inc.

Sample Matrix : Water

Sample Collection Date : 12-15-97 @ 1540

Sample Analysis Date : 01-09-98 @ 0420

Dilution Factor : 1.01

Sample Weight/ Volume : 990 mL

Number TICs Found : 0

File # : BT42541

Lab Sample ID : MW-3

GC Column Length : 30 M

GC Column ID : 0.25 mm

Method Code: 8270

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW846 method 8270 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-4
File #: BT42542

	Date	Time	Analyst
Collected:	12/12/97	13:10	BATCO
Extracted:	12/19/97	9:00	CMB
Analyzed:	1/9/98	9:50	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42542			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
Phenol	108-95-2	5.2	ND			ND			89.18	300.00	29.73	99.51	300.00	33.17
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND						ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			187.53	300.00	62.51	210.70	300.00	70.23
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			85.60	200.00	42.80	100.12	200.00	50.06
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			136.46	200.00	88.23	160.58	200.00	80.28
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			95.21	200.00	47.61	109.42	200.00	54.71
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			ND			ND		
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			234.19	300.00	78.06	260.60	300.00	86.87
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			ND			ND		
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			121.78	200.00	60.89	144.73	200.00	72.37
Acenaphthene	83-32-9	8.3	ND			ND			ND			ND		
2,4-Dinitrophenol	51-28-5	14.2	ND			ND			112.70	300.00	37.57	107.40	300.00	35.80
4-Nitrophenol	100-02-7	8.6	ND			ND			ND			ND		
Dibenzofuran	132-64-9	8.4	ND			ND			147.75	200.00	73.88	161.78	200.00	80.89
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			ND			ND		
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-4
File #: BT42542

	Date	Time	Analyst
Collection:	12/12/97	13:10	BATCO
Extraction:	12/19/97	9:00	CMB
Analysis:	1/9/98	9:50	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42542 Detected Amount ug/L (ppb)	BT42542 Spike Amount ug	BT42542 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Amount ug	Matrix Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Amount ug	Matrix Spike Duplicate % Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			311.90	300.00	103.97	307.08	300.00	102.36
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			174.39	200.00	87.20	180.67	200.00	90.34
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
2-Fluorophenol			120.63	200.00	60.32	92.22	200.00	46.11	112.36	200.00	56.18	123.26	200.00	61.63
Phenol-d5			100.76	200.00	50.38	64.71	200.00	32.36	78.94	200.00	39.47	87.05	200.00	43.53
Nitrobenzene-d5			121.10	100.00	121.10	74.74	100.00	74.74	97.18	100.00	97.18	104.82	100.00	104.82
2-Fluorobiphenyl			88.75	100.00	88.75	65.54	100.00	65.54	86.97	100.00	86.97	104.67	100.00	104.67
2,4,6-Tribromophenol			303.45	200.00	151.73	226.16	200.00	113.08	273.28	200.00	136.64	286.69	200.00	143.35
Terphenyl-d14			164.21	100.00	164.21	132.90	100.00	132.90	127.66	100.00	127.66	125.04	100.00	125.04

Certified by:

Micheal S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules, Inc.

Sample Matrix : Water

Sample Collection Date : 12-12-97 @ 1310

Sample Analysis Date : 01-09-98 @ 0950

Dilution Factor : 1.05

Sample Weight/ Volume : 950 mL

Number TICs Found : 1

File # : BT42542

Lab Sample ID : MW-4

GC Column Length : 30 M

GC Column ID : 0.25 mm

Method Code: 8270

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION
78-34-2	Dioxathion	23.65	19.37 ug/L

NOTE: TICs reported for SW846 method 8270 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-5
File #: BT42543

	Date	Time	Analyst
Collected:	12/12/97	9:00	BATCO
Extracted:	12/19/97	9:00	CMB
Analyzed:	1/9/98	10:43	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42543			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
Phenol	108-95-2	5.2	ND			ND			89.18	300.00	29.73	99.51	300.00	33.17
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			187.53	300.00	62.51	210.70	300.00	70.23
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			85.60	200.00	42.80	100.12	200.00	50.06
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			136.46	200.00	68.23	160.56	200.00	80.28
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			95.21	200.00	47.61	109.42	200.00	54.71
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			ND			ND		
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			234.19	300.00	78.06	260.60	300.00	86.87
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			121.78	200.00	60.89	144.73	200.00	72.37
Acenaphthene	83-32-9	8.3	ND			ND			ND			ND		
2,4-Dinitrophenol	51-28-5	8.3	ND			ND			112.70	300.00	37.57	107.40	300.00	35.80
4-Nitrophenol	100-02-7	8.6	ND			ND			ND			ND		
Dibenzofuran	132-64-9	8.4	ND			ND			147.75	200.00	73.88	161.78	200.00	80.89
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			ND			ND		
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-5
File #: BT42543

	Date	Time	Analyst
Collection:	12/12/97	9:00	BATCO
Extraction:	12/19/97	9:00	CMB
Analysis:	1/9/98	10:43	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42543 Detected Amount ug/L (ppb)	BT42543 Spike Amount ug	BT42543 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Amount ug	Matrix Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Spike Amount ug	Matrix Spike Duplicate Spike % Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			311.90	300.00	103.97	307.08	300.00	102.36
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			174.39	200.00	87.20	180.67	200.00	90.34
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**	**Detected Amount**	**Spiked Amount**	**% Recovery**
2-Fluorophenol			137.50	200.00	68.75	92.22	200.00	46.11	112.36	200.00	56.18	123.26	200.00	61.63
Phenol-d5			97.61	200.00	48.81	64.71	200.00	32.36	78.94	200.00	39.47	87.05	200.00	43.53
Nitrobenzene-d5			149.10	100.00	149.10	74.74	100.00	74.74	97.18	100.00	97.18	104.82	100.00	104.82
2-Fluorobiphenyl			110.73	100.00	110.73	65.54	100.00	65.54	86.97	100.00	86.97	104.67	100.00	104.67
2,4,6-Tribromophenol			337.91	200.00	168.96	226.16	200.00	113.08	273.28	200.00	136.64	286.69	200.00	143.35
Terphenyl-d14			248.35	100.00	248.35	132.90	100.00	132.90	127.66	100.00	127.66	125.04	100.00	125.04

Certified by:

Micheal S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules, Inc.

Sample Matrix : Water

Sample Collection Date : 12-12-97 @ 0900

Sample Analysis Date : 01-09-98 @ 1043

Dilution Factor : 1.06

Sample Weight/ Volume : 945 mL

Number TICs Found : 0

File # : BT42543

Lab Sample ID : MW-5

GC Column Length : 30 M

GC Column ID : 0.25 mm

Method Code: 8270

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW846 method 8270 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-8
File #: BT42544

Collected:	12/12/97	13:10	BATCO
Extracted:	12/19/97	9:00	CMB
Analyzed:	1/9/98	5:13	CMB
	Date	Time	Analyst

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42544			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
Phenol	108-95-2	5.2	ND			ND			89.18	300.00	29.73	99.51	300.00	33.17
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			187.53	300.00	62.51	210.70	300.00	70.23
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			85.60	200.00	42.80	100.12	200.00	50.06
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			136.46	200.00	68.23	160.56	200.00	80.28
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			95.21	200.00	47.61	109.42	200.00	54.71
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			ND			ND		
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-68-3	9.4	ND			ND			234.19	300.00	78.06	260.60	300.00	86.87
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			ND			ND		
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-96-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			121.78	200.00	60.89	144.73	200.00	72.37
Acenaphthene	83-32-9	8.3	ND			ND			ND			ND		
2,4-Dinitrophenol	51-28-5	8.3	ND			ND			112.70	300.00	37.57	107.40	300.00	35.80
4-Nitrophenol	100-02-7	8.2	ND			ND			ND			ND		
Dibenzofuran	132-64-9	8.4	ND			ND			147.75	200.00	73.88	161.78	200.00	80.89
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			ND			ND		
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: MW-6
File #: BT42544

	Date	Time	Analyst
Collection:	12/12/97	13:10	BATCO
Extraction:	12/19/97	9:00	CMB
Analysis:	1/9/98	5:13	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42544			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
N-Nitrosodiphenylamine	88-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			311.90	300.00	103.97	307.08	300.00	102.36
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			174.39	200.00	87.20	180.67	200.00	90.34
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
2-Fluorophenol			109.30	200.00	54.65	92.22	200.00	46.11	112.36	200.00	56.18	123.26	200.00	61.63
Phenol-d5			81.22	200.00	40.61	64.71	200.00	32.36	78.94	200.00	39.47	87.05	200.00	43.53
Nitrobenzene-d5			101.83	100.00	101.83	74.74	100.00	74.74	97.18	100.00	97.18	104.82	100.00	104.82
2-Fluorobiphenyl			87.52	100.00	87.52	65.54	100.00	65.54	86.97	100.00	86.97	104.67	100.00	104.67
2,4,6-Tribromophenol			264.53	200.00	132.27	226.16	200.00	113.08	273.28	200.00	136.64	286.69	200.00	143.35
Terphenyl-d14			141.67	100.00	141.67	132.90	100.00	132.90	127.66	100.00	127.66	125.04	100.00	125.04

Certified by:

Micheal S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules, Inc.

Sample Matrix : Water

Sample Collection Date : 12-12-97 @ 1310

Sample Analysis Date : 01-09-98 @ 0513

Dilution Factor : 1.03

Sample Weight/ Volume : 970 mL

Number TICs Found : 0

File # : BT42544

Lab Sample ID : MW-6

GC Column Length : 30 M

GC Column ID : 0.25 mm

Method Code: 8270

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW846 method 8270 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: Trip Blank
File #: BT42545

	Date	Time	Analyst
Collected:	12/12/97		BATCO
Extracted:	12/19/97	9:00	CMB
Analyzed:	1/9/98	12:48	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42545 Detected Amount ug/L (ppb)	BT42545 Spike Amount ug	BT42545 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Amount ug	Matrix Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Amount ug	Matrix Spike Duplicate % Recovery
Phenol	108-95-2	5.2	ND			ND			89.18	300.00	29.73	99.51	300.00	33.17
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			187.53	300.00	62.51	210.70	300.00	70.23
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			85.60	200.00	42.80	100.12	200.00	50.06
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-60-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	87-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			136.46	200.00	68.23	160.56	200.00	80.28
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			95.21	200.00	47.61	109.42	200.00	54.71
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-88-3	9.4	ND			ND			ND			ND		
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			234.19	300.00	78.06	260.60	300.00	86.87
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-98-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			ND			ND		
Acenaphthene	83-32-9	8.3	ND			ND			121.78	200.00	60.89	144.73	200.00	72.37
2,4-Dinitrophenol	51-28-5	8.3	ND			ND			ND			ND		
4-Nitrophenol	100-02-7	8.6	ND			ND			112.70	300.00	37.57	107.40	300.00	35.80
Dibenzofuran	132-64-9	8.4	ND			ND			ND			ND		
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			147.75	200.00	73.88	161.78	200.00	80.89
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: Trip Blank
File #: BT42545

	Date	Time	Analyst
Collection:	12/12/97		BATCO
Extraction:	12/19/97	9:00	CMB
Analysis:	1/9/98	12:48	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42545 Detected Amount ug/L (ppb)	BT42545 Spike Amount ug	BT42545 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Amount ug	Matrix Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Amount ug	Matrix Spike Duplicate % Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			311.90	300.00	103.97	307.08	300.00	102.36
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			174.39	200.00	87.20	180.67	200.00	90.34
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	6.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
2-Fluorophenol			72.78	200.00	36.39	92.22	200.00	46.11	112.36	200.00	56.18	123.26	200.00	61.63
Phenol-d5			57.52	200.00	28.76	64.71	200.00	32.36	78.94	200.00	39.47	87.05	200.00	43.53
Nitrobenzene-d5			66.07	100.00	66.07	74.74	100.00	74.74	97.18	100.00	97.18	104.82	100.00	104.82
2-Fluorobiphenyl			63.05	100.00	63.05	65.54	100.00	65.54	86.97	100.00	86.97	104.67	100.00	104.67
2,4,6-Tribromophenol			250.90	200.00	125.45	226.16	200.00	113.08	273.28	200.00	136.64	286.69	200.00	143.35
Terphenyl-d14			136.72	100.00	136.72	132.90	100.00	132.90	127.66	100.00	127.66	125.04	100.00	125.04

Certified by:

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Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules, Inc.

Sample Matrix : Water

Sample Collection Date : 12-12-97

Sample Analysis Date : 01-09-98 @ 1248

Dilution Factor : 1.01

Sample Weight/ Volume : 990 mL

Number TICs Found : 0

File # : BT42545

Lab Sample ID : Trip Blank

GC Column Length : 30 M

GC Column ID : 0.25 mm

Method Code: 8270

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW846 method 8270 compounds only.

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA

BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: Equipment Blank
File #: BT42546

	Date	Time	Analyst
Collected:	12/15/97		BATCO
Extracted:	12/19/97	9:00	CMB
Analyzed:	1/9/98	1:48	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42546			BLANK			Matrix Spike			Matrix Spike Duplicate		
			Detected Amount ug/L (ppb)	Spike		Detected Amount ug/L (ppb)	Spike		Detected Amount ng/ul in the extract	Spike		Detected Amount ng/ul in the extract	Spike	
				Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery		Amount ug	% Recovery
Phenol	108-95-2	5.2	ND			ND			89.18	300.00	29.73	99.51	300.00	33.17
Bis(2-chloroethyl)ether	111-44-4	6.9	ND			ND			ND			ND		
2-Chlorophenol	95-57-8	5.7	ND			ND			187.53	300.00	62.51	210.70	300.00	70.23
1,3-Dichlorobenzene	541-73-1	8.3	ND			ND			ND			ND		
1,4-Dichlorobenzene	106-46-7	6.1	ND			ND			85.60	200.00	42.80	100.12	200.00	50.06
Benzyl Alcohol	100-51-6	14.8	ND			ND			ND			ND		
1,2-Dichlorobenzene	95-50-1	6.0	ND			ND			ND			ND		
2-Methylphenol	95-48-7	5.6	ND			ND			ND			ND		
Bis(2-chloroisopropyl)ether	108-80-1	8.8	ND			ND			ND			ND		
4-Methylphenol	106-44-5	8.7	ND			ND			ND			ND		
Hexachloroethane	67-72-1	8.0	ND			ND			ND			ND		
N-Nitroso-di-N-propylamine	621-64-7	9.7	ND			ND			136.46	200.00	68.23	160.56	200.00	80.28
Nitrobenzene	98-95-3	8.2	ND			ND			ND			ND		
Isophorone	78-59-1	9.2	ND			ND			ND			ND		
2,4-Dimethylphenol	105-67-9	6.0	ND			ND			ND			ND		
2-Nitrophenol	88-75-5	9.1	ND			ND			ND			ND		
Benzoic Acid	65-85-0	22.3	ND			ND			ND			ND		
Bis(2-chloroethoxy)methane	111-91-1	8.8	ND			ND			ND			ND		
2,4-Dichlorophenol	120-83-2	5.2	ND			ND			ND			ND		
1,2,4-Trichlorobenzene	120-82-1	9.4	ND			ND			95.21	200.00	47.81	109.42	200.00	54.71
Naphthalene	91-20-3	8.5	ND			ND			ND			ND		
4-Chloroaniline	106-47-8	8.5	ND			ND			ND			ND		
Hexachlorobutadiene	87-88-3	9.4	ND			ND			ND			ND		
4-Chloro-3-methylphenol	59-50-7	7.7	ND			ND			234.19	300.00	78.06	260.60	300.00	86.87
2-Methylnaphthalene	91-57-6	7.5	ND			ND			ND			ND		
Hexachlorocyclopentadiene	77-47-4	8.6	ND			ND			ND			ND		
2,4,6-Trichlorophenol	88-06-2	9.1	ND			ND			ND			ND		
2,4,5-Trichlorophenol	95-95-4	7.1	ND			ND			ND			ND		
2-Chloronaphthalene	91-58-7	5.7	ND			ND			ND			ND		
2-Nitroaniline	88-74-4	12.0	ND			ND			ND			ND		
Dimethylphthalate	131-11-3	8.2	ND			ND			ND			ND		
Acenaphthylene	208-98-8	9.0	ND			ND			ND			ND		
2,6-Dinitrotoluene	606-20-2	9.2	ND			ND			ND			ND		
3-Nitroaniline	99-09-2	16.0	ND			ND			121.78	200.00	60.89	144.73	200.00	72.37
Acenaphthene	83-32-9	8.3	ND			ND			ND			ND		
2,4-Dinitrophenol	51-28-5	14.2	ND			ND			112.70	300.00	37.57	107.40	300.00	35.80
4-Nitrophenol	100-02-7	8.6	ND			ND			ND			ND		
Dibenzofuran	132-64-9	8.4	ND			ND			147.75	200.00	73.88	161.78	200.00	80.89
2,4-Dinitrotoluene	121-14-2	8.3	ND			ND			ND			ND		
Diethylphthalate	84-66-2	9.9	ND			ND			ND			ND		
Fluorene	86-73-7	9.8	ND			ND			ND			ND		
4-Chlorophenyl-phenylether	7005-72-3	8.3	ND			ND			ND			ND		
4-Nitroaniline	100-01-6	8.7	ND			ND			ND			ND		
4,6-Dinitro-2-methylphenol	534-52-1	12.2	ND			ND			ND			ND		

BONNER ANALYTICAL TESTING COMPANY

QUANTITATIVE RESULTS AND QUALITY ASSURANCE DATA
BASE NEUTRALS AND ACIDS - GC/MS ANALYSIS DATA

Client: Hercules
Location: Equipment Blank
File #: BT42546

	Date	Time	Analyst
Collection:	12/15/97		BATCO
Extraction:	12/19/97	9:00	CMB
Analysis:	1/9/98	1:48	CMB

Sample Type: Water
Extraction Method: 3510b
Analysis Method: 8270

Compound Name	CAS Number	MDL ug/L (ppb)	BT42546 Detected Amount ug/L (ppb)	BT42546 Spike Amount ug	BT42546 Spike % Recovery	BLANK Detected Amount ug/L (ppb)	BLANK Spike Amount ug	BLANK Spike % Recovery	Matrix Spike Detected Amount ng/ul in the extract	Matrix Spike Amount ug	Matrix Spike % Recovery	Matrix Spike Duplicate Detected Amount ng/ul in the extract	Matrix Spike Duplicate Amount ug	Matrix Spike Duplicate % Recovery
N-Nitrosodiphenylamine	86-30-6	7.5	ND			ND			ND			ND		
4-Bromophenyl-phenylether	101-55-3	7.0	ND			ND			ND			ND		
Hexachlorobenzene	118-74-1	8.0	ND			ND			ND			ND		
Pentachlorophenol	87-86-5	12.5	ND			ND			311.90	300.00	103.97	307.08	300.00	102.36
Phenanthrene	85-01-8	7.1	ND			ND			ND			ND		
Anthracene	120-12-7	8.0	ND			ND			ND			ND		
Di-n-butylphthalate	84-74-2	7.8	ND			ND			ND			ND		
Fluoranthene	206-44-0	5.7	ND			ND			ND			ND		
Pyrene	129-00-0	7.9	ND			ND			174.39	200.00	87.20	180.67	200.00	90.34
Butylbenzylphthalate	85-68-7	9.9	ND			ND			ND			ND		
Benzo(a)anthracene	56-55-3	7.7	ND			ND			ND			ND		
3,3'-Dichlorobenzidiene	91-94-1	16.5	ND			ND			ND			ND		
Chrysene	218-01-9	7.8	ND			ND			ND			ND		
Bis(2-ethylhexyl)phthalate	117-81-7	9.1	ND			ND			ND			ND		
Di-n-octylphthalate	117-84-0	9.4	ND			ND			ND			ND		
Benzo(b)fluoranthene	205-99-2	8.8	ND			ND			ND			ND		
Benzo(k)fluoranthene	207-08-9	4.9	ND			ND			ND			ND		
Benzo(a)pyrene	50-32-8	5.9	ND			ND			ND			ND		
Indeno(1,2,3-c,d)pyrene	193-39-5	7.8	ND			ND			ND			ND		
Dibenzo(a,h)anthracene	53-70-3	9.0	ND			ND			ND			ND		
Benzo(g,h,i)perylene	191-24-2	10.0	ND			ND			ND			ND		
Surrogate Compounds			Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery	Detected Amount	Spiked Amount	% Recovery
2-Fluorophenol			122.22	200.00	61.11	92.22	200.00	46.11	112.36	200.00	56.18	123.26	200.00	61.63
Phenol-d5			90.27	200.00	45.14	64.71	200.00	32.36	78.94	200.00	39.47	87.05	200.00	43.53
Nitrobenzene-d5			103.68	100.00	103.68	74.74	100.00	74.74	97.18	100.00	97.18	104.82	100.00	104.82
2-Fluorobiphenyl			77.40	100.00	77.40	65.54	100.00	65.54	86.97	100.00	86.97	104.67	100.00	104.67
2,4,6-Tribromophenol			238.85	200.00	119.43	226.16	200.00	113.08	273.28	200.00	136.64	286.69	200.00	143.35
Terphenyl-d14			136.66	100.00	136.66	132.90	100.00	132.90	127.66	100.00	127.66	125.04	100.00	125.04

Certified by:

Micheal S. Bonner,Ph. D.
Bonner Analytical Testing Company

BONNER ANALYTICAL TESTING COMPANY

SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client : Hercules, Inc.

Sample Matrix : Water

Sample Collection Date : 12-15-97

Sample Analysis Date : 01-09-98 @ 0148

Dilution Factor : 1.02

Sample Weight/ Volume : 985 mL

Number TICs Found : 0

File # : BT42546

Lab Sample ID : Equipment Blank

GC Column Length : 30 M

GC Column ID : 0.25 mm

Method Code: 8270

Concentration Units : ug / L (PPB)

CAS NUMBER	COMPOUND NAME	RT	EST. CONCENTRATION

NOTE: TICs reported for SW846 method 8270 compounds only.

APPENDIX E

Phone: (601) 264-2854
2703 Oak Grove Road, Hattiesburg, MS 39402
Fax (601) 268-7084

BATCO

"Testing Your World for a Safer Tomorrow"

1

YOUR COMPANY ADDRESS ____________________

NAME OF PERSON TO CONTACT: ____________________

CONTACT PERSON'S PHONE: ____________________

2

YOUR PROJECT NO.:	YOUR P.O.#:	YOUR PROJECT NAME:

3 / **4** PARAMETERS FOR ANALYSIS / **5** REMARKS

YOUR SAMPLE DESCRIPTION:	DATE	TIME	MATRIX	Pest	PCB's	Semivol	VOA	Metals	Circled ID			NUMBER OF CONTAINERS	PRESERVATIONS	REMARKS
MW-1	15Dec97	1730	H_2O	X								1		Turnaround Time
"	"	"	"		X				BT42539			1		Detection Limits Special Limits Required Yes No Please circle one. If Yes, please describe below or include separate sheet detailing requirements.
"	"	"	"			X						1		
"	"	"	"				X					3		
"	"	"	"					X				1		
MW-2	"	1620	"	X								1		
"	"	"	"		X				BT42540			1		
"	"	"	"			X						1		
"	"	"	"				X					3		
"	"	"	"					X				1		

6

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY (Signature)
[signature]	16Dec97	1120	[signature]				

METHOD OF SHIPMENT	SHIPPED BY: (Signature)	COURIER (Signature)	RECEIVED FOR BATCO BY: (Signature)	DATE/TIME

7

SAMPLE REMAINDER DISPOSAL

☐ RETURN SAMPLE REMAINDER TO CLIENT VIA ____________________
(SOME SHIPPING CHARGES MAY BE INCURRED)

☐ I REQUEST BATCO TO DISPOSE OF ALL SAMPLE REMAINDERS
____________________ (Signature) ____________ (Date)

IF SAMPLE REMAINDER IS DETERMINED TO BE HAZARDOUS, A MINIMUM ADDITIONAL CHARGE OF $25.00 PER SAMPLE WILL BE ASSESSED FOR DISPOSAL.

REVISION DATE 2/94

Phone: (601) 264-2854
2703 Oak Grove Road Hattiesburg, MS 39402
Fax (601) 268-7084

BATCO

"Testing Your World for a Safer Tomorrow"

1

YOUR COMPANY NAME: Hercules

YOUR COMPANY ADDRESS:

NAME OF PERSON TO CONTACT:

CONTACT PERSON'S PHONE:

2

YOUR PROJECT NO.:	YOUR P.O.#	YOUR PROJECT NAME:

3

YOUR SAMPLE DESCRIPTION:	DATE	TIME	MATRIX
MW-3	15Dec97	1540	H_2O
"	"	"	
"	"	"	
"	"	"	
"	"	"	
MW-4	12Dec97	1310	
"	"	"	
"	"	"	
"	"	"	
"	"	"	

4 PARAMETERS FOR ANALYSIS

TEST HBL	PCB's	Semi-vol	VOA	METALS			NUMBER OF CONTAINERS	PRESERVATIONS
X							1	
	X		BT 42544				1	
		X					1	
			X				3	HCl
				X			1	HNO_3
X							1	
	X		BT 42542				1	
		X					1	
			X				3	HCl
				X			1	HNO_3

5 REMARKS

Turnaround Time

Detection Limits Special Limits Required Yes No
Please circle one. If Yes please describe below or include separate sheet detailing requirements

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY (Signature)
Daniel Carter	16Dec97	1120	[illegible]				

6

METHOD OF SHIPMENT	SHIPPED BY: (Signature)	COURIER (Signature)	RECEIVED FOR BATCO BY: (Signature)	DATE/TIM

7 SAMPLE REMAINDER DISPOSAL

☐ RETURN SAMPLE REMAINDER TO CLIENT VIA _____
(SOME SHIPPING CHARGES MAY BE INCURRED)

I REQUEST BATCO TO DISPOSE OF ALL SAMPLE REMAINDERS
_____ (Signature) _____ (Date)
IF SAMPLE REMAINDER IS DETERMINED TO BE HAZARDOUS, A MINIMUM ADDITIONAL CHARGE OF $25.00 PER SAMPLE WILL BE ASSESSED FOR DISPOSAL

REVISION DATE

YOUR COMPANY NAME _____

YOUR COMPANY ADDRESS _____

1

NAME OF PERSON TO CONTACT: _____

CONTACT PERSON'S PHONE: _____

Phone: (601) 264-2854
2703 Oak Grove Road Hattiesburg, MS 39402
Fax: (601) 268-7084

"Testing Your World for a Safer Tomorrow"

2 YOUR PROJECT NO.	YOUR P.O.#	YOUR PROJECT NAME

YOUR SAMPLE DESCRIPTION:	DATE	TIME	MATRIX	4 PARAMETERS FOR ANALYSIS: RST Metals	PCB's	Semi VOA	VOA	Metals				NUMBER OF CONTAINERS	PRESERVATIONS
MW-5	12 Dec 97	0900		X								1	
"	"	"			X		BTEX 8243					1	
"	"	"				X						1	
"	"	"					X					3	HCl
3 "	"	"						X				1	HNO_3
MW-6	"	1310		X								1	
"	"	"			X		BTEX 8243					1	
"	"	"				X						1	
"	"	"					X					3	HCl
"	"	"						X				1	HNO_3

5 **REMARKS**

Turnaround Time

Detection Limits
Special Limits Required
Yes No
Please circle one. If Yes please describe below or include separate sheet detailing requirements

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY (Signature)
6 [signature]	16 Dec 97	1120	[signature]				
METHOD OF SHIPMENT			SHIPPED BY: (Signature)	COURIER (Signature)			RECEIVED FOR BATCO BY: (Signature) DATE/TIM

7 SAMPLE REMAINDER DISPOSAL

☐ RETURN SAMPLE REMAINDER TO CLIENT VIA _____
(SOME SHIPPING CHARGES MAY BE INCURRED)

☐ I REQUEST BATCO TO DISPOSE OF ALL SAMPLE REMAINDERS
_____ (Signature) _____ (Date)
IF SAMPLE REMAINDER IS DETERMINED TO BE HAZARDOUS, A MINIMUM ADDITIONAL CHARGE OF $25.00 PER SAMPLE WILL BE ASSESSED FOR DISPOSAL

REVISION DATE

APPENDIX F