

06.07-05/20/99-02334

MONITORING REPORT

**OPERABLE UNIT NO. 12 - SITE 3
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

REPORTING PERIOD JANUARY 1999 - JUNE 1999

CONTRACT TASK ORDER 0367

Submission Date:

May 20, 1999

Prepared for:

**DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES
ENGINEERING COMMAND
*Norfolk, Virginia***

Under the:

**LANTDIV CLEAN Program
Contract N62470-89-D-4814**

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MONITORING REPORT

The monitoring report which follows presents a summary of sampling activities, field observations, analytical results, and significant findings that pertain to the monitoring program at Operable Unit (OU) No. 12 (Site 3), Marine Corps Base (MCB) Camp Lejeune, North Carolina. Conclusions and recommendations regarding the monitoring program are also presented within this report.

Monitoring activities at OU No. 12 began in 1997 and have continued on a semiannual basis. The most recent sampling initiative commenced 11 January 1999 and concluded 22 January 1999. Groundwater samples at Site 3 were obtained from four shallow monitoring wells, two intermediate monitoring wells, and one deep monitoring well. A fifth shallow monitoring well, 03-MW08, was destroyed during cleanup of hurricane debris that had been staged in the northern portion of Site 3. Figure 1 depicts the locations of all monitoring wells throughout Site 3 and identified the wells included in the monitoring program. [Note that all tables and figures are provided after the text portion of this report.]

Sampling activities were conducted and subsequent laboratory analyses were performed according to procedures and methods specified in the Long-Term Monitoring Work Plans for OU No. 12 (Baker, 1996). The project work plans identify a select number of monitoring wells at Site 3 for which continued periodic sampling is required. Table 1 provides construction details of monitoring wells included in the monitoring program. As stipulated in the project work plans, measurements of pH, specific conductance, dissolved oxygen, temperature, and turbidity were recorded prior to sampling. A summary of groundwater field parameters from Site 3 is provided in Table 2.

The monitoring program at Site 3 was implemented to assess whether contamination, detected during previous investigations, remains present, has migrated, or has degraded through natural processes. Based upon previous analytical results and decision documents, Target Compound List (TCL) volatile and semivolatile organic compounds were identified as contaminants of concern at Site 3. Table 3 provides a summary of requested laboratory analyses and sample identifications.

Sample information, including well number, sample identification, time and date of sample collection, samplers, analytical parameters, and required laboratory turnaround time was recorded in a field logbook and on sample labels. Chain-of-custody documentation, provided in Attachment A, accompanied the samples to the laboratory.

Groundwater Elevation and Flow Direction

The following provides information concerning groundwater flow patterns at Site 3. Water level measurements were obtained at Site 3 on 18 January 1999. Table 4 provides a summary of water level measurements and Figure 2 depicts the static elevations and approximate flow direction of groundwater at Site 3. Groundwater flow within the surficial aquifer at Site 3 is influenced by the drainage ditches that border the adjacent railroad grade and, to a lesser extent, Holcomb Boulevard, which lies further to the west. In general, shallow groundwater flows from east to west at Site 3, from the topographically higher portion of the study area toward nearby drainage features.

Field Observations

The following field observations were noted during the most recent semiannual sampling initiative at Site 3. Recommendations regarding the field observations that follow are presented in a latter portion of this report.

The northern portion of Site 3 which was being utilized as a staging area for hurricane debris has been cleared and graded. Monitoring wells 03-MW03 and 03-MW08 are no longer present and presumed destroyed by removal of the hurricane debris. Older existing monitoring wells have begun to show signs of deterioration. Paint on the protective bollards and casings of wells 03-MW01 and 03-MW02 has begun to peel and rust is present. In addition, two protective bollards of monitoring well 03-MW05 are damaged, presumably from vehicle impact.

ANALYTICAL RESULTS AND FINDINGS

The section which follows presents analytical results and findings from sampling performed at Site 3 during the first calendar quarter of 1999. The analytical results and findings that follow are presented according to environmental media. A summary of all analytical results compiled during the sampling event is presented in Attachment B and corresponding laboratory data sheets are provided in Attachment C.

One trip blank sample was prepared prior to the sampling initiative and kept with the volatile samples from Site 3 during field collection, shipment, and laboratory analysis. As provided in Table 5, there were no detections of volatile organic compounds (VOCs) in the trip blank sample.

Volatile Organics

Six VOCs were detected in groundwater samples at Site 3. A summary of groundwater analytical results is provided in Table 6. A positive detection summary of groundwater results is provided in Table 7. As depicted in Figure 3, acetone, ethylbenzene, toluene, and xylenes (total) were detected in the sample obtained from shallow monitoring well 03-MW02. Monitoring well 03-MW02 is located within the central portion of the former treatment area, adjacent to the former concrete drip pad. Concentrations of VOCs in the sample from well 03-MW02 were below state and federal groundwater standards. Tetrachloroethene was detected in the sample collected from the southern most located shallow monitoring well 03-MW06 at a concentration of 3 micrograms per liter ($\mu\text{g/L}$). This concentration exceeds the North Carolina Water Quality Standard (NCWQS) of 0.7 $\mu\text{g/L}$, but is below the federal Maximum Contaminant Level (MCL) of 5.0 $\mu\text{g/L}$. Trichloroethene was detected in a sample from one of the two intermediate monitoring wells, 03-MW11IW, at a concentration of 11 $\mu\text{g/L}$, exceeding the federal MCL of 5 $\mu\text{g/L}$. No VOCs were detected among the remaining four groundwater samples from Site 3.

Positive VOC detections among groundwater samples obtained at Site 3 have been documented in the past. Previous sampling results from shallow monitoring well 03-MW02 have exhibited acetone, ethylbenzene, toluene, and xylenes at concentrations similar to those presented here. This is the first sampling period in which tetrachloroethene and trichloroethene have been detected among the seven monitoring wells at Site 3. Table 8 provides a summary of organic results from groundwater samples obtained during the five most recent sampling events. Future sampling will be employed to determine the nature, persistence, and possible migration of observed VOCs at Site 3.

Semivolatile Organics

A total of 15 semivolatile organic compounds (SVOCs) were detected among groundwater samples obtained from monitoring wells 03-MW02, 03-MW02IW, and 03-MW06. As indicated in Table 7, six of the SVOCs were limited to the groundwater sample obtained from shallow monitoring well 03-MW02. As depicted in Figure 4, acenaphthene, naphthalene, and phenol concentrations in the

sample obtained from 03-MW02 were detected at concentrations of 350, 1,900, and 480 µg/L, respectively. These concentrations exceed the applicable NCWQS of 80, 21, and 300 µg/L. The concentration of naphthalene from the groundwater sample obtained from shallow monitoring well 03-MW06 was measured at 89 µg/L, also exceeding NCWQS. There were no other SVOCs detected at concentrations that exceeded applicable NCWQS.

No organic compounds have been detected in two of the shallow monitoring wells (03-GW11 and 03-GW13) or in deep monitoring well 03-GW02DW for the past three sampling periods. As presented in Table 8, concentrations of other organic compounds among groundwater samples obtained from Site 3 are similar to previous sampling results, with some exceptions. Only two of eight previously detected organic compounds were detected in intermediate well 03-GW02IW during the January 1999 sampling initiative. There is wide variation in the concentration of organic compounds detected in shallow monitoring well 03-GW06 over the course of the monitoring program.

RECOMMENDATIONS

The Record of Decision (ROD) for OU No. 12 stipulates that environmental samples from Site 3 be collected periodically to monitor the possible migration of potential site contaminants (Baker, 1997). The sections which follow describe recommendations in support of the selected remedy, periodic monitoring, which have been implemented or are being proposed for future consideration. The intent of this report is to provide a brief listing of implemented actions and a thorough description of any proposed recommendations.

Monitoring Well Replacement

Shallow monitoring well 03-MW08, formerly located in the northern portion of Site 3, was destroyed as a result of the hurricane cleanup efforts. A replacement monitoring well with similar construction details should be installed. Installation of the replacement monitoring well should occur immediately following the soil removal action that is scheduled for the southern portion of Site 3. During the soil removal, there is a likelihood that one or more of the existing monitoring wells 03-MW02, 03-MW02IW, or 03-02DW could be damaged. If damage were to occur during the removal action, the required wells could be re-installed all at once. However, every effort to avoid damaging 03-MW02DW should be made. In addition, any well security and aesthetics may be addressed.

Maintaining Well Security and Aesthetics

A number of the monitoring wells at Site 3 have begun to show signs of deterioration. The bollards and protective casings of the wells have developed peeling paint and rust. In addition, a number of padlocks used to secure the protective covers are either missing or no longer function properly. The usability and security of each monitoring well should be maintained if they are going to remain reliable groundwater sample collection points in the future. As suggested, the bollards and well casings should be repaired and then painted with a weather resistant paint and new padlocks that operate with a universal key should be installed on each monitoring well.

REFERENCES

Baker Environmental, Inc. (Baker). January 1997. Record of Decision for Operable Unit No. 12 (Site 3). Final. Prepared for the Navy Atlantic Division Naval Facilities Engineering Command, Norfolk, Virginia.

Baker Environmental, Inc. (Baker). December 1996. Long-Term Monitoring Work Plans for Remedial Investigation Sites. Prepared for the Navy Atlantic Division Naval Facilities Engineering Command, Norfolk, Virginia.

TABLES

Table 1

**SUMMARY OF WELL CONSTRUCTION DETAILS
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

Well Number	Installed	Top of Casing Elevation (feet, msl)	Ground Surface Elevation (feet, msl)	Boring Depth (feet, bgs)	Well Depth (feet, bgs)	Screen Interval Depth (feet, bgs)	Depth to Sand Pack (feet, bgs)	Depth to Bentonite (feet, bgs)	Stick-Up (feet, ags)
03-MW02	1991	35.91	32.4	17.0	17.0	16.8 - 6.8	2.0	4.0	3.6
03-MW02IW	1994	35.19	32.5	87.0	86.5	86.5 - 71.5	61.0	66.5	2.7
03-MW02DW	1995	34.06	32.2	140.5	140.0	140.0 - 125.0	119.0	122.0	1.9
03-MW06	1994	30.55	27.9	23.0	22.0	22.0 - 7.0	3.5	5.0	2.6
03-MW07	1994	33.51	31.1	15.0	14.0	14.0 - 4.0	3.0	1.5	2.4
03-MW08	1994	32.62	30.1	18.0	18.0	18.0 - 3.0	2.0	1.0	2.5
03-MW11	1995	32.69	30.7	32.0	31.5	31.5 - 16.5	11.5	14.0	2.0
03-MW11IW	1995	32.55	30.3	88.0	87.0	87.0 - 72.0	66.0	69.0	2.3
03-MW13	1995	22.93	20.8	22.0	21.5	21.5 - 6.5	2.0	4.0	2.1

Notes:

ags = above ground surface

bgs = below ground surface

msl = mean sea level

NA = Information not available

TABLE 2

**SUMMARY OF GROUNDWATER FIELD
PARAMETERS FOR JANUARY 1999
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

Well Number (Sample Date)	Measuring Time	Well Volumes	Field Parameters				
			Temperature (°C)	pH (S.U.)	Specific Conductance (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (N.T.U.)
03-MW02 (01/18/1999)	0843	1.0	17.8	5.69	174	NA	4.3
	0855	2.0	17.6	5.80	159	NA	2.5
	0905	3.0	17.7	5.82	157	NA	1.6
03-MW02IW (01/18/1999)	1042	1.0	18.4	7.69	0.970	NA	0.0
	1114	1.5	18.3	7.62	0.960	NA	0.0
	1149	2.0	18.4	7.67	0.960	NA	0.0
	1232	2.5	18.4	7.71	0.960	NA	0.0
	1213	3.0	18.3	7.69	0.960	NA	0.0
03-MW02DW (01/18/99)	0940	1.0	18.4	7.92	0.692	NA	3.0
	1000	2.0	18.4	7.94	0.684	NA	1.0
	1030	3.0	18.5	7.94	0.687	NA	0.0
03-MW06 (01/18/99)	0818	1.0	17.1	5.23	266	1.07	177
	0826	1.5	17.1	5.01	240	1.40	21
	0832	2.0	17.1	5.02	243	1.54	0.0
	0839	2.5	17.1	5.06	247	1.53	0.0
	0846	3.0	17.0	5.09	269	1.65	0.0
03-MW11 (01/18/1999)	0818	1.0	18.6	5.11	0.352	NA	10
	0833	2.0	18.6	4.75	0.298	NA	7.0
	0846	3.0	18.6	4.73	0.292	NA	5.0
03-MW11IW (01/18/1999)	0935	1.0	18.3	11.69	0.401	NA	6.0
	1000	1.5	18.4	11.58	0.310	NA	16
	1026	2.0	18.5	10.83	0.247	NA	17
	1056	2.5	18.6	10.68	0.234	NA	11
	1125	3.0	18.4	10.41	0.226	NA	8.0
03-MW13 (01/18/99)	0940	1.0	18.2	6.14	312	4.38	0.0
	0948	1.5	18.3	6.16	314	2.46	0.0
	0954	2.0	18.4	6.13	300	2.25	0.0
	1000	2.5	18.4	6.16	302	2.60	0.0
	1007	3.0	18.6	6.08	277	2.04	0.0

Notes:

°C = Degrees Centigrade
S.U. = Standard Units
µmhos/cm = micro ohms per centimeter
mg/L = milligrams per liter
N.T.U. = Nephelometric Turbidity Units
NA = Data not available

TABLE 3

**SAMPLING SUMMARY
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

Sample Location	Media	TCL Volatiles ⁽¹⁾	TCL Semivolatiles ⁽²⁾	Laboratory Sample Identification
03-MW02	Groundwater	X	X	IR03-GW02-99A
03-MW02IW	Groundwater	X	X	IR03-GW2IW-99A
03-MW02DW	Groundwater	X	X	IR03-GW02DW-99A
03-MW06	Groundwater	X	X	IR03-GW06-99A
03-MW11	Groundwater	X	X	IR03-GW11-99A
03-MW11IW	Groundwater	X	X	IR03-GW11IW-99A
03-MW13	Groundwater	X	X	IR03-GW13-99A

Notes:

⁽¹⁾ Target Compound List Volatile Organics by U.S. Environmental Protection Agency
Method 8260A.

⁽²⁾ Target Compound List Semivolatile Organics by U.S. Environmental Protection Agency
Method 8270.

X = Requested Analysis

TABLE 4

**SUMMARY OF WATER LEVEL MEASUREMENTS
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

Well ID	Reference Elevation ⁽¹⁾	SWE 01/20/98	SWE 07/22/98	SWL 01/18/99	SWE 01/18/99
03-MW01	35.36	12.28	13.48	23.06	12.30
03-MW02	35.85	28.35	25.77	9.62	26.23
03-MW02IW	35.19	9.45	8.26	26.64	8.55
03-MW02DW	34.06	8.30	6.62	27.0	7.06
03-MW04	33.43	16.63	17.55	17.88	15.55
03-MW05	34.00	12.55	13.76	21.52	12.48
03-MW06	30.55	22.29	20.64	9.63	20.92
03-MW07	33.51	30.11	26.80	5.17	28.34
03-MW09	33.29	30.27	27.55	NA	NA
03-MW10	33.85	31.37	27.25	4.40	29.45
03-MW11	32.69	9.95	13.87	20.31	12.38
03-MW11IW	32.55	8.65	7.53	25.02	7.53
03-MW12	29.55	13.11	11.85	17.46	12.09
03-MW13	22.93	15.30	10.35	11.25	11.68

Notes:

⁽¹⁾ Top of well casing expressed in feet above mean sea level.

SWL = Static water level taken from top of well casing

SWE = Static water elevation expressed in feet above mean sea level

NA = Data not available

TABLE 5

TRIP BLANK ANALYTICAL RESULTS
 OPERABLE UNIT NO. 12 - SITE 3
 MONITORING AND O&M SUPPORT, CTO-0367
 MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR03-TB01-99A
DATE SAMPLED	1/18/99
VOLATILES (ug/l)	
1,1,1-Trichloroethane	5 U
1,1,1,2-Tetrachloroethane	5 U
1,1,2-Trichloroethane	5 U
1,1-Dichloroethane	5 U
1,1-Dichloroethene	5 U
1,2-Dichloroethane	5 U
1,2-Dichloropropane	5 U
2-Butanone	10 U
2-Hexanone	10 U
4-Methyl-2-pentanone	10 U
Acetone	10 U
Benzene	5 U
Bromodichloromethane	5 U
Bromoform	5 U
Bromomethane	5 U
Carbon disulfide	5 U
Carbon tetrachloride	5 U
Chlorobenzene	5 U
Chloroethane	5 U
Chloroform	5 U
Chloromethane	5 U
cis-1,2-Dichloroethene	5 U
cis-1,3-Dichloropropene	5 U
Dibromochloromethane	5 U
Ethylbenzene	5 U
Methylene chloride	5 U
Styrene	5 U
Tetrachloroethene	5 U
Toluene	5 U
trans-1,2-Dichloroethene	5 U
trans-1,3-Dichloropropene	5 U
Trichloroethene	5 U
Vinyl chloride	5 U
Xylenes	5 U

U = Not Detected
 ug/l = Micrograms per liter

TABLE 6
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Fraction	Detected Contaminants or Analytes	Comparison Criteria		Concentration Range		Location of Maximum Detection	Detection Frequency	Detections Above	
		NCWQS	MCL	Min.	Max.			NCWQS	MCL
Volatile Organics	Acetone	700	NE	6 J	6 J	03-GW02	1/7	0	0
	Ethylbenzene	29	700	15	15	03-MW02	1/7	0	0
	Tetrachloroethene	0.7	5.0	3 J	3 J	03-GW06	1/7	1	0
	Toluene	1,000	1,000	11	11	03-GW02	1/7	0	0
	Trichloroethene	NE	5	11	11	03-GW11IW	1/7	NA	1
	Xylenes (total)	530	10,000	34	34	03-GW02	1/7	0	0
Semivolatile Organics	2,4-Dimethylphenol	NE	NE	100 J	100 J	03-GW02	1/7	NA	NA
	2-Methylnaphthalene	NE	NE	10	330	03-GW02	2/7	NA	NA
	2-Methylphenol	NE	NE	250	250	03-GW02	2/7	NA	NA
	4-Methylphenol	NE	NE	600	600	03-GW02	1/7	NA	NA
	Acenaphthene	80	NE	16	350	03-GW02	2/7	1	NA
	Acenaphthylene	210	NE	4 J	4 J	03-GW02	1/7	0	NA
	Anthracene	2,100	NE	7 J	7 J	03-GW02	1/7	0	NA
	Carbazole	NE	NE	3 J	130 J	03-GW02	2/7	NA	NA
	Dibenzofuran	NE	NE	10 J	210	03-GW02	2/7	NA	NA
	Fluoranthene	280	NE	14	19	03-GW02	2/7	0	NA
	Fluorene	280	NE	11	180 J	03-GW02	2/7	0	NA
	Naphthalene	21	NE	89	1,900	03-GW02	2/7	2	NA
	Phenanthrene	210	NE	10	110	03-GW02	2/7	0	NA
	Phenol	300	NE	480	480	03-GW02	1/7	1	NA
	Pyrene	210	NE	10 J	12	03-GW02	2/7	0	NA

Notes:

Volatile and semivolatile organic concentrations presented in micrograms per liter ($\mu\text{g/L}$) or parts per billion.

- J = Estimated Value
- MCL = Federal Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered users of public water systems (U.S. Environmental Protection Agency - Drinking Water Regulations and Health Advisories).
- NA = Not Applicable
- NCWQS = North Carolina Water Quality Standards (North Carolina Administrative Code, Title 15A, Subchapter 2L).
- NE = Not Established

TABLE 7

**POSITIVE DETECTIONS IN GROUNDWATER
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

SAMPLE ID	IR03-GW02-99A	IR03-GW02DW-99A	IR03-GW02IW-99A	IR03-GW06-99A	IR03-GW11-99A	IR03-GW11IW-99A	IR03-GW13-99A
DATE SAMPLED	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99
VOLATILES (ug/l)							
Acetone	6 J	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	15	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5 U	5 U	5 U	3 J	5 U	5 U	5 U
Toluene	11	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	11	5 U
Xylenes	34	5 U	5 U	5 U	5 U	5 U	5 U
SEMIVOLATILES (ug/l)							
2,4-Dimethylphenol	100 J	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	330	10 U	10 U	10	10 U	10 U	10 U
2-Methylphenol	250	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	600	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	350	10 U	10 U	16	10 U	10 U	10 U
Acenaphthylene	4 J	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	7 J	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	130 J	10 U	10 U	3 J	10 U	10 U	10 U
Dibenzofuran	210	10 U	10 U	10 J	10 U	10 U	10 U
Fluoranthene	19	10 U	14	10 U	10 U	10 U	10 U
Fluorene	180 J	10 U	10 U	11	10 U	10 U	10 U
Naphthalene	1900	10 U	10 U	89	10 U	10 U	10 U
Phenanthrene	110	10 U	10 U	10	10 U	10 U	10 U
Phenol	480	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	12	10 U	10 J	10 U	10 U	10 U	10 U

U = Not Detected

J = Estimated Value

ug/l = Micrograms per liter

TABLE 8

**ORGANIC COMPOUNDS IN GROUNDWATER
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

Monitoring Well/Organic Compound	MCL	NCWQS	January 1997	July 1997	January 1998	July 1998	January 1999
03-GW02							
Acetone	NE	700	ND	ND	ND	7.2 J	6 J
Benzene	5.0	1.0	ND	ND	ND	1.7 J	ND
Ethylbenzene	700	29	16	12	14 J	13	15
Toluene	1,000	1,000	10	10 J	13 J	8.7	11
Xylenes (total)	10,000	530	40	29	39 J	31	34
2,4-Dimethylphenol	NE	NE	70 J	89 J	150	87	100 J
2-Methylnaphthalene	NE	NE	360	260 J	410	370 D	330
2-Methylphenol	NE	NE	150 J	220 J	220	190 D	250
4-Chloro-3-methylphenol	NE	NE	ND	ND	2.1 J	ND	ND
4-Methylphenol	NE	NE	340	540	560	520 D	600
Acenaphthene	NE	80	450	310 J	390	360 D	350
Acenaphthylene	NE	210	5.0 J	3.0 J	4.0 J	3.7 J	4 J
Anthracene	NE	2,100	10 J	10 J	9.2 J	7.3 J	7 J
bis(2-Ethylhexyl)phthalate	6.0	3.0	3.0 J	12	ND	ND	ND
Carbazole	NE	NE	140 J	120 J	180	150 D	130 J
Dibenzofuran	NE	NE	260	170 J	220	210 D	210
Fluoranthene	NE	280	19	25	23	23	19
Fluorene	NE	280	220 J	140 J	180 J	150	180 J
Naphthalene	NE	21	1,800	1,900	2,800	2,900 D	1900
Nitrobenzene	NE	NE	ND	ND	18	ND	ND
N-Nitrosodiphenylamine	NE	NE	ND	ND	1.9 J	ND	ND
Phenanthrene	NE	210	190 J	150 J	170 J	140	110
Phenol	NE	300	230 J	410	430	400 D	480
Pyrene	NE	210	11	16	15	15	12
03-GW02IW							
Acenaphthene	NE	80	5.0 J	3.0 J	1.3 J	ND	ND
Anthracene	NE	2,100	3.0 J	5.0 J	4.1 J	3.4 J	ND
bis(2-Ethylhexyl)phthalate	6.0	3.0	ND	1.0	ND	ND	ND
Dibenzofuran	NE	NE	6.0 J	6.0 J	4.6 J	4.0 J	ND
Fluoranthene	NE	280	20	25	18	18	14
Fluorene	NE	280	6.0 J	9.0 J	6.0 J	4.9 J	ND
Phenanthrene	NE	210	6.0 J	48	40	35	ND
Pyrene	NE	210	14	16	12	11	10 J
03-GW02DW							
bis(2-Ethylhexyl)phthalate	6.0	3.0	7.0 J	56	ND	ND	ND
03-GW06							
Ethylbenzene	700	29	ND	ND	9.0 J	ND	ND
Tetrachloroethene	5	0.7	ND	ND	ND	ND	3 J
Toluene	1,000	1,000	ND	ND	3.5 J	ND	ND
Xylenes (total)	10,000	530	ND	ND	23 J	ND	ND
2-Methylnaphthalene	NE	NE	ND	3.0 J	74	1.3 J	10

TABLE 8
ORGANIC COMPOUNDS IN GROUNDWATER
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Monitoring Well/Organic Compound	MCL	NCWQS	January 1997	July 1997	January 1998	July 1998	January 1999
03-GW06 (continued)							
Acenaphthene	NE	80	1.0 J	12	71	5.9 J	16
bis(2-Ethylhexyl)phthalate	6.0	3.0	14	6.0 J	ND	ND	ND
Carbazole	NE	NE	ND	2.0 J	29	ND	3 J
Dibenzofuran	NE	NE	1.0 J	9.0 J	35	5.5 J	10 J
Fluorene	NE	280	1.0 J	8.0 J	31	4.6 J	11
Naphthalene	NE	21	ND	30	1,100	13	89
Phenanthrene	NE	210	ND	6.0 J	23	4.6 J	10
03-GW011							
bis(2-Ethylhexyl)phthalate	6.0	3.0	250	1.0 J	ND	ND	ND
03-GW11IW							
Trichloroethene	5	NE	ND	ND	ND	ND	11
bis(2-Ethylhexyl)phthalate	6.0	3.0	1.0 J	ND	ND	ND	ND
03-GW13							
bis(2-Ethylhexyl)phthalate	6.0	3.0	1.0 J	5.0 J	ND	ND	ND

Notes:

Concentrations are expressed in micrograms per liter ($\mu\text{g/L}$) or parts per billion.

D = Sample dilution required

J = Estimated Result

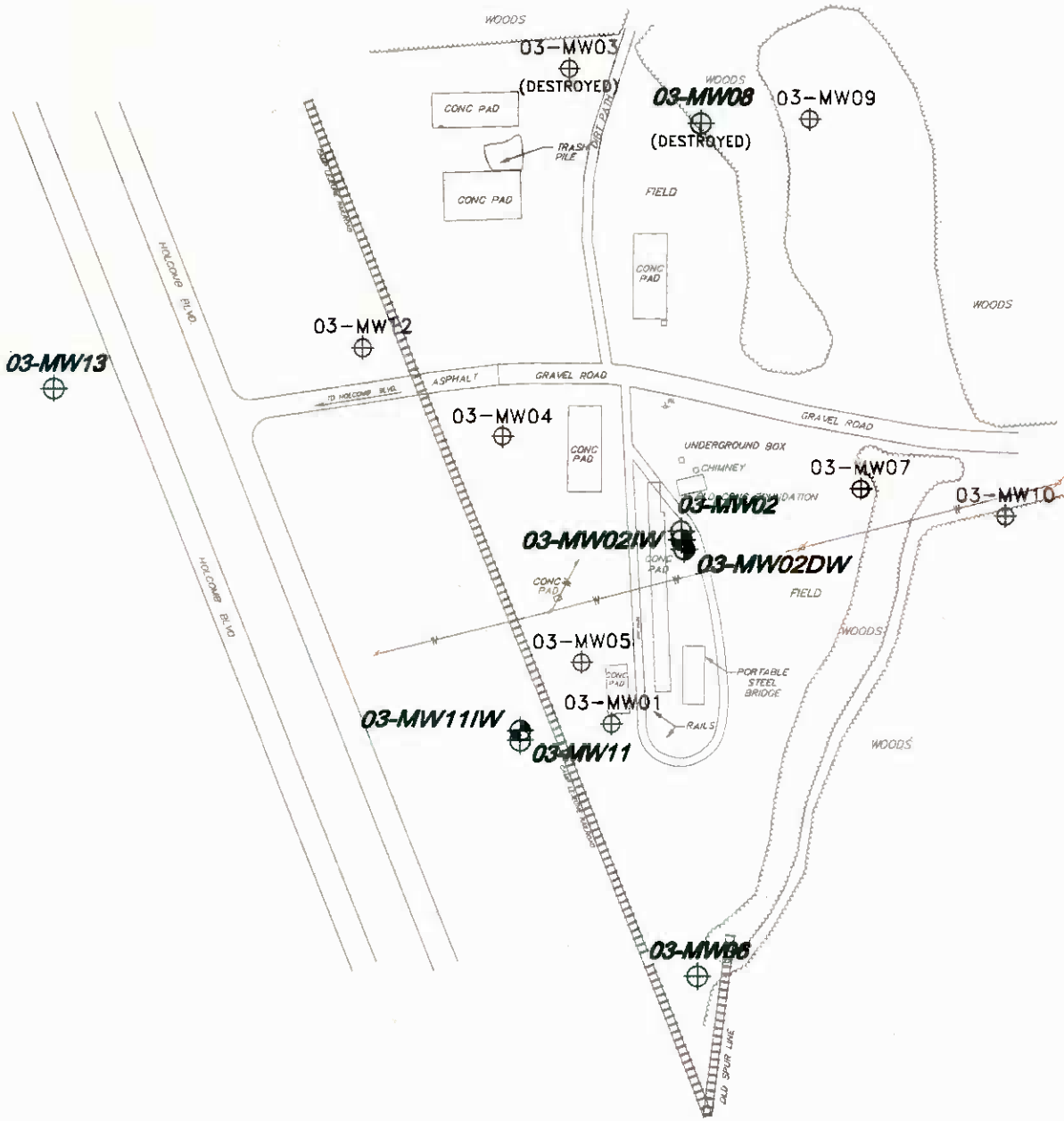
MCL = Federal Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to any user of a public water system. (U.S. Environmental Protection Agency - Drinking Water Regulations and Health Advisories.)

NCWQS = North Carolina Water Quality Standards. Values Applicable to Groundwater (North Carolina Administrative Code, Title 15A, Subchapter 2L).

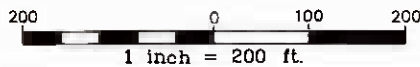
ND = Not Detected

NE = Not Established

FIGURES



NOTE:
 -WELLS SHOWN IN BLACK
 REGULAR FONT ARE NOT
 INCLUDED IN THE
 MONITORING PROGRAM.



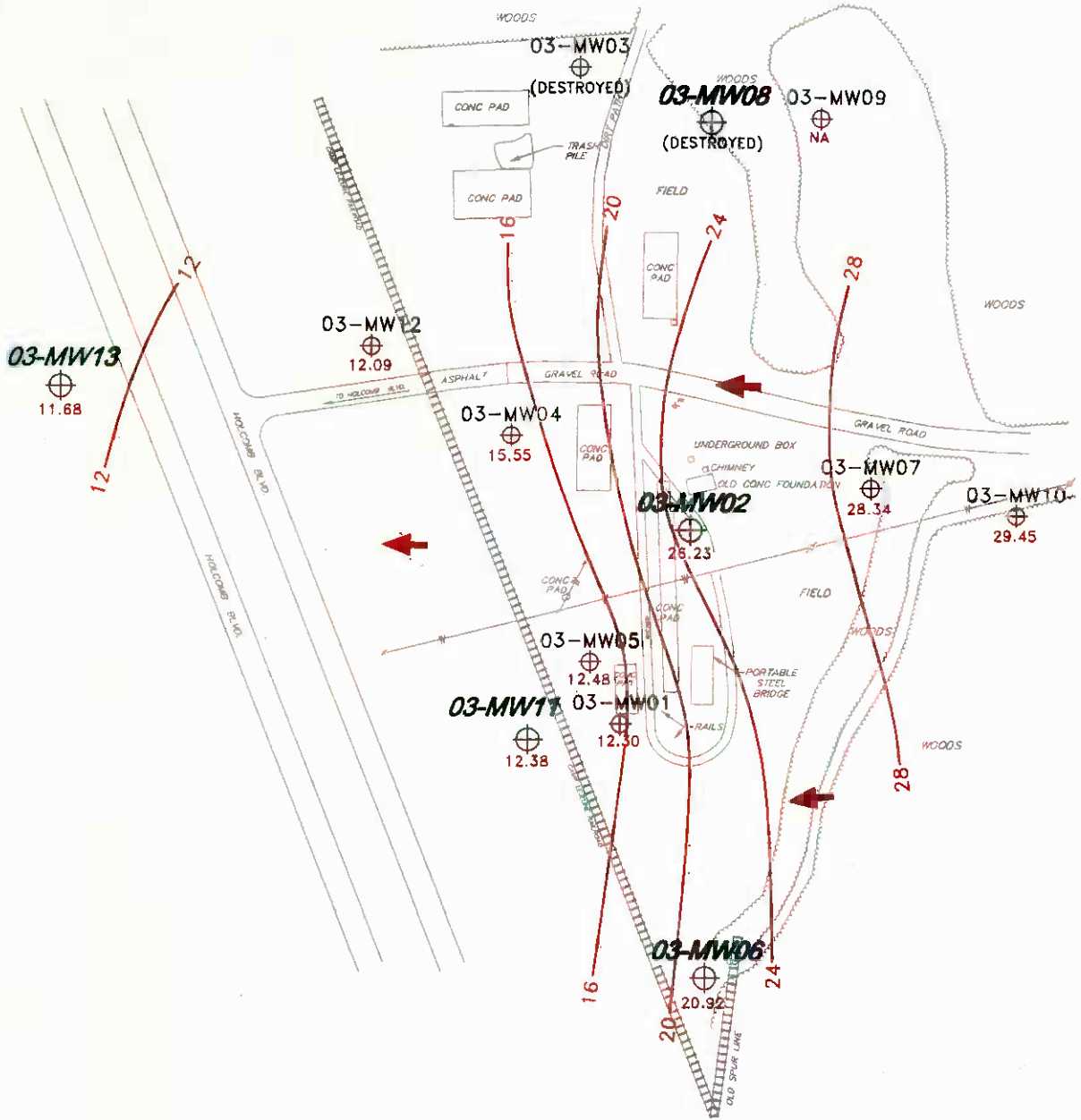
Baker
 Baker Environmental, Inc.

LEGEND

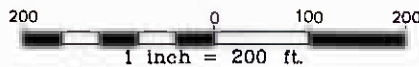
- 03-MW02
 SHALLOW MONITORING WELL
- 03-MW02IW
 INTERMEDIATE MONITORING WELL
- 03-MW02DW
 DEEP MONITORING WELL

FIGURE 1
 SAMPLING LOCATION MAP
 OPERABLE UNIT NO. 12 - SITE 3
 MONITORING AND O&M SUPPORT
 CTO-0367
 MARINE CORPS BASE, CAMP LEJEUNE
 NORTH CAROLINA

072211TRIV



NOTE:
 -WELLS SHOWN IN BLACK
 REGULAR FONT ARE NOT
 INCLUDED IN THE
 MONITORING PROGRAM.



LEGEND

- 03-MW01 - SHALLOW MONITORING WELL
- ⊕ 12.30 - GROUNDWATER ELEVATION (MSL) MEASURED ON JANUARY 18, 1999
- 12- - GROUNDWATER ELEVATION CONTOUR
- ➔ - GROUNDWATER FLOW DIRECTION

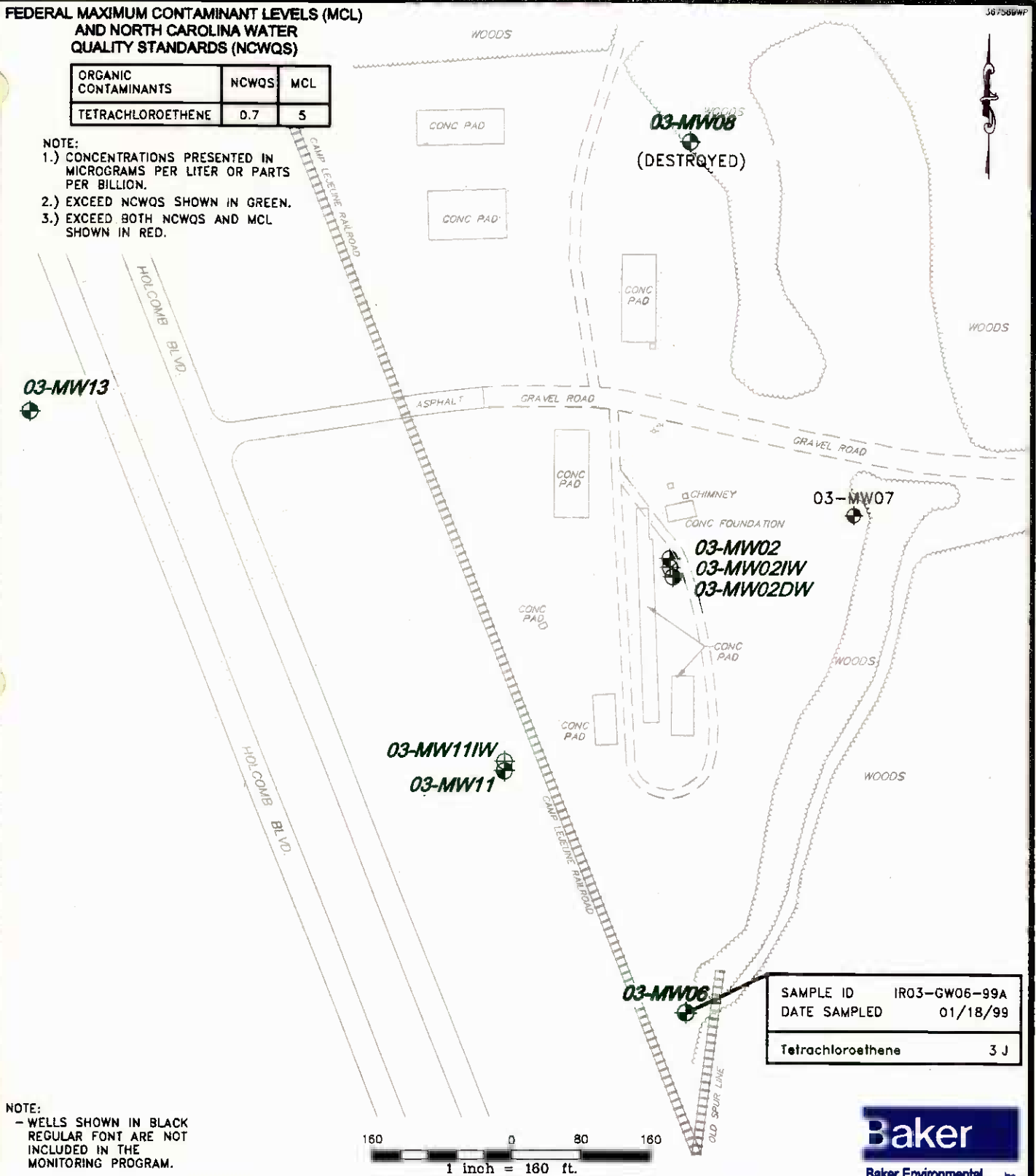
FIGURE 2
 SHALLOW GROUNDWATER CONTOUR MAP
 OPERABLE UNIT NO. 12 - SITE 3
 MONITORING AND O&M SUPPORT
 CTO-0367
 MARINE CORPS BASE, CAMP LEJEUNE
 NORTH CAROLINA

**FEDERAL MAXIMUM CONTAMINANT LEVELS (MCL)
AND NORTH CAROLINA WATER
QUALITY STANDARDS (NCWQS)**

ORGANIC CONTAMINANTS	NCWQS	MCL
TETRACHLOROETHENE	0.7	5

NOTE:

- 1.) CONCENTRATIONS PRESENTED IN MICROGRAMS PER LITER OR PARTS PER BILLION.
- 2.) EXCEED NCWQS SHOWN IN GREEN.
- 3.) EXCEED BOTH NCWQS AND MCL SHOWN IN RED.



NOTE:
- WELLS SHOWN IN BLACK REGULAR FONT ARE NOT INCLUDED IN THE MONITORING PROGRAM.



LEGEND

- 03-MW02 SHALLOW MONITORING WELL
- 03-MW02IW INTERMEDIATE MONITORING WELL
- 03-MW02DW DEEP MONITORING WELL

FIGURE 3
VOLATILE ORGANICS IN GROUNDWATER
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT
CTO-0367
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

**FEDERAL MAXIMUM CONTAMINANT LEVELS (MCL)
AND NORTH CAROLINA WATER
QUALITY STANDARDS (NCWQS)**

ORGANIC CONTAMINANTS	NCWQS	MCL
ACENAPHTHENE	80	---
NAPHTHALENE	21	---
PHENOL	300	---

NOTE:

- 1.) CONCENTRATIONS PRESENTED IN MICROGRAMS PER LITER OR PARTS PER BILLION.
- 2.) EXCEED NCWQS SHOWN IN GREEN.

03-MW13

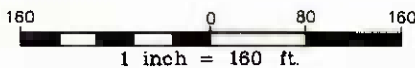
SAMPLE ID	IRD3-GW02-99A
DATE SAMPLED	01/18/99
Acenaphthene	350
Naphthalene	1,900
Phenol	480

03-MW11IW
03-MW11

03-MW06

SAMPLE ID	IRD3-GW06-99A
DATE SAMPLED	01/18/99
Naphthalene	89

NOTE:
- WELLS SHOWN IN BLACK
REGULAR FONT ARE NOT
INCLUDED IN THE
MONITORING PROGRAM.



LEGEND


- 03-MW02 SHALLOW MONITORING WELL
- 03-MW02IW INTERMEDIATE MONITORING WELL
- 03-MW020W DEEP MONITORING WELL

FIGURE 4
SEMIVOLATILE ORGANICS IN GROUNDWATER
OPERABLE UNIT NO. 12 - SITE 3
MONITORING AND O&M SUPPORT
CTO-0367
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

ATTACHMENTS

ATTACHMENT A
CHAIN-OF-CUSTODY DOCUMENTATION

COC # 36706-99A

Company Name: Baker Environmental Inc.		Project Manager or Contact: Tom Trebilcock Phone: (412) 269-2015		Parameters/Method Numbers for Analysis										Chain of Custody Record							
Project No.		Project Name: Camp Lejeune, LTM		No. of Containers TCL Vials 8260A TCL Semivials 8270																 EA Laboratories 19 Loveton Circle Sparks, MD 21162 Telephone: (410) 771-4920 Fax: (410) 771-4407	
Dept.: Task:		ATO Number:			Report Deliverables: 1 2 3 4 D E EDD: Yes/No DUE TO CLIENT: _____																
Sample Storage Location:		Report #:		EA Lab Accession Number														Remarks			
Page 1 of 2																					
1999				Sample Identification 19 Characters																	
Date	Time	Water	Soil															EA Lab Accession Number	Remarks		
1/18	1000	X		IR31-T6011-99A	3	X															LPM:
1/18	0750	X		IR31-GW06-99A	2		X														
1/18	0910	X		IR31-GW021-99A	2		X														
1/17	1555	X		IR718-GW090M-99A	2	X															
1/17	0845	X		IR718-GW37-99A	2	X															
1/16	1655	X		IR016-GW317D1-99A	3	X															
1/16	1150	X		IR718-GW214DW-99A	3	X															
1/16	1250	X		IR718-GW214E-99A	3	X															
1/18	1045	X		IR718-GW214E-99A	3	X															
1/18	1150	X		IR016-TR312-99A	2	X															
1/18	0850	X		IR31-GW06-99A	3	X															
1/18	1010	X		IR31-GW131-99A	3	X															
1/18	0800	X		IR016-GW410DW	3	X															
1/16	1545	X		IR718-GW117-99A	3	X															
1/16	1700	X		IR718-GW212-99A	3	X															
1/18	1210	X		IR31-GW02-99A	3	X															
1/18	1030	X		IR31-GW021DW-99A	3	X															
1/17	1100	X		IR718-GW113-99A	3	X															
1/17	1550	X		IR718-GW011-99A	2	X															
1/17	1345	X		IR718-GW211-99A	3	X															
Samples by: (Signature)		Date/Time		Relinquished by: (Signature)			Date/Time			Received by: (Signature)			Date/Time								
Relinquished by: (Signature) Ellen Byerly		Date/Time 1/18/99 1505		Received by Laboratory: (Signature)			Date/Time			Airbill Number: 806677591602			Sample Shipped by: (Circle) Fed Ex Puro UPS								
Cooler Temp. C pH: <input type="checkbox"/> Yes <input type="checkbox"/> No				Comments:				Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No				Hand Carried									
NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.												Other:									

WHITE—EA Laboratories

YELLOW—EA Laboratories

PINK—Project Manager

Shaded Areas for Lab Use Only

EOC # 36706 B - 79A

Company Name: <i>Barker Environmental</i>		Project Manager or Contact: <i>Tom Teebilcock</i> Phone: (410) 269-2015		Parameters/Method Numbers for Analysis										Chain of Custody Record																										
Project No.		Project Name: <i>Camp Lejeune-LTM</i>		No. of Containers <i>TCL Volatiles</i>																		Report Deliverables: 1 2 3 4 D E																		
Dept.: Task:		ATO Number:																				EDD: Yes/No																DUE TO CLIENT:		
Sample Storage Location:																																								
Page 2 of 3		Report #:																					EA Labs Accession Number		Remarks															
Date	Time	Water	Soil	Sample Identification 19 Characters	No. of Containers																																			
<i>1/11 1215</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1215</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1555</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1530</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1450</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1415</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1400</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1300</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1200</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1130</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1055</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1030</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/11 1015</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/16 1230</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/17 1045</i>		X		<i>IR078-GW111-79A</i>	<i>3</i>																																			
<i>1/18 1130</i>		X		<i>IR03-GW111IW-79A</i>	<i>3</i>																																			

Samples by: (Signature)		Date/Time	Relinquished by: (Signature)		Date/Time	Received by: (Signature)		Date/Time	
Relinquished by: (Signature) <i>Ellen Brubaker</i>		Date/Time <i>1/18/99 1135</i>	Received by Laboratory: (Signature)		Date/Time	Airbill Number: <i>806677591602</i>		Sample Shipped by: (Circle) Fed Ex. Puro. UPS	
Cooler Temp. <input checked="" type="checkbox"/> C pH: <input type="checkbox"/> Yes <input type="checkbox"/> No		Comments:		Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Hand Carried			
Other:									

NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.

WHITE—EA Laboratories

YELLOW—EA Laboratories

PINK—Project Manager

Shaded Areas for Lab Use Only

LVL # 56 16L-47T

Company Name: Baker Environmental		Project Manager or Contact: Tom Trebak / Cock Phone: (412) 269-2015	
Project No.		Project Name: Camp Lejeune - LTM	
Dept.:	Task:	ATO Number:	
Sample Storage Location:			
Page 3 of 3		Report #:	

Parameters/Method Numbers for Analysis									

Chain of Custody Record

EA EA Laboratories
19 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771-4920
Fax: (410) 771-4407

Report Deliverables:
1 2 3 4 D E


EDD: Yes/No

DUE TO CLIENT: _____

Date	Time	Water	Soil	Sample Identification 19 Characters	No. of Containers	Parameters/Method Numbers for Analysis										EA Labs Accession Number	Remarks		
1/17	1555	X		IR076-GW0151-99A	3														
1/17	1558	X		IR077-GW0152-99A	3														
1/18	0850	X		IR031-GW1111-99A	3														
1/17	1210	X		IR061-GW0153-99A	3														
1/16	1515	X		IR016-GW0154-99A	3														
1/17	1230	X		IR061-GW0155-99A	3														
1/16	1550	X		IR061-GW0156-99A	3														
1/16	1330	X		IR061-GW0157-99A	3														
1/18	1330	X		IR031-GW0158-99A	3														
1/18	1115	X		IR011-GW0159-99A	3														
1/18	1255	X		IR011-GW0160-99A	3														
1/18	1555	X		IR011-GW0161-99A	3														

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature) Ellen Bierke	Date/Time 1/18/99 1505	Received by Laboratory: (Signature)	Date/Time	Airbill Number: 806677591602	Sample Shipped by: (Circle) Fed Ex. Puro. UPS
Cooler Temp. <u>7</u> C pH: <input type="checkbox"/> Yes <input type="checkbox"/> No	Comments:		Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Hand Carried
NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.					

CUC # 36106C-477

Company Name: Baker Environmental		Project Manager or Contact: Tom Trebalcock Phone: (410) 269-2015		Parameters/Method Numbers for Analysis						Chain of Custody Record			
Project No.		Project Name: Camp Lejeune-LTM		No. of Containers TCL Volatiles 8260A							 EA Laboratories 19 Loveton Circle Sparks, MD 21152 Telephone: (410) 771-4920 Fax: (410) 771-4407		
Dept.: Task:		ATO Number:									Report Deliverables: 1 2 3 4 D E EDD: Yes/No <u>Baker Contact</u> DUE TO CLIENT: <u>2/17/99</u>		
Sample Storage Location: 115 / 2-3 / VOA 8											EA Labs Accession Number Remarks		
Page 3 of 26		Report #: 490037											
Date	Time	Water	Soil	Sample Identification 19 Characters	No. of Containers							Accession Number	Remarks
1/17	1555	X		IR78-GW04TW-99A	3	X							LPM: MEA
1/17	1530	X		IR78-GW09-99A	3	X							EAL Ps. 09C
1/18	0850	X		IR3-GW111-99A	3	X						9900283	
1/17	1210	X		IR06-GW35D-99A	3	X						9900284	
1/16	1515	X		IR06-GW03-99A	3	X						9900285	
1/16	1230	X		IR06-DRW03-99A	3	X						9900286	LJ 5426
1/16	1550	X		IR06-GW27DW-99A	3	X						9900287	
1/16	1330	X		IR06-GW27DA-99A	3	X						9900288	
1/18	1320	X		IR3-GW02DW-99A	3	X						9900289	
1/18	1145	X		IR011-GW17-99A	3	X						9900290	
1/18	1235	X		IR011-GW10-99A	3	X						9900291	
1/18	1455	X		IR011-TS011-99A	3	X						9900292	
													CO0000 4544
													JE VOA
Sampled by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time			
Relinquished by: (Signature) Ellen Bjorkle		Date/Time 1/18/99 1505		Received by Laboratory: (Signature) <i>[Signature]</i>		Date/Time 1/19/99 1030		Airbill Number: 806677591602		Sample Shipped by: (Circle) Fed Ex Puro UPS			
Cooler Temp. <u>3</u> C pH: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Comments:		Custody Seals Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						Hand Carried		Other:	
NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.													


WHITE—EA Laboratories

YELLOW—EA Laboratories

PINK—Project Manager

Shaded Areas for Lab Use Only

CU 7 3616 577A

Company Name: <i>Baker Environmental</i>		Project Manager or Contact: <i>Tom Trebilcock</i> Phone: <i>(410) 269-2015</i>		Parameters/Method Numbers for Analysis						Chain of Custody Record							
Project No.:		Project Name: <i>Camp Lejeune - LTA</i>		No. of Containers <i>TCL Semivolatiles 8270</i> <i>TAL Metals 6150W</i>							 EA Laboratories 19 Loveton Circle Sparks, MD 21152 Telephone: (410) 771-4920 Fax: (410) 771-4407						
Dept.: Task:		ATO Number:										Report Deliverables:					
Sample Storage Location: <i>M5 / 213 / W48</i>												1 2 3 4 D E EDD: Yes/No <i>butyl format</i> DUE TO CLIENT: <i>2/17/99</i>					
Page <i>2</i> of <i>2</i>		Report #: <i>990037</i>															
1999 Date	Time	Water	Soil	Sample Identification 19 Characters		No. of Containers				EA Labs Accession Number	Remarks						
<i>1/18</i>	<i>1320</i>	<i>X</i>		<i>IR31-GW021W-991A</i>		<i>2</i>	<i>X</i>			<i>9900293</i>	<i>LPM: MEA</i>						
<i>1/18</i>	<i>1130</i>	<i>X</i>		<i>IR31-GW111W-991A</i>		<i>2</i>	<i>X</i>			<i>9900294</i>	<i>VS 890</i>						
<i>1/18</i>	<i>0850</i>	<i>X</i>		<i>IR31-GW111-991A</i>		<i>2</i>	<i>X</i>			<i>9900295</i>							
<i>1/18</i>	<i>1010</i>	<i>X</i>		<i>IR31-GW113-991A</i>		<i>2</i>	<i>X</i>			<i>9900296</i>							
<i>1/18</i>	<i>1030</i>	<i>X</i>		<i>IR31-GW021W-991A</i>		<i>2</i>	<i>X</i>			<i>9900297</i>	<i>LS420</i>						
<i>1/18</i>	<i>1930</i>	<i>X</i>		<i>IR28-GW011-991A</i>		<i>1</i>	<i>X</i>			<i>9900298</i>							
<i>1/18</i>	<i>0850</i>	<i>X</i>		<i>IR28-GW013-991A</i>		<i>1</i>	<i>X</i>			<i>9900299</i>							
<i>1/18</i>	<i>0840</i>	<i>X</i>		<i>IR28-GW011-991A</i>		<i>1</i>	<i>X</i>			<i>9900300</i>							
<i>1/18</i>	<i>0515</i>	<i>X</i>		<i>IR28-GW021-991A</i>		<i>1</i>	<i>X</i>			<i>9900301</i>							
<i>1000004544</i>																	
<i>Daniel YC</i>																	
Sampled by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time							
Relinquished by: (Signature) <i>Ellen Byrbe</i>		Date/Time <i>1/18/99 1515</i>		Received by Laboratory: (Signature) <i>[Signature]</i>		Date/Time <i>1/19/99 012</i>		Airbill Number: <i>806677591602</i>		Sample Shipped by: (Circle) Fed Ex Puro. UPS							
Cooler Temp. <i>13°C</i> pH: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Comments:		Custody Seals Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						Hand Carried							
NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.																	

WHITE—EA Laboratories

YELLOW—EA Laboratories

PINK—Project Manager

Shaded Areas for Lab Use Only

ATTACHMENT B MONITORING PROGRAM ANALYTICAL RESULTS

ANALYTICAL RESULTS IN GROUNDWATER
 OPERABLE UNIT NO. 12 - SITE 3
 MONITORING AND O&M SUPPORT, CTO-0367
 MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR03-GW02-99A	IR03-GW02DW-99A	IR03-GW02IW-99A	IR03-GW06-99A	IR03-GW11-99A	IR03-GW11IW-99A	IR03-GW13-99A
DATE SAMPLED	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99
VOLATILES (ug/l)							
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Vinyl chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	6 J	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	11	5 U
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	11	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5 U	5 U	5 U	3 J	5 U	5 U	5 U
Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	15	5 U	5 U	5 U	5 U	5 U	5 U
Xylenes	34	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U

ANALYTICAL RESULTS IN GROUNDWATER
 OPERABLE UNIT NO. 12 - SITE 3
 MONITORING AND O&M SUPPORT, CTO-0367
 MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR03-GW02-99A	IR03-GW02DW-99A	IR03-GW02IW-99A	IR03-GW06-99A	IR03-GW11-99A	IR03-GW11IW-99A	IR03-GW13-99A
DATE SAMPLED	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99
SEMIVOLATILES (ug/l)							
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	100 J	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methyl-4,6-dinitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Methylnaphthalene	330	10 U	10 U	10	10 U	10 U	10 U
2-Methylphenol	250	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	50 U	50 U	50 U	50 U	50 U	50 U	50 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Bromophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	600	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	50 U	50 U	50 U	50 U	50 U	50 U	50 U
4-Nitrophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Acenaphthene	350	10 U	10 U	16	10 U	10 U	10 U
Acenaphthylene	4 J	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	7 J	10 U	10 U	10 U	10 U	10 U	10 U
Benz[a]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U

ANALYTICAL RESULTS IN GROUNDWATER
 OPERABLE UNIT NO. 12 - SITE 3
 MONITORING AND O&M SUPPORT, CTO-0367
 MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR03-GW02-99A	IR03-GW02DW-99A	IR03-GW02IW-99A	IR03-GW06-99A	IR03-GW11-99A	IR03-GW11IW-99A	IR03-GW13-99A
DATE SAMPLED	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99	1/18/99
SEMIVOLATILES (ug/l) (cont)							
Benzo[ghi]perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzyl butyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl) ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl) phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	130 J	10 U	10 U	3 J	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	210	10 U	10 U	10 J	10 U	10 U	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	19	10 U	14	10 U	10 U	10 U	10 U
Fluorene	180 J	10 U	10 U	11	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	1900	10 U	10 U	89	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitrosodi-n-propylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Phenanthrene	110	10 U	10 U	10	10 U	10 U	10 U
Phenol	480	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	12	10 U	10 J	10 U	10 U	10 U	10 U

ATTACHMENT C
ANALYTICAL LABORATORY DATA SHEETS

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3-TB01-99A

Lab Name: EA LABORATORIES Contract: 990035

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900245

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9388.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/26/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
74-87-3	Chloromethane		5	U
75-01-4	Vinyl Chloride		5	U
74-83-9	Bromomethane		5	U
75-00-3	Chloroethane		5	U
67-64-1	Acetone		10	U
75-35-4	1,1-Dichloroethene		5	U
75-09-2	Methylene Chloride		5	U
75-15-0	Carbon Disulfide		5	U
156-59-2	cis-1,2-Dichloroethene		5	U
156-60-5	trans-1,2-Dichloroethene		5	U
75-34-3	1,1-Dichloroethane		5	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		5	U
71-55-6	1,1,1-Trichloroethane		5	U
56-23-5	Carbon Tetrachloride		5	U
107-06-2	1,2-Dichloroethane		5	U
71-43-2	Benzene		5	U
79-01-6	Trichloroethene		5	U
78-87-5	1,2-Dichloropropane		5	U
75-27-4	Bromodichloromethane		5	U
108-10-1	4-Methyl-2-Pentanone		10	U
10061-01-5	cis-1,3-Dichloropropene		5	U
108-88-3	Toluene		5	U
10061-02-6	trans-1,3-Dichloropropene		5	U
79-00-5	1,1,2-Trichloroethane		5	U
591-78-6	2-Hexanone		10	U
127-18-4	Tetrachloroethene		5	U
124-48-1	Chlorodibromomethane		5	U
108-90-7	Chlorobenzene		5	U
100-41-4	Ethylbenzene		5	U
95-47-6	Xylenes (total)		5	U
100-42-5	Styrene		5	U
75-25-2	Bromoform		5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3-GW06-99A

Lab Name: EA LABORATORIES Contract: 990035
 Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900255
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9405.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: not dec. 0 Date Analyzed: 1/27/99
 GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
74-87-3	Chloromethane		5	U
75-01-4	Vinyl Chloride		5	U
74-83-9	Bromomethane		5	U
75-00-3	Chloroethane		5	U
67-64-1	Acetone		10	U
75-35-4	1,1-Dichloroethene		5	U
75-09-2	Methylene Chloride		5	U
75-15-0	Carbon Disulfide		5	U
156-59-2	cis-1,2-Dichloroethene		5	U
156-60-5	trans-1,2-Dichloroethene		5	U
75-34-3	1,1-Dichloroethane		5	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		5	U
71-55-6	1,1,1-Trichloroethane		5	U
56-23-5	Carbon Tetrachloride		5	U
107-06-2	1,2-Dichloroethane		5	U
71-43-2	Benzene		5	U
79-01-6	Trichloroethene		5	U
78-87-5	1,2-Dichloropropane		5	U
75-27-4	Bromodichloromethane		5	U
108-10-1	4-Methyl-2-Pentanone		10	U
10061-01-5	cis-1,3-Dichloropropene		5	U
108-88-3	Toluene		5	U
10061-02-6	trans-1,3-Dichloropropene		5	U
79-00-5	1,1,2-Trichloroethane		5	U
591-78-6	2-Hexanone		10	U
127-18-4	Tetrachloroethene		3	J
124-48-1	Chlorodibromomethane		5	U
108-90-7	Chlorobenzene		5	U
100-41-4	Ethylbenzene		5	U
95-47-6	Xylenes (total)		5	U
100-42-5	Styrene		5	U
75-25-2	Bromoform		5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3-GW13-99A

Lab Name: EA LABORATORIES Contract: 990035

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900256

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9406.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
74-87-3	Chloromethane		5	U
75-01-4	Vinyl Chloride		5	U
74-83-9	Bromomethane		5	U
75-00-3	Chloroethane		5	U
67-64-1	Acetone		10	U
75-35-4	1,1-Dichloroethene		5	U
75-09-2	Methylene Chloride		5	U
75-15-0	Carbon Disulfide		5	U
156-59-2	cis-1,2-Dichloroethene		5	U
156-60-5	trans-1,2-Dichloroethene		5	U
75-34-3	1,1-Dichloroethane		5	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		5	U
71-55-6	1,1,1-Trichloroethane		5	U
56-23-5	Carbon Tetrachloride		5	U
107-06-2	1,2-Dichloroethane		5	U
71-43-2	Benzene		5	U
79-01-6	Trichloroethene		5	U
78-87-5	1,2-Dichloropropane		5	U
75-27-4	Bromodichloromethane		5	U
108-10-1	4-Methyl-2-Pentanone		10	U
10061-01-5	cis-1,3-Dichloropropene		5	U
108-88-3	Toluene		5	U
10061-02-6	trans-1,3-Dichloropropene		5	U
79-00-5	1,1,2-Trichloroethane		5	U
591-78-6	2-Hexanone		10	U
127-18-4	Tetrachloroethene		5	U
124-48-1	Chlorodibromomethane		5	U
108-90-7	Chlorobenzene		5	U
100-41-4	Ethylbenzene		5	U
95-47-6	Xylenes (total)		5	U
100-42-5	Styrene		5	U
75-25-2	Bromoform		5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3-GW02-99A

Lab Name: EA LABORATORIES Contract: 990035
 Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900260
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9410.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: not dec. 0 Date Analyzed: 1/27/99
 GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	6		J
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	11		
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	15		
95-47-6	Xylenes (total)	34		
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3-GW02-99A

Lab Name: EA LABORATORIES

Contract: 990035

Lab Code: EA ENG Case No.:

SAS No.:

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: #9900260

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

Lab File ID: VH8B9410.D

Level: (low/med)

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/27/99

GC Column: RTX 502.2 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Concentration Units:

CAS No. Compound (ug/L or ug/Kg) ug/L Q

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3-GW02DW-99A

Lab Name: EA LABORATORIES Contract: 990035
 Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900261
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9421.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: not dec. 0 Date Analyzed: 1/28/99
 GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
74-87-3	Chloromethane		5	U
75-01-4	Vinyl Chloride		5	U
74-83-9	Bromomethane		5	U
75-00-3	Chloroethane		5	U
67-64-1	Acetone		10	U
75-35-4	1,1-Dichloroethene		5	U
75-09-2	Methylene Chloride		5	U
75-15-0	Carbon Disulfide		5	U
156-59-2	cis-1,2-Dichloroethene		5	U
156-60-5	trans-1,2-Dichloroethene		5	U
75-34-3	1,1-Dichloroethane		5	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		5	U
71-55-6	1,1,1-Trichloroethane		5	U
56-23-5	Carbon Tetrachloride		5	U
107-06-2	1,2-Dichloroethane		5	U
71-43-2	Benzene		5	U
79-01-6	Trichloroethene		5	U
78-87-5	1,2-Dichloropropane		5	U
75-27-4	Bromodichloromethane		5	U
108-10-1	4-Methyl-2-Pentanone		10	U
10061-01-5	cis-1,3-Dichloropropene		5	U
108-88-3	Toluene		5	U
10061-02-6	trans-1,3-Dichloropropene		5	U
79-00-5	1,1,2-Trichloroethane		5	U
591-78-6	2-Hexanone		10	U
127-18-4	Tetrachloroetherie		5	U
124-48-1	Chlorodibromomethane		5	U
108-90-7	Chlorobenzene		5	U
100-41-4	Ethylbenzene		5	U
95-47-6	Xylenes (total)		5	U
100-42-5	Styrene		5	U
75-25-2	Bromoform		5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3-GW02DW-99A

Lab Name: EA LABORATORIES Contract: 990035
 Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900261
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9421.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: not dec. 0 Date Analyzed: 1/28/99
 GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
79-34-5	1,1,2,2-Tetrachloroethane		5	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW02-99A

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900247

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3026.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
108-95-2	Phenol		310	E
111-44-4	bis(2-Chloroethyl)ether		10	U
95-57-8	2-Chlorophenol		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
95-48-7	2-Methylphenol		200	E
108-60-1	2,2'-oxybis(1-Chloropropane)		10	U
106-44-5	4-Methylphenol		420	E
621-64-7	N-Nitrosodi-n-propylamine		10	U
67-72-1	Hexachloroethane		10	U
98-95-3	Nitrobenzene		10	U
78-59-1	Isophorone		10	U
88-75-5	2-Nitrophenol		10	U
105-67-9	2,4-Dimethylphenol		110	
111-91-1	bis(2-Chloroethoxy)methane		10	U
120-83-2	2,4-Dichlorophenol		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U
91-20-3	Naphthalene		490	E
106-47-8	4-Chloroaniline		10	U
87-68-3	Hexachlorobutadiene		10	U
59-50-7	4-Chloro-3-methylphenol		10	U
91-57-6	2-Methylnaphthalene		210	E
77-47-4	Hexachlorocyclopentadiene		10	U
88-06-2	2,4,6-Trichlorophenol		10	U
95-95-4	2,4,5-Trichlorophenol		50	U
91-58-7	2-Chloronaphthalene		10	U
88-74-4	2-Nitroaniline		50	U
131-11-3	Dimethylphthalate		10	U
606-20-2	2,6-Dinitrotoluene		10	U
208-96-8	Acenaphthylene		4	J
99-09-2	3-Nitroaniline		50	U
83-32-9	Acenaphthene		210	E

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW02-99A

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900247

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3026.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
51-28-5	2,4-Dinitrophenol		50	U
100-02-7	4-Nitrophenol		50	U
132-64-9	Dibenzofuran		140	E
121-14-2	2,4-Dinitrotoluene		10	U
84-66-2	Diethylphthalate		10	U
7005-72-3	4-Chlorophenyl phenylether		10	U
86-73-7	Fluorene		140	E
100-01-6	4-Nitroaniline		50	U
534-52-1	4,6-Dinitro-2-methylphenol		50	U
86-30-6	N-Nitrosodiphenylamine(1)		10	U
101-55-3	4-Bromophenyl phenylether		10	U
118-74-1	Hexachlorobenzene		10	U
87-86-5	Pentachlorophenol		50	U
85-01-8	Phenanthrene		110	
120-12-7	Anthracene		7	J
86-74-8	Carbazole		110	
84-74-2	Di-n-butyl phthalate		10	U
206-44-0	Fluoranthene		19	
129-00-0	Pyrene		12	
85-68-7	Butylbenzylphthalate		10	U
91-94-1	3,3'-Dichlorobenzidine		10	U
56-55-3	Benzo(a)anthracene		10	U
117-81-7	bis(2-Ethylhexyl)phthalate		10	U
218-01-9	Chrysene		10	U
117-84-0	Di-n-octyl phthalate		10	U
205-99-2	Benzo(b)fluoranthene		10	U
207-08-9	Benzo(k)fluoranthene		10	U
50-32-8	Benzo(a)pyrene		10	U
193-39-5	Indeno(1,2,3-cd)pyrene		10	U
53-70-3	Dibenz(a,h)anthracene		10	U
191-24-2	Benzo(g,h,i)perylene		10	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW02-99ADL

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900247DL

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3065.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/7/99

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

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

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L
108-95-2	Phenol	480	D
111-44-4	bis(2-Chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
541-73-1	1,3-Dichlorobenzene	200	U
106-46-7	1,4-Dichlorobenzene	200	U
95-50-1	1,2-Dichlorobenzene	200	U
95-48-7	2-Methylphenol	250	D
108-60-1	2,2'-oxybis(1-Chloropropane)	200	U
106-44-5	4-Methylphenol	600	D
621-64-7	N-Nitrosodi-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	100	JD
111-91-1	bis(2-Chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
120-82-1	1,2,4-Trichlorobenzene	200	U
91-20-3	Naphthalene	1900	D
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	330	D
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	1000	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	1000	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	1000	U
83-32-9	Acenaphthene	350	D

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW02-99ADL

Lab Name: EA LABORATORIES, INC. Contract: _____
 Lab Code: EALAB Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900247DL
 Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3065.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/7/99
 Injection Volume: 1.0 (uL) Dilution Factor: 20.0
 GPC Cleanup: (Y/N) N pH: _____

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
51-28-5	2,4-Dinitrophenol	1000		U
100-02-7	4-Nitrophenol	1000		U
132-64-9	Dibenzofuran	210		D
121-14-2	2,4-Dinitrotoluene	200		U
84-66-2	Diethylphthalate	200		U
7005-72-3	4-Chlorophenyl phenylether	200		U
86-73-7	Fluorene	180		JD
100-01-6	4-Nitroaniline	1000		U
534-52-1	4,6-Dinitro-2-methylphenol	1000		U
86-30-6	N-Nitrosodiphenylamine(1)	200		U
101-55-3	4-Bromophenyl phenylether	200		U
118-74-1	Hexachlorobenzene	200		U
87-86-5	Pentachlorophenol	1000		U
85-01-8	Phenanthrene	150		JD
120-12-7	Anthracene	200		U
86-74-8	Carbazole	130		JD
84-74-2	Di-n-butyl phthalate	200		U
206-44-0	Fluoranthene	200		U
129-00-0	Pyrene	200		U
85-68-7	Butylbenzylphthalate	200		U
91-94-1	3,3'-Dichlorobenzidine	200		U
56-55-3	Benzo(a)anthracene	200		U
117-81-7	bis(2-Ethylhexyl)phthalate	200		U
218-01-9	Chrysene	200		U
117-84-0	Di-n-octyl phthalate	200		U
205-99-2	Benzo(b)fluoranthene	200		U
207-08-9	Benzo(k)fluoranthene	200		U
50-32-8	Benzo(a)pyrene	200		U
193-39-5	Indeno(1,2,3-cd)pyrene	200		U
53-70-3	Dibenz(a,h)anthracene	200		U
191-24-2	Benzo(g,h,i)perylene	200		U

(1) - Cannot be separated from Diphenylamine

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3-GW11IW-99A

Lab Name: EA LABORATORIES Contract: 990036
 Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900282
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9452.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: not dec. 0 Date Analyzed: 1/29/99
 GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
74-87-3	Chloromethane		5	U
75-01-4	Vinyl Chloride		5	U
74-83-9	Bromomethane		5	U
75-00-3	Chloroethane		5	U
67-64-1	Acetone		10	U
75-35-4	1,1-Dichloroethene		5	U
75-09-2	Methylene Chloride		5	U
75-15-0	Carbon Disulfide		5	U
156-59-2	cis-1,2-Dichloroethene		5	U
156-60-5	trans-1,2-Dichloroethene		5	U
75-34-3	1,1-Dichloroethane		5	U
78-93-3	2-Butanone		10	U
67-66-3	Chloroform		5	U
71-55-6	1,1,1-Trichloroethane		5	U
56-23-5	Carbon Tetrachloride		5	U
107-06-2	1,2-Dichloroethane		5	U
71-43-2	Benzene		5	U
79-01-6	Trichloroethene		11	
78-87-5	1,2-Dichloropropane		5	U
75-27-4	Bromodichloromethane		5	U
108-10-1	4-Methyl-2-Pentanone		10	U
10061-01-5	cis-1,3-Dichloropropene		5	U
108-88-3	Toluene		5	U
10061-02-6	trans-1,3-Dichloropropene		5	U
79-00-5	1,1,2-Trichloroethane		5	U
591-78-6	2-Hexanone		10	U
127-18-4	Tetrachloroethene		5	U
124-48-1	Chlorodibromomethane		5	U
108-90-7	Chlorobenzene		5	U
100-41-4	Ethylbenzene		5	U
95-47-6	Xylenes (total)		5	U
100-42-5	Styrene		5	U
75-25-2	Bromoform		5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3-GW11IW-99A

Lab Name: EA LABORATORIES Contract: 990036
 Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900282
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9452.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: not dec. 0 Date Analyzed: 1/29/99
 GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
79-34-5	1,1,2,2-Tetrachloroethane		5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3GW1199A

Lab Name: EA LABORATORIES Contract: _____
 Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900283
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VE5B9542.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: not dec. _____ 99
 GC Column: RTX 502.2 ID: 0.53 (mm) 990037
 Soil Extract Volume: _____ (uL) _____ (uL)

CAS No.	Compound	Concen (ug/L or	
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	5	U
75-09-2	Methylene Chloride	5	U
75-15-0	Carbon Disulfide	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
124-48-1	Chlorodibromomethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
95-47-6	Xylenes (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3GW02IW99A

Lab Name: EA LABORATORIES Contract: _____
 Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900289
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VE5B9558.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: not dec. _____ Date Analyzed: 1/27/99
 GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR3GW02IW99A

Lab Name: EA LABORATORIES

Contract: _____

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900289

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

Lab File ID: VE5B9558.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. _____

Date Analyzed: 1/27/99

GC Column: RTX 502.2 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
79-34-5	1,1,2,2-Tetrachloroethane		5	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW02IW-99A

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900293

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3027.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:	
		(ug/L or ug/Kg)	ug/L
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitrosodi-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW02IW-99A

Lab Name: EA LABORATORIES, INC.

Contract: _____

Lab Code: EALAB Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: #9900293Sample wt/vol: 1000.0 (g/mL) MLLab File ID: SC3C3027.D

Level: (low/med) _____

Date Received: 1/19/99% Moisture: 0 decanted: (Y/N): NDate Extracted: 1/21/99Concentrated Extract Volume: 1000 (uL)Date Analyzed: 2/5/99Injection Volume: 1.0 (uL)Dilution Factor: 1.0GPC Cleanup: (Y/N) N

pH: _____

Concentration Units:

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

(1) - Cannot be separated from Diphenylamine

Form I SV-2

040010

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW11IW-99A

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900294

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3028.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
108-95-2	Phenol	10		U
111-44-4	bis(2-Chloroethyl)ether	10		U
95-57-8	2-Chlorophenol	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
95-50-1	1,2-Dichlorobenzene	10		U
95-48-7	2-Methylphenol	10		U
108-60-1	2,2'-oxybis(1-Chloropropane)	10		U
106-44-5	4-Methylphenol	10		U
621-64-7	N-Nitrosodi-n-propylamine	10		U
67-72-1	Hexachloroethane	10		U
98-95-3	Nitrobenzene	10		U
78-59-1	Isophorone	10		U
88-75-5	2-Nitrophenol	10		U
105-67-9	2,4-Dimethylphenol	10		U
111-91-1	bis(2-Chloroethoxy)methane	10		U
120-83-2	2,4-Dichlorophenol	10		U
120-82-1	1,2,4-Trichlorobenzene	10		U
91-20-3	Naphthalene	10		U
106-47-8	4-Chloroaniline	10		U
87-68-3	Hexachlorobutadiene	10		U
59-50-7	4-Chloro-3-methylphenol	10		U
91-57-6	2-Methylnaphthalene	10		U
77-47-4	Hexachlorocyclopentadiene	10		U
88-06-2	2,4,6-Trichlorophenol	10		U
95-95-4	2,4,5-Trichlorophenol	50		U
91-58-7	2-Chloronaphthalene	10		U
88-74-4	2-Nitroaniline	50		U
131-11-3	Dimethylphthalate	10		U
606-20-2	2,6-Dinitrotoluene	10		U
208-96-8	Acenaphthylene	10		U
99-09-2	3-Nitroaniline	50		U
83-32-9	Acenaphthene	10		U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW111W-99A

Lab Name: EA LABORATORIES, INC. Contract: _____
 Lab Code: EALAB Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900294
 Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3028.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

Concentration Units:

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

(1) - Cannot be separated from Diphenylamine

Form I SV-2

040015

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW11-99A

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900295

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3029.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
108-95-2	Phenol		10	U
111-44-4	bis(2-Chloroethyl)ether		10	U
95-57-8	2-Chlorophenol		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
95-48-7	2-Methylphenol		10	U
108-60-1	2,2'-oxybis(1-Chloropropane)		10	U
106-44-5	4-Methylphenol		10	U
621-64-7	N-Nitrosodi-n-propylamine		10	U
67-72-1	Hexachloroethane		10	U
98-95-3	Nitrobenzene		10	U
78-59-1	Isophorone		10	U
88-75-5	2-Nitrophenol		10	U
105-67-9	2,4-Dimethylphenol		10	U
111-91-1	bis(2-Chloroethoxy)methane		10	U
120-83-2	2,4-Dichlorophenol		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U
91-20-3	Naphthalene		10	U
106-47-8	4-Chloroaniline		10	U
87-68-3	Hexachlorobutadiene		10	U
59-50-7	4-Chloro-3-methylphenol		10	U
91-57-6	2-Methylnaphthalene		10	U
77-47-4	Hexachlorocyclopentadiene		10	U
88-06-2	2,4,6-Trichlorophenol		10	U
95-95-4	2,4,5-Trichlorophenol		50	U
91-58-7	2-Chloronaphthalene		10	U
88-74-4	2-Nitroaniline		50	U
131-11-3	Dimethylphthalate		10	U
606-20-2	2,6-Dinitrotoluene		10	U
208-96-8	Acenaphthylene		10	U
99-09-2	3-Nitroaniline		50	U
83-32-9	Acenaphthene		10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW11-99A

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900295

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3029.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

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

(1) - Cannot be separated from Diphenylamine

Form I SV-2

070019

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW13-99A

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900296

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3030.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
108-95-2	Phenol		10	U
111-44-4	bis(2-Chloroethyl)ether		10	U
95-57-8	2-Chlorophenol		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
95-48-7	2-Methylphenol		10	U
108-60-1	2,2'-oxybis(1-Chloropropane)		10	U
106-44-5	4-Methylphenol		10	U
621-64-7	N-Nitrosodi-n-propylamine		10	U
67-72-1	Hexachloroethane		10	U
98-95-3	Nitrobenzene		10	U
78-59-1	Isophorone		10	U
88-75-5	2-Nitrophenol		10	U
105-67-9	2,4-Dimethylphenol		10	U
111-91-1	bis(2-Chloroethoxy)methane		10	U
120-83-2	2,4-Dichlorophenol		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U
91-20-3	Naphthalene		10	U
106-47-8	4-Chloroaniline		10	U
87-68-3	Hexachlorobutadiene		10	U
59-50-7	4-Chloro-3-methylphenol		10	U
91-57-6	2-Methylnaphthalene		10	U
77-47-4	Hexachlorocyclopentadiene		10	U
88-06-2	2,4,6-Trichlorophenol		10	U
95-95-4	2,4,5-Trichlorophenol		50	U
91-58-7	2-Chloronaphthalene		10	U
88-74-4	2-Nitroaniline		50	U
131-11-3	Dimethylphthalate		10	U
606-20-2	2,6-Dinitrotoluene		10	U
208-96-8	Acenaphthylene		10	U
99-09-2	3-Nitroaniline		50	U
83-32-9	Acenaphthene		10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW13-99A

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900296

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3030.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Concentration Units:

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

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW02DW-99A

Lab Name: EA LABORATORIES, INC. Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: #9900297

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3031.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
108-95-2	Phenol		10	U
111-44-4	bis(2-Chloroethyl)ether		10	U
95-57-8	2-Chlorophenol		10	U
541-73-1	1,3-Dichlorobenzene		10	U
106-46-7	1,4-Dichlorobenzene		10	U
95-50-1	1,2-Dichlorobenzene		10	U
95-48-7	2-Methylphenol		10	U
108-60-1	2,2'-oxybis(1-Chloropropane)		10	U
106-44-5	4-Methylphenol		10	U
621-64-7	N-Nitrosodi-n-propylamine		10	U
67-72-1	Hexachloroethane		10	U
98-95-3	Nitrobenzene		10	U
78-59-1	Isophorone		10	U
88-75-5	2-Nitrophenol		10	U
105-67-9	2,4-Dimethylphenol		10	U
111-91-1	bis(2-Chloroethoxy)methane		10	U
120-83-2	2,4-Dichlorophenol		10	U
120-82-1	1,2,4-Trichlorobenzene		10	U
91-20-3	Naphthalene		10	U
106-47-8	4-Chloroaniline		10	U
87-68-3	Hexachlorobutadiene		10	U
59-50-7	4-Chloro-3-methylphenol		10	U
91-57-6	2-Methylnaphthalene		10	U
77-47-4	Hexachlorocyclopentadiene		10	U
88-06-2	2,4,6-Trichlorophenol		10	U
95-95-4	2,4,5-Trichlorophenol		50	U
91-58-7	2-Chloronaphthalene		10	U
88-74-4	2-Nitroaniline		50	U
131-11-3	Dimethylphthalate		10	U
606-20-2	2,6-Dinitrotoluene		10	U
208-96-8	Acenaphthylene		10	U
99-09-2	3-Nitroaniline		50	U
83-32-9	Acenaphthene		10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

IR3-GW02DW-99A

Lab Name: EA LABORATORIES, INC. Contract: _____
 Lab Code: EALAB Case No.: _____ SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: #9900297
 Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: SC3C3031.D
 Level: (low/med) _____ Date Received: 1/19/99
 % Moisture: 0 decanted: (Y/N): N Date Extracted: 1/21/99
 Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/5/99
 Injection Volume: 1.0 (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: _____

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

(1) - Cannot be separated from Diphenylamine