

File
Erdle 828072



A subsidiary of Radian International LLC

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(412) 788-2717
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21 December, 1998

Mr. David Pratt, P.E.
New York State Dept. of Environmental Conservation
Division of Environmental Remediation
Region 8
6274 East Avon-Lima Road
Avon, New York 14414-9519

**Subject: Southern Boundary Well Installation Report
Radian International Project No. 80186505.05**

Dear Mr. Pratt:

The following letter report summarizes the recently completed monitoring well installation field activities as outlined in the Southern Property Line Well Cluster Work Plan submitted to you on 23 September, 1998. This work was performed in response to requests by the New York State Department of Environmental Conservation (NYSDEC) for installation of an additional downgradient well cluster as noted in the NYSDEC's 2 October 1998 correspondence.

1.0 INTRODUCTION

Two monitoring wells were installed at the southern boundary of the Erdle Perforating property as shown in Figure 1. The purpose of the monitoring wells was to define the nature and extent of potentially impacted groundwater at the property boundary and to determine the potential for off site migration of impacted groundwater. Gaining access to the locations of MW-7 and MW-7D was difficult. Access to the proposed well locations as shown in the work plan was complicated by the low topographic elevation along the southern property boundary and the presence of ponded surface water.

2.0 MONITORING WELL CLUSTER INSTALLATION

Monitoring well MW-7 was installed at the location as shown in Figure 1. The boring for MW-7 was completed using 8.25 inch inside diameter hollow stem augers. Soils samples were collected continuously from the ground surface to the bottom of the borehole to determine lithology. Samples were obtained using a split barrel sampler driven with a 130 lb. hammer according to ASTM- D1586. Soil samples obtained were logged and classified according to the Unified Soils Classification System (USCS) (Attachment A). In addition each sample was screened with a photoionization detector (PID) for the presence of volatile organic compounds. The boring was terminated at approximately 14.5' below ground surface (bgs) when bedrock was encountered. The monitoring well was installed through the augers. The well materials consisted of 2-inch inside diameter (ID) schedule 40 poly vinyl chloride (PVC) well screen (.010 slot) and riser pipe. The well screen was installed from 4 ft. to 14 ft. bgs. After screen and riser pipe installation in the borehole the remaining annular space was backfilled with No. 2 Morie sand from 14.5 ft. to 3 ft. bgs. A bentonite pellet seal was installed from 3 ft. to 1 ft. bgs. The remaining borehole annulus was backfilled with a bentonite cement grout. A locking protective casing was installed over the

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PVC riser pipe. In addition a 2' diameter concrete pad was installed at the ground surface around the well. Well construction diagrams are provided in Attachment A.

Monitoring well MW-7 D was installed approximately 10 ft. from the location of MW-7 as shown in Figure 1. The boring for MW-7D was advanced utilizing 12" ID hollow stem augers and water rotary drilling methods. Initially the borehole was advanced with the hollow stem augers to a depth of 14.5 ft. bgs. The augers were left in the ground while the bedrock was reamed with a 10" diameter roller bit. The borehole was advanced to a depth of 17.5 ft. bgs. Subsequently a 6" ID steel casing was intalled into the borehole. The annulus between the augers and the steel casing was backfilled with a cement bentonite mixture. The augers were removed from the ground. The cement was permitted to cure for a period of 24 hours before resuming drilling activities. The bedrock at MW-7D was subsequently drilled to a depth of 25 ft. bgs with a 5 5/8-inch diameter roller bit. The well was completed as an open borehole monitoring well with the open portion of the borehole from 17.5 ft. bgs to 25 ft. bgs. The boring log and well construction diagram are presented in Attachment A.

3.0 WELL DEVELOPMENT

Each monitoring well was developed of approximately 24 hours following completion of well installation activities. Wells were developed by alternating surging activities with pumping or bailing activities. The goal of development was to develop the well until the following objectives were met:

1. The turbidity remains within a 10 nephelometric turbidity unit (NTU) range for at least a period of 30 minutes.
2. The pH, conductivity and temperature have stabilized for at least three sets of measurements.
3. Documentation of discharge water and volume.
4. Develop until no sediment remains in the well.
5. Use of additives is not permitted.
6. All development equipment shall be decontaminated prior and after use.
7. A goal of 50 NTUs for development discharge water.

Monitoring well MW-7 was installed within the unconsolidated glacial material. Ten well volumes were removed from the well, however the NYSDEC criteria of 50 NTUs for the purge water could not be attained. Two factors are primarily responsible for this condition, the very fine grain size constituting a majority of the aquifer matrix and secondly the very slow recharge conditions.

Monitoring well MW-7D was installed in the dolomite aquifer beneath the glacial till unit at the Erdle site. Ten well volumes were also removed from this monitoring well following completion of well drilling activities. No problems were encountered in attaining well development goals. Well development records are contained in attachment B.

4.0 GROUNDWATER SAMPLING ACTIVITIES

A groundwater sampling event was completed following well installation activities October 29, 1998. Prior to sampling monitoring wells onsite, each well was gauged using an interface probe to check for the

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presence of Non Aqueous Phase Liquid (NAPL) in each new monitoring well. NAPL was not detected in any of the newly installed groundwater monitoring wells or existing monitoring wells onsite. In addition the water table surface and the bottom of the monitoring well were gauged to determine the height of the water column within the well. Based on these measurements, the volume of water contained within the well casing was calculated prior to purging the respective monitoring well.

Each well was purged using a dedicated Teflon™ bailer. The temperature, pH, specific conductivity temperature and turbidity were measured following removal of each well volume. Groundwater quality parameters measured in the field are presented in Table 1.

Groundwater samples were collected from the newly installed monitoring wells as well as the existing monitoring wells including MW-1D, MW-2D, MW-3D, MW-4D, MW-6 and MW-6D. Samples were collected and placed into pre-preserved sample bottles provided by RECRA Laboratories. Groundwater samples that were collected from the newly installed monitoring wells were placed into coolers and chilled with ice. Samples were sent to RECRA Labnet in Amherst, New York for analysis. Analytical parameters specified for the monitoring wells included Volatile Organic Compounds (VOCs) by EPA method 8010 and 8020.

5.0 GROUNDWATER ANALYTICAL RESULTS

Table 2 presents a summary of quarterly groundwater sample analytical results for monitoring wells sampled at the Erdle Perforating Facility. A total of 5 analytes were detected in monitoring wells included in the quarterly monitoring well network. Analytes detected included 1,1 Dichloroethane, Trans-1,2 Dichloroethane, Trans-1,2 Dichloroethane, Trichloroethene and Vinyl Chloride. Groundwater analytical data are presented in Attachment C.

6.0 CONCLUSIONS

Based on the analytical results from the October 29, 1998 groundwater sampling event (presented in Table 2), the following conclusions can be made regarding the bedrock groundwater conditions at the Erdle Perforating facility:

- Groundwater analytical results from MW-7D indicate that the extent of the groundwater plume is near the southern property boundary at this location;
- Groundwater analytical results from MW-6D and from the two previous sampling events show declining levels of trichloroethylene at concentrations of 1000 µg/L, 320 µg/L, and 290 µg/L, respectively. This trend suggests a declining source load, which may be a result of 2-Phase treatment at the source area.
- Additional observations which are evident when reviewing groundwater analytical results include:
 1. The plume of impacted groundwater diffuses towards the south moving away from the source area (MW-1D).

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2. The concentration of organic compounds in the bedrock aquifer decreases with distance south of the source indicating one plume.
3. Organic compounds are at low levels near the southern property boundary.

Based on these trends, it is likely that the concentrations in the downgradient monitoring wells will continue to decline. To confirm this, we recommend that quarterly groundwater monitoring events continue on a quarterly basis and additionally continued operation of the 2-Phase Extraction system.

Please do not hesitate to call me or Mr. Jim Ferguson at 412-788-2717 should you have any additional questions regarding the results of this report.

Sincerely,



Gary C. Beswick, CIH
Unit Leader

GCB/JRF:rz

Enclosures

cc: M. Rick
J. Ferguson

**TABLE 1. GROUNDWATER QUALITY PARAMETERS
OCTOBER 29, 1998
ERDLE PERFORATING, ROCHESTER, NEW YORK**

Well Location	Volume	pH	Specific Conductivity uS/cm	Temperature C°	Turbidity NTUs
MW-1D	1	7.10	3.29	14.7	50
	2	7.07	3.29	14.7	50
	3	7.07	3.29	14.7	40
MW-2D	1	7.06	3.46	14.8	70
	2	7.03	3.46	14.8	50
	3	7.04	3.20	14.8	50
MW-3D	1	7.09	3.19	14.8	120
	2	7.06	3.20	14.8	50
	3	7.04	3.20	14.8	50
MW-4	1	6.87	3.74	14.4	30
	2	6.86	3.67	14.3	30
	3	6.88	3.51	14.2	30
MW-4D	1	7.05	3.51	14.3	100
	2	7.02	3.53	13.9	80
	3	6.99	3.54	13.7	40
MW-6	1	6.84	2.71	14.0	50
	2	6.84	2.64	14.0	80
	3	6.84	2.63	14.0	80
MW-6D	1	6.89	3.22	13.9	10
	2	6.86	3.21	13.9	10
	3	6.89	3.20	13.8	10
MW-7	1	9.19	.385	19	999
	2	9.21	.385	19	999
	3	9.20	.385	19	999
MW-7D	1	5.91	171	20	30
	2	5.90	170	20	20
	3	5.88	171	20	10

**TABLE 2. QUARTERLY GROUNDWATER SAMPLE
ANALYTICAL RESULT SUMMARY (µg/L)
ERDLE PERFORATING, ROCHESTER, NEW YORK**

Well ID	Compound	12/21/94	8/7/96	10/8/97	1/29/98	8/20/98	10/29/98
MW-1	Vinyl Chloride	13,000	2,200	1,400	610	NA	NA
	Trichloroethylene	6,400	420	460	64	NA	NA
	Methylene Chloride	ND	ND	520	60	NA	NA
	1,1,1-Trichloroethane	ND	ND	ND	ND	NA	NA
	Trans 1,2-Dichloroethene	150,000	72	ND	ND	NA	NA
	Toluene	ND	ND	ND	ND	NA	NA
	Tetrachloroethene	ND	ND	ND	ND	NA	NA
MW-1D	Vinyl Chloride	ND	ND	16	ND	50	61
	Trichloroethylene	6,000	9,900	270	1300	910	5500
	Methylene Chloride	ND	ND	5.7	37	ND	ND
	1,1,1-Trichloroethane	ND	ND	5.6	22	ND	ND
	Trans 1,2-Dichloroethene	1,300	ND	ND	ND	ND	ND
	Toluene	20	ND	ND	ND	ND	ND
	Tetrachloroethene	41	ND	ND	ND	ND	ND
MW-2	Vinyl Chloride	88	98	NS	77	ND	NA
	Trichloroethylene	1,600	1,000	NS	940	410*	NA
	Methylene Chloride	ND	ND	NS	64	ND	NA
	1,1,1-Trichloroethane	ND	ND	NS	ND	ND	NA
	Trans 1,2-Dichloroethene	ND	ND	NS	ND	ND	NA
	Toluene	ND	ND	NS	ND	ND	NA
	Tetrachloroethene	ND	ND	NS	ND	ND	NA
MW-2D	Vinyl Chloride	NA	ND	NS	0.94	ND	3.9
	Trichloroethylene	NA	13	NS	1	4.7	6.3
	Methylene Chloride	NA	ND	NS	0.24	ND	ND
	1,1,1-Trichloroethane	NA	3.9	NS	2.7	4.4	3.6
	Trans 1,2-Dichloroethene	NA	1	NS	0.35	1.4	1.4
	Toluene	NA	ND	NS	0.25	ND	ND
	Tetrachloroethene	NA	ND	NS	0.23	ND	ND
	1,1, Dichloroethane					1.5	2.1
MW-3	Vinyl Chloride	ND	ND	ND	ND	NA	NA
	Trichloroethylene	350,000	550,000	310,000	510,000	NA	NA
	Methylene Chloride	4,280	ND	9,000	ND	NA	NA
	1,1,1-Trichloroethane	ND	ND	ND	ND	NA	NA
	Trans 1,2-Dichloroethene	ND	ND	ND	ND	NA	NA
	Toluene	ND	ND	ND	ND	NA	NA
	Tetrachloroethene	ND	ND	ND	ND	NA	NA

TABLE 2 (Continued)
QUARTERLY GROUNDWATER SAMPLE

Well ID	Compound	12/21/94	8/7/96	10/8/97	1/29/98	8/20/98	10/29/98
MW-3D	Vinyl Chloride	ND	ND	ND	ND	ND	12
	Trichloroethylene	380	850	51	60	260	440
	Methylene Chloride	ND	ND	2.7	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	1.7	ND	3.9
	Trans 1,2-Dichloroethene	ND	ND	ND	ND	ND	2.6
	Toluene	ND	ND	ND	ND	ND	ND
	Tetrachloroethene	ND	ND	ND	ND	ND	ND
MW-4	Vinyl Chloride	37	18	NS	8.0	12	NA
	Trichloroethylene	1.4	2.3	NS	1.1	1.5	NA
	Methylene Chloride	ND	ND	NS	0.51	ND	NA
	1,1,1-Trichloroethane	ND	ND	NS	ND	ND	NA
	1,2-Dichloroethene	ND	2.6	NS	2.4	3.8	NA
	Toluene	ND	ND	NS	ND	ND	NA
	Tetrachloroethene	ND	ND	NS	ND	ND	NA
MW-4D	Vinyl Chloride	ND	ND	NS	ND	ND	0.46
	Trichloroethylene	13	29	NS	5.1	30	24
	Methylene Chloride	ND	ND	NS	0.27	ND	ND
	1,1,1-Trichloroethane	3.3	2.5	NS	0.64	1.1	1.3
	Trans 1,2-Dichloroethene	ND	ND	NS	ND	ND	ND
	Toluene	ND	ND	NS	0.25	ND	ND
	Tetrachloroethene	ND	ND	NS	ND	ND	ND
MW-6	Vinyl Chloride	NA	2.2	NS	1.5	ND	0.38J
	Trichloroethylene	NA	ND	NS	ND	ND	ND
	Methylene Chloride	NA	ND	NS	0.29	ND	ND
	1,1,1-Trichloroethane	NA	ND	NS	ND	ND	ND
	Trans 1,2-Dichloroethene	NA	ND	NS	ND	ND	ND
	Toluene	NA	ND	NS	ND	ND	ND
	Tetrachloroethene	NA	ND	NS	ND	ND	ND
MW-6D	Vinyl Chloride	NA	ND	ND	ND	ND	9.3
	Trichloroethylene	NA	1,400	ND	1,000	320	290
	Methylene Chloride	NA	ND	ND	27	ND	ND
	1,1,1-Trichloroethane	NA	ND	ND	ND	8	ND
	Trans 1,2-Dichloroethene	NA	ND	ND	ND	ND	ND
	Toluene	NA	ND	ND	ND	ND	ND
	Tetrachloroethene	NA	ND	ND	ND	ND	ND
MW-7	Vinyl Chloride	---	---	---	---	---	ND
	Trichloroethylene	---	---	---	---	---	ND
	Methylene Chloride	---	---	---	---	---	ND
	1,1,1-Trichloroethane	---	---	---	---	---	ND
	Trans 1,2-Dichloroethene	---	---	---	---	---	ND
	Toluene	---	---	---	---	---	ND
	Tetrachloroethene	---	---	---	---	---	ND

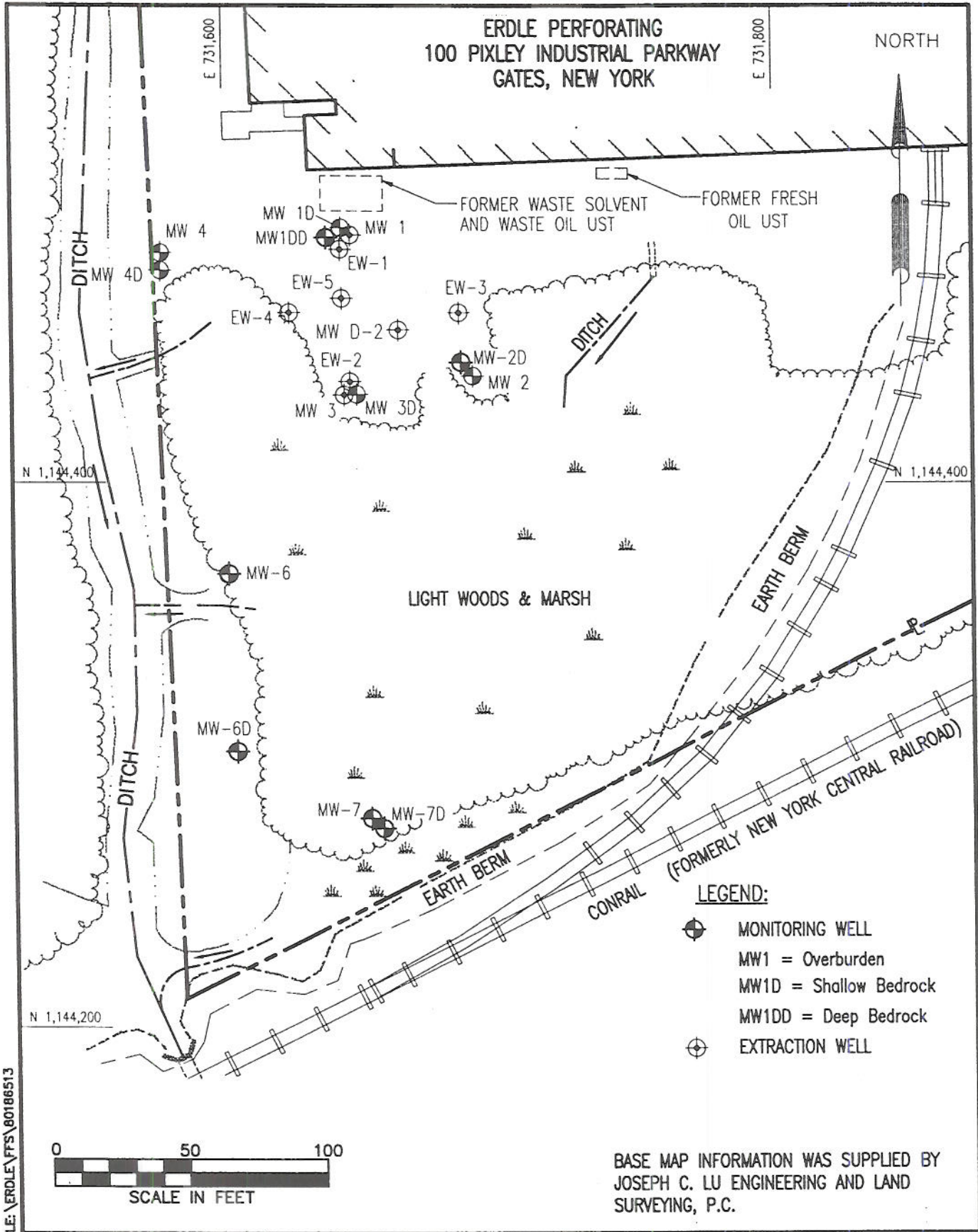
TABLE 2 (Continued)
QUARTERLY GROUNDWATER SAMPLE

Well ID	Compound	12/21/94	8/7/96	10/8/97	1/29/98	8/20/98	10/29/98
MW-7D	Vinyl Chloride	---	---	---	---	---	1.2
	Trichloroethylene	---	---	---	---	---	41
	Methylene Chloride	---	---	---	---	---	ND
	1,1,1-Trichloroethane	---	---	---	---	---	3.3
	Trans 1,2-Dichloroethene	---	---	---	---	---	ND
	Toluene	---	---	---	---	---	ND
	Tetrachloroethene	---	---	---	---	---	ND

- Notes: 1. ND = Not detected.
 2. NA = Not Analyzed
 3. NS= Not Sampled
 4. * = Well resampled due to unrealistic/unexplainable results
 5. J indicates an estimated value. Data indicate the presence of a compound that meets the identification criteria, but the result is less than the sample quantitation limit but greater than 0.
 6. All analytical results reported in µg/L (ppb), unless otherwise noted.

ERDLE PERFORATING
100 PIXLEY INDUSTRIAL PARKWAY
GATES, NEW YORK

NORTH



BASE MAP INFORMATION WAS SUPPLIED BY
JOSEPH C. LU ENGINEERING AND LAND
SURVEYING, P.C.

FILE: \ERDLE\FFS\80186513
01
02
01
01
09
08
K
C



SOUTHERN PROPERTY BOUNDARY
WELL LOCATION MAP

ERDLE PERFORATING		GATES, NY	
CLIENT: ERDLE PERFORATING		JOB NUMBER: 80186505.05	
SCALE: AS SHOWN	FIGURE NUMBER: 1	REV: 0	

ATTACHMENT A

Erdle Perforating

South Property Well Installtn.

801865.05

Rochester, New York



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A DAMES & MOORE GROUP COMPANY

MW-7

See Figure 1 for location.

J. R. Ferguson

Depth	Symbol	Elevation	Blow Counts	Description	USCS	Recovery	Volatile Organic Concentration					Well Data	Remarks
							1	3	5	7	9		
0		556											
1			1-1-1-1	<i>Black, organic silt, and fine sand, wet.</i>	Ml/Sm	0							Static water level = 4.21 BTPVC
2		554				0							
3			4-7-7-8	<i>Red brown, silty fine sand and sandy silt, wet to moist.</i>	Sm/M	0							PVC stick-up = 1.98' above ground surface.
4		552				0							
5			11-7-11-15	<i>Red Brown, plastic clay, moist.</i>	Cl	0							
7			12-15-18-20		Cl	0							
9			5-9-12-14		Cl	0							
11			4-11-14-14		Cl	0							
12		544				0							
13			4-4-10-15	<i>Gray to red, Silty, very fine s and gray angular dolomite fragments, wet.</i>	Sm/M	0							
14		541											
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													

Drill Method: Hollow Stem Auger

Drill Date: October 26, 1998

Hole Size: 12"

Radian International
Penn Center
Building 3, Suite 300
Pittsburgh, Pa 15275

Datum: Grnd.= 555.6' / PVC =557.58' MSL

Checked by: K. Dodrill

Sheet: 1 of 1

Erdle Perforating

South Property Well Installtn.

801865.05

Rochester, New York



RADIAN INTERNATIONAL

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MW-7D

See Figure 1 for location.

J. R. Ferguson

Depth	Symbol	Elevation	Blow Counts	Description	USCS	Recovery	Volatile Organic Concentration				Well Data	Remarks
							1	3	5	7		
0		555										
1			1-1-1-1	Black, organic silt, and fine sand, wet.	MI/Sm	○						Static water level = 3.25' BTSC
2		553										
3			4-7-7-8	Red brown, silty fine sand and sandy silt, wet to moist.	Sm/M	○						
4		551										
5			11-7-11-15	Red Brown, plastic clay, moist.	Cl	○						
6												
7			12-15-18-20		Cl	○						
8												
9			5-9-12-14		Cl	○						
10												
11			4-11-14-14		Cl	○						
12		543										
13			4-4-10-15	Gray to red, Silty, very fine s and gray angular dolomite fragments, wet.	Sm/M	○						
14		541										
15				Gray, hard, dolomite.		○						Steel casing stick-up = 1.49'
16												
17												
18				Gray, hard, dolomite		○						
19												
20												
21												
22				Gray, hard, dolomite		○						
23												
24												
25												

Drill Method: Hollow Stem Auger

Drill Date: October 27, 1998

Hole Size: 12" / 5.875"

Radian International
Penn Center
Building 3, Suite 300
Pittsburgh, Pa 15275

Datum: Grnd. = 555.1' / 556.59' MSL

Checked by: K. Dodrill

Sheet: 1 of 1

ATTACHMENT B

WELL DEVELOPMENT RECORD

WELL/PIEZOMETER ID MW-7
SHEET 1 of 1

PROJECT NAME: Erdle Perforating PROJECT NO.: 801865.05 DATE: 10-28-98

LOCATION: Rochester, New York DATE INSTALLED: October 26, 1998

TOTAL DEPTH (FTOC) 16.5' BTPVC CASING DIAMETER 2" Inside diameter PVC

METHODS OF DEVELOPMENT

Swabbing Bailing Ramping Describe Suged and Bailed (bailed due to slow recharge rate)
Equipment decontaminated prior to development Yes NO
Describe Equipment cleaned with Alconox and water solution

EQUIPMENT NUMBERS:

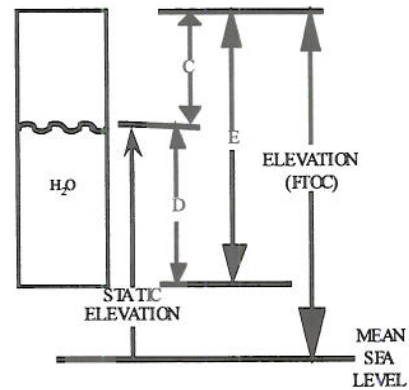
pH Meter _____ EC Meter _____ Turbidity Meter _____ Thermometer _____

CASING VOLUME INFORMATION:

Casing ID (inch)	1.0	1.5	<u>2.0</u>	2.2	3.0	4.0	4.3	5.0	6.0	7.0	8.0
Unit Casing Volume (A) (gal/ft)	0.04	0.09	0.16	0.2	0.37	0.65	0.75	1.0	1.5	2.0	2.6

PURGING INFORMATION:

Measured Well Depth (B) 16.5' BTPVC ft.
Measured Water Level Depth (C) 4.25' BTPVC ft.
Length of Static Water Column (D) $\frac{16.5}{(B)} - \frac{4.25}{(C)} = \frac{4.25}{(D)}$ ft.
Casing Water Volume (E) + $\frac{0.16}{(A)} \times \frac{4.25}{(D)} = \frac{0.68}{(A)}$ gal
Total Purge Volume = 0.68 (gal)



Date	Time	Water Level (FTOC)	Volumes Removed	pH	EC	Temperature F or C	Turbidity/Sand (ppm)	Comments
10-28	10:00	3.5 BTPVC	1	6.7	.570	12.8	20	Light Brown - Red Brown
			2	6.7	.574	12.7	120	Red Brown, sediment
			3	6.72	.586	12.6	710	Red Brown, sediment
			4	6.72	.676	12.6	710	Red Brown, sediment
			5	6.75	.981	12.7	710	Red Brown, sediment
			6	6.78	1.0	12.7	999	Red Brown, sediment
			7	6.76	1.0	12.5	999	Red Brown, sediment
			8	6.78	1.0	12.4	999	Red Brown, sediment
			9	6.80	1.0	12.4	999	Red Brown, sediment
	13:30		10	6.80	1.0	12.3	999	Red Brown, sediment

Note: Could not develop well to NYDEC criteria due to clay continuing to pass through gravel pack and well screen. Other shallow wells existing on site exhibit the same turbidity conditions when purged with bailer.

ATTACHMENT C

RADIAN CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000014

Client No.

MW-1D

Lab Name: Recra LabNet Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484305

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3A06045.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 50.00

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

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

CAS NO.	COMPOUND	UG/L	Q
71-43-2-----	Benzene	10	U
108-90-7-----	Chlorobenzene	10	U
95-50-1-----	1,2-Dichlorobenzene	20	U
541-73-1-----	1,3-Dichlorobenzene	20	U
106-46-7-----	1,4-Dichlorobenzene	20	U
100-41-4-----	Ethylbenzene	10	U
108-88-3-----	Toluene	10	U
108-38-3-----	m-Xylene	10	U
95-47-6-----	o-Xylene	10	U
106-42-3-----	p-Xylene	10	U

RADIANT CORPORATION
 ERDLE SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000013

Client No. _____

MW-1D

Lab Name: Recra LabNet Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484305

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3B06045.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 50.00

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

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

CAS NO.	COMPOUND	UG/L	Q
75-27-4	Bromodichloromethane	10	U
75-25-2	Bromoform	50	U
74-83-9	Bromomethane	50	U
56-23-5	Carbon Tetrachloride	10	U
108-90-7	Chlorobenzene	20	U
75-00-3	Chloroethane	50	U
110-75-8	2-Chloroethylvinyl ether	25	U
67-66-3	Chloroform	10	U
74-87-3	Chloromethane	25	U
124-48-1	Dibromochloromethane	10	U
95-50-1	1,2-Dichlorobenzene	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
75-34-3	1,1-Dichloroethane	10	U
107-06-2	1,2-Dichloroethane	10	U
75-35-4	1,1-Dichloroethene	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-09-2	Methylene chloride	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
127-18-4	Tetrachloroethene	10	U
71-55-6	1,1,1-Trichloroethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
79-01-6	Trichloroethene	4200	E
75-69-4	Trichlorofluoromethane	50	U
75-01-4	Vinyl chloride	61	U

RADIAN CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000016

Client No.

MW-1DDL

Lab Name: Recra LabNet

Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484305DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3A06061.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 200.00

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

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

CAS NO.	COMPOUND	UG/L	Q
71-43-2-----	Benzene	40	U
108-90-7-----	Chlorobenzene	40	U
95-50-1-----	1,2-Dichlorobenzene	80	U
541-73-1-----	1,3-Dichlorobenzene	80	U
106-46-7-----	1,4-Dichlorobenzene	80	U
100-41-4-----	Ethylbenzene	40	U
108-88-3-----	Toluene	40	U
108-38-3-----	m-Xylene	40	U
95-47-6-----	o-Xylene	40	U
106-42-3-----	p-Xylene	40	U

RADIAN CORPORATION
 ERDLIE SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000015

Client No.

MW-1DDL

Lab Name: Recra LabNet Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484305DL

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3B06061.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 200.00

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
75-27-4	Bromodichloromethane		40	U
75-25-2	Bromoform		200	U
74-83-9	Bromomethane		200	U
56-23-5	Carbon Tetrachloride		40	U
108-90-7	Chlorobenzene		80	U
75-00-3	Chloroethane		200	U
110-75-8	2-Chloroethylvinyl ether		100	U
67-66-3	Chloroform		40	U
74-87-3	Chloromethane		100	U
124-48-1	Dibromochloromethane		40	U
95-50-1	1,2-Dichlorobenzene		80	U
541-73-1	1,3-Dichlorobenzene		80	U
106-46-7	1,4-Dichlorobenzene		80	U
75-34-3	1,1-Dichloroethane		40	U
107-06-2	1,2-Dichloroethane		40	U
75-35-4	1,1-Dichloroethene		40	U
156-60-5	trans-1,2-Dichloroethene		40	U
78-87-5	1,2-Dichloropropane		40	U
10061-01-5	cis-1,3-Dichloropropene		40	U
10061-02-6	trans-1,3-Dichloropropene		40	U
75-09-2	Methylene chloride		40	U
79-34-5	1,1,2,2-Tetrachloroethane		40	U
127-18-4	Tetrachloroethene		40	U
71-55-6	1,1,1-Trichloroethane		40	U
79-00-5	1,1,2-Trichloroethane		40	U
79-01-6	Trichloroethene		5500	D
75-69-4	Trichlorofluoromethane		200	U
75-01-4	Vinyl chloride		40	U

RADIAN CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000012

Client No.

MW-2D

Lab Name: Recra LabNet Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484304

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3A06046.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND	UG/L	Q
71-43-2-----	Benzene	0.20	U
108-90-7-----	Chlorobenzene	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
100-41-4-----	Ethylbenzene	0.20	U
108-88-3-----	Toluene	0.20	U
108-38-3-----	m-Xylene	0.20	U
95-47-6-----	o-Xylene	0.20	U
106-42-3-----	p-Xylene	0.20	U

RADIAN CORPORATION
 ERDLE SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000011

Client No.

MW-2D

Lab Name: Recra LabNet

Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484304

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3B06046.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND	UG/L	Q
75-27-4-----	Bromodichloromethane	0.20	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
56-23-5-----	Carbon Tetrachloride	0.20	U
108-90-7-----	Chlorobenzene	0.40	U
75-00-3-----	Chloroethane	1.0	U
110-75-8-----	2-Chloroethylvinyl ether	1.0	U
67-66-3-----	Chloroform	0.20	U
74-87-3-----	Chloromethane	1.0	U
124-48-1-----	Dibromochloromethane	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
75-34-3-----	1,1-Dichloroethane	2.1	
107-06-2-----	1,2-Dichloroethane	0.20	U
75-35-4-----	1,1-Dichloroethene	0.26	
156-60-5-----	trans-1,2-Dichloroethene	1.4	
78-87-5-----	1,2-Dichloropropane	0.20	U
10061-01-5----	cis-1,3-Dichloropropene	0.20	U
10061-02-6----	trans-1,3-Dichloropropene	0.20	U
75-09-2-----	Methylene chloride	0.20	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.20	U
127-18-4-----	Tetrachloroethene	0.24	
71-55-6-----	1,1,1-Trichloroethane	3.6	
79-00-5-----	1,1,2-Trichloroethane	0.20	U
79-01-6-----	Trichloroethene	6.3	
75-69-4-----	Trichlorofluoromethane	1.0	U
75-01-4-----	Vinyl chloride	3.9	

RADIANT CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000018

Client No.

MW-3D

Lab Name: Recra LabNet Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484306

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3A06044.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 8.00

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

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

CAS NO.	COMPOUND	UG/L	Q
71-43-2-----	Benzene	1.6	U
108-90-7-----	Chlorobenzene	1.6	U
95-50-1-----	1,2-Dichlorobenzene	3.2	U
541-73-1-----	1,3-Dichlorobenzene	3.2	U
106-46-7-----	1,4-Dichlorobenzene	3.2	U
100-41-4-----	Ethylbenzene	1.6	U
108-88-3-----	Toluene	1.6	U
108-38-3-----	m-Xylene	1.6	U
95-47-6-----	o-Xylene	1.6	U
106-42-3-----	p-Xylene	1.6	U

RADIAN CORPORATION
 ERDL E SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000017

Client No.

MW-3D

Lab Name: Recra LabNet Contract: _____

Lab Code: RECN Y Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A8484306

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3B06044.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 8.00

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

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

CAS NO.	COMPOUND	UG/L	Q
75-27-4-----	Bromodichloromethane	1.6	U
75-25-2-----	Bromoform	8.0	U
74-83-9-----	Bromomethane	8.0	U
56-23-5-----	Carbon Tetrachloride	1.6	U
108-90-7-----	Chlorobenzene	3.2	U
75-00-3-----	Chloroethane	8.0	U
110-75-8-----	2-Chloroethylvinyl ether	4.0	U
67-66-3-----	Chloroform	1.6	U
74-87-3-----	Chloromethane	4.0	U
124-48-1-----	Dibromochloromethane	1.6	U
95-50-1-----	1,2-Dichlorobenzene	3.2	U
541-73-1-----	1,3-Dichlorobenzene	3.2	U
106-46-7-----	1,4-Dichlorobenzene	3.2	U
75-34-3-----	1,1-Dichloroethane	2.1	
107-06-2-----	1,2-Dichloroethane	1.6	U
75-35-4-----	1,1-Dichloroethene	1.6	U
156-60-5-----	trans-1,2-Dichloroethene	2.6	
78-87-5-----	1,2-Dichloropropane	1.6	U
10061-01-5----	cis-1,3-Dichloropropene	1.6	U
10061-02-6----	trans-1,3-Dichloropropene	1.6	U
75-09-2-----	Methylene chloride	1.6	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1.6	U
127-18-4-----	Tetrachloroethene	1.6	U
71-55-6-----	1,1,1-Trichloroethane	3.9	
79-00-5-----	1,1,2-Trichloroethane	1.6	U
79-01-6-----	Trichloroethene	440	E
75-69-4-----	Trichlorofluoromethane	8.0	U
75-01-4-----	Vinyl chloride	12	

RADIAN CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000020

Client No.

MW-3DDL

Lab Name: Recra LabNet

Contract: _____

Lab Code: RECN

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A8484306DL

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: 3A06062.TX0

Level: (low/med) Low

Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____

Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm)

Dilution Factor: 20.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
71-43-2-----	Benzene		4.0	U
108-90-7-----	Chlorobenzene		4.0	U
95-50-1-----	1,2-Dichlorobenzene		8.0	U
541-73-1-----	1,3-Dichlorobenzene		8.0	U
106-46-7-----	1,4-Dichlorobenzene		8.0	U
100-41-4-----	Ethylbenzene		4.0	U
108-88-3-----	Toluene		4.0	U
108-38-3-----	m-Xylene		4.0	U
95-47-6-----	o-Xylene		4.0	U
106-42-3-----	p-Xylene		4.0	U

RADIAN CORPORATION
 ERDL E SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000019

Client No.

MW-3DDL

Lab Name: Recra LabNet

Contract: _____

Lab Code: RECN Y

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A8484306DL

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: 3B06062.TX0

Level: (low/med) Low

Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____

Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm)

Dilution Factor: 20.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

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

75-27-4-----	Bromodichloromethane	4.0	U
75-25-2-----	Bromoform	20	U
74-83-9-----	Bromomethane	20	U
56-23-5-----	Carbon Tetrachloride	4.0	U
108-90-7-----	Chlorobenzene	8.0	U
75-00-3-----	Chloroethane	20	U
110-75-8-----	2-Chloroethylvinyl ether	10	U
67-66-3-----	Chloroform	4.0	U
74-87-3-----	Chloromethane	10	U
124-48-1-----	Dibromochloromethane	4.0	U
95-50-1-----	1,2-Dichlorobenzene	8.0	U
541-73-1-----	1,3-Dichlorobenzene	8.0	U
106-46-7-----	1,4-Dichlorobenzene	8.0	U
75-34-3-----	1,1-Dichloroethane	4.0	U
107-06-2-----	1,2-Dichloroethane	4.0	U
75-35-4-----	1,1-Dichloroethene	4.0	U
156-60-5-----	trans-1,2-Dichloroethene	4.0	U
78-87-5-----	1,2-Dichloropropane	4.0	U
10061-01-5----	cis-1,3-Dichloropropene	4.0	U
10061-02-6----	trans-1,3-Dichloropropene	4.0	U
75-09-2-----	Methylene chloride	4.0	U
79-34-5-----	1,1,2,2-Tetrachloroethane	4.0	U
127-18-4-----	Tetrachloroethene	4.0	U
71-55-6-----	1,1,1-Trichloroethane	4.0	U
79-00-5-----	1,1,2-Trichloroethane	4.0	U
79-01-6-----	Trichloroethene	280	D
75-69-4-----	Trichlorofluoromethane	20	U
75-01-4-----	Vinyl chloride	4.8	D

RADIAN CORPORATION
 ERDL E SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000010

Client No.

MW-4D

Lab Name: Recra LabNet Contract: _____

Lab Code: RECN Y Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A8484303

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3A06047.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND	UG/L	Q
71-43-2-----	Benzene	0.20	U
108-90-7-----	Chlorobenzene	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
100-41-4-----	Ethylbenzene	0.20	U
108-88-3-----	Toluene	0.20	U
108-38-3-----	m-Xylene	0.20	U
95-47-6-----	o-Xylene	0.20	U
106-42-3-----	p-Xylene	0.20	U

RADIAN CORPORATION
 ERDLIE SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000009

Client No.

MW-4D

Lab Name: Recra LabNet

Contract: _____

Lab Code: RECN

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A8484303

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: 3B06059.TX0

Level: (low/med) Low

Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____

Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg)

UG/L

Q

CAS NO.	COMPOUND	UG/L	Q
75-27-4-----	Bromodichloromethane	0.20	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
56-23-5-----	Carbon Tetrachloride	0.20	U
108-90-7-----	Chlorobenzene	0.40	U
75-00-3-----	Chloroethane	1.0	U
110-75-8-----	2-Chloroethylvinyl ether	1.0	U
67-66-3-----	Chloroform	0.20	U
74-87-3-----	Chloromethane	1.0	U
124-48-1-----	Dibromochloromethane	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
75-34-3-----	1,1-Dichloroethane	0.27	
107-06-2-----	1,2-Dichloroethane	0.20	U
75-35-4-----	1,1-Dichloroethene	0.20	U
156-60-5-----	trans-1,2-Dichloroethene	0.20	U
78-87-5-----	1,2-Dichloropropane	0.20	U
10061-01-5----	cis-1,3-Dichloropropene	0.20	U
10061-02-6----	trans-1,3-Dichloropropene	0.20	U
75-09-2-----	Methylene chloride	0.20	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.20	U
127-18-4-----	Tetrachloroethene	0.20	U
71-55-6-----	1,1,1-Trichloroethane	1.3	
79-00-5-----	1,1,2-Trichloroethane	0.20	U
79-01-6-----	Trichloroethene	24	
75-69-4-----	Trichlorofluoromethane	1.0	U
75-01-4-----	Vinyl chloride	0.46	J

RADIAN CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000008

Client No.

Lab Name: Recra LabNet

Contract: _____

MW-6

Lab Code: RECN

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A8484302

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: 3A06048.TX0

Level: (low/med) Low

Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____

Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg)

UG/L

Q

71-43-2-----	Benzene	0.20	U
108-90-7-----	Chlorobenzene	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
100-41-4-----	Ethylbenzene	0.20	U
108-88-3-----	Toluene	0.20	U
108-38-3-----	m-Xylene	0.20	U
95-47-6-----	o-Xylene	0.20	U
106-42-3-----	p-Xylene	0.20	U

RADIAN CORPORATION
 ERDLIE SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000007

Client No.

Lab Name: Recra LabNet

Contract: _____

MW-6

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

Matrix: (soil/water) WATER Lab Sample ID: A8484302

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3B06058.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND	UG/L	Q
75-27-4-----	Bromodichloromethane	0.20	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
56-23-5-----	Carbon Tetrachloride	0.20	U
108-90-7-----	Chlorobenzene	0.40	U
75-00-3-----	Chloroethane	1.0	U
110-75-8-----	2-Chloroethylvinyl ether	1.0	U
67-66-3-----	Chloroform	0.20	U
74-87-3-----	Chloromethane	1.0	U
124-48-1-----	Dibromochloromethane	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
75-34-3-----	1,1-Dichloroethane	0.20	U
107-06-2-----	1,2-Dichloroethane	0.20	U
75-35-4-----	1,1-Dichloroethene	0.20	U
156-60-5-----	trans-1,2-Dichloroethene	0.20	U
78-87-5-----	1,2-Dichloropropane	0.20	U
10061-01-5----	cis-1,3-Dichloropropene	0.20	U
10061-02-6----	trans-1,3-Dichloropropene	0.20	U
75-09-2-----	Methylene chloride	0.20	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.20	U
127-18-4-----	Tetrachloroethene	0.20	U
71-55-6-----	1,1,1-Trichloroethane	0.20	U
79-00-5-----	1,1,2-Trichloroethane	0.20	U
79-01-6-----	Trichloroethene	0.20	U
75-69-4-----	Trichlorofluoromethane	1.0	U
75-01-4-----	Vinyl chloride	0.38	J

RADIANT CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000006

Client No.

MW-6D

Lab Name: Recra LabNet

Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484301

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3A06057.TX0

Level: (low/med) Low Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 20.00

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

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

CAS NO.	COMPOUND	UG/L	Q
71-43-2-----	Benzene	4.0	U
108-90-7-----	Chlorobenzene	4.0	U
95-50-1-----	1,2-Dichlorobenzene	8.0	U
541-73-1-----	1,3-Dichlorobenzene	8.0	U
106-46-7-----	1,4-Dichlorobenzene	8.0	U
100-41-4-----	Ethylbenzene	4.0	U
108-88-3-----	Toluene	4.0	U
108-38-3-----	m-Xylene	4.0	U
95-47-6-----	o-Xylene	4.0	U
106-42-3-----	p-Xylene	4.0	U

RADIAN CORPORATION
 ERDLIE SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000005

Client No.

MW-6D

Lab Name: Recra LabNet

Contract: _____

Lab Code: RECN

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A8484301

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: 3B06057.TX0

Level: (low/med) Low

Date Samp/Recv: 10/27/98 10/28/98

% Moisture: not dec. _____

Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm)

Dilution Factor: 20.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
75-27-4	Bromodichloromethane	4.0	U
75-25-2	Bromoform	20	U
74-83-9	Bromomethane	20	U
56-23-5	Carbon Tetrachloride	4.0	U
108-90-7	Chlorobenzene	8.0	U
75-00-3	Chloroethane	20	U
110-75-8	2-Chloroethylvinyl ether	10	U
67-66-3	Chloroform	4.0	U
74-87-3	Chloromethane	10	U
124-48-1	Dibromochloromethane	4.0	U
95-50-1	1,2-Dichlorobenzene	8.0	U
541-73-1	1,3-Dichlorobenzene	8.0	U
106-46-7	1,4-Dichlorobenzene	8.0	U
75-34-3	1,1-Dichloroethane	4.0	U
107-06-2	1,2-Dichloroethane	4.0	U
75-35-4	1,1-Dichloroethene	4.0	U
156-60-5	trans-1,2-Dichloroethene	4.0	U
78-87-5	1,2-Dichloropropane	4.0	U
10061-01-5	cis-1,3-Dichloropropene	4.0	U
10061-02-6	trans-1,3-Dichloropropene	4.0	U
75-09-2	Methylene chloride	4.0	U
79-34-5	1,1,2,2-Tetrachloroethane	4.0	U
127-18-4	Tetrachloroethene	4.0	U
71-55-6	1,1,1-Trichloroethane	4.0	U
79-00-5	1,1,2-Trichloroethane	4.0	U
79-01-6	Trichloroethene	290	U
75-69-4	Trichlorofluoromethane	20	U
75-01-4	Vinyl chloride	9.3	

RADIANT CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000007

Client No.

MW-7

Lab Name: Recra LabNet Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8491602

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3A06134.TX0

Level: (low/med) Low Date Samp/Recv: 10/29/98 10/30/98

% Moisture: not dec. _____ Date Analyzed: 11/06/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND	UG/L	Q
71-43-2-----	Benzene	0.20	U
108-90-7-----	Chlorobenzene	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
100-41-4-----	Ethylbenzene	0.20	U
108-88-3-----	Toluene	0.20	U
108-38-3-----	m-Xylene	0.20	U
95-47-6-----	o-Xylene	0.20	U
106-42-3-----	p-Xylene	0.20	U

RADIANT CORPORATION
 ERDLE SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000006

Client No.

MW-7

Lab Name: Recra LabNet Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8491602

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3B06134.TX0

Level: (low/med) Low Date Samp/Recv: 10/29/98 10/30/98

% Moisture: not dec. _____ Date Analyzed: 11/06/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND	UG/L	Q
75-27-4-----	Bromodichloromethane	0.20	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
56-23-5-----	Carbon Tetrachloride	0.20	U
108-90-7-----	Chlorobenzene	0.40	U
75-00-3-----	Chloroethane	1.0	U
110-75-8-----	2-Chloroethylvinyl ether	1.0	U
67-66-3-----	Chloroform	0.20	U
74-87-3-----	Chloromethane	1.0	U
124-48-1-----	Dibromochloromethane	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
75-34-3-----	1,1-Dichloroethane	0.20	U
107-06-2-----	1,2-Dichloroethane	0.20	U
75-35-4-----	1,1-Dichloroethene	0.20	U
156-60-5-----	trans-1,2-Dichloroethene	0.20	U
78-87-5-----	1,2-Dichloropropane	0.20	U
10061-01-5----	cis-1,3-Dichloropropene	0.20	U
10061-02-6----	trans-1,3-Dichloropropene	0.20	U
75-09-2-----	Methylene chloride	0.20	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.20	U
127-18-4-----	Tetrachloroethene	0.20	U
71-55-6-----	1,1,1-Trichloroethane	0.20	U
79-00-5-----	1,1,2-Trichloroethane	0.20	U
79-01-6-----	Trichloroethene	0.20	U
75-69-4-----	Trichlorofluoromethane	1.0	U
75-01-4-----	Vinyl chloride	1.0	U

RADIANT CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000005

Client No.

MW-7D

Lab Name: Recra LabNet

Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8491601

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3A06133.TX0

Level: (low/med) Low Date Samp/Recv: 10/29/98 10/30/98

% Moisture: not dec. _____ Date Analyzed: 11/05/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 2.00

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

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
✓ 71-43-2-----	Benzene	0.40	U
108-90-7-----	Chlorobenzene	0.40	U
✓ 95-50-1-----	1,2-Dichlorobenzene	0.80	U
✓ 541-73-1-----	1,3-Dichlorobenzene	0.80	U
✓ 106-46-7-----	1,4-Dichlorobenzene	0.80	U
✓ 100-41-4-----	Ethylbenzene	0.40	U
✓ 108-88-3-----	Toluene	0.40	U
✓ 108-38-3-----	m-Xylene	0.40	U
✓ 95-47-6-----	o-Xylene	0.40	U
✓ 106-42-3-----	p-Xylene	0.40	U

RADIAN CORPORATION
 ERDLE SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000004

Client No.

MW-7D

Lab Name: Recra LabNet Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8491601

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3B06133.TX0

Level: (low/med) Low Date Samp/Recv: 10/29/98 10/30/98

% Moisture: not dec. _____ Date Analyzed: 11/05/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 2.00

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

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

CAS NO.	COMPOUND	UG/L	Q
75-27-4	Bromodichloromethane	0.40	U
75-25-2	Bromoform	2.0	U
74-83-9	Bromomethane	2.0	U
56-23-5	Carbon Tetrachloride	0.40	U
108-90-7	Chlorobenzene	0.80	U
75-00-3	Chloroethane	2.0	U
110-75-8	2-Chloroethylvinyl ether	1.0	U
67-66-3	Chloroform	0.40	U
74-87-3	Chloromethane	1.0	U
124-48-1	Dibromochloromethane	0.40	U
95-50-1	1,2-Dichlorobenzene	0.80	U
541-73-1	1,3-Dichlorobenzene	0.80	U
106-46-7	1,4-Dichlorobenzene	0.80	U
75-34-3	1,1-Dichloroethane	0.40	U
107-06-2	1,2-Dichloroethane	0.40	U
75-35-4	1,1-Dichloroethene	0.40	U
156-60-5	trans-1,2-Dichloroethene	0.40	U
78-87-5	1,2-Dichloropropane	0.40	U
10061-01-5	cis-1,3-Dichloropropene	0.40	U
10061-02-6	trans-1,3-Dichloropropene	0.40	U
75-09-2	Methylene chloride	0.40	U
79-34-5	1,1,2,2-Tetrachloroethane	0.40	U
127-18-4	Tetrachloroethene	0.40	U
71-55-6	1,1,1-Trichloroethane	3.3	
79-00-5	1,1,2-Trichloroethane	0.40	U
79-01-6	Trichloroethene	41	
75-69-4	Trichlorofluoromethane	2.0	U
75-01-4	Vinyl chloride	1.2	

RADIAN CORPORATION
 ERDLE SITE
 METHOD 8020 - AROMATIC VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000022

Client No.

TRIP BLANK

Lab Name: Recra LabNet

Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484307

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3A06043.TX0

Level: (low/med) Low Date Samp/Recv: 10/16/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 1.00

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

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

CAS NO.	COMPOUND	UG/L	Q
71-43-2-----	Benzene	0.20	U
108-90-7-----	Chlorobenzene	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
100-41-4-----	Ethylbenzene	0.20	U
108-88-3-----	Toluene	0.20	U
108-38-3-----	m-Xylene	0.20	U
95-47-6-----	o-Xylene	0.20	U
106-42-3-----	p-Xylene	0.20	U

RADIAN CORPORATION
 ERDL E SITE
 METHOD 8010 - HALOGENATED VOLATILE ORGANICS
 ANALYSIS DATA SHEET

000021

Client No. _____

TRIP BLANK

Lab Name: Recra LabNet Contract: _____

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

Matrix: (soil/water) WATER Lab Sample ID: A8484307

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: 3B06043.TX0

Level: (low/med) Low Date Samp/Recv: 10/16/98 10/28/98

% Moisture: not dec. _____ Date Analyzed: 10/30/98

GC Column: RTX502.2 Dia: 0.53 (mm) Dilution Factor: 1.00

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

CONCENTRATION UNITS:

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

75-27-4-----	Bromodichloromethane	0.20	U
75-25-2-----	Bromoform	1.0	U
74-83-9-----	Bromomethane	1.0	U
56-23-5-----	Carbon Tetrachloride	0.20	U
108-90-7-----	Chlorobenzene	0.40	U
75-00-3-----	Chloroethane	1.0	U
110-75-8-----	2-Chloroethylvinyl ether	1.0	U
67-66-3-----	Chloroform	0.20	U
74-87-3-----	Chloromethane	1.0	U
124-48-1-----	Dibromochloromethane	0.20	U
95-50-1-----	1,2-Dichlorobenzene	0.40	U
541-73-1-----	1,3-Dichlorobenzene	0.40	U
106-46-7-----	1,4-Dichlorobenzene	0.40	U
75-34-3-----	1,1-Dichloroethane	0.20	U
107-06-2-----	1,2-Dichloroethane	0.20	U
75-35-4-----	1,1-Dichloroethene	0.20	U
156-60-5-----	trans-1,2-Dichloroethene	0.20	U
78-87-5-----	1,2-Dichloropropane	0.20	U
10061-01-5----	cis-1,3-Dichloropropene	0.20	U
10061-02-6----	trans-1,3-Dichloropropene	0.20	U
75-09-2-----	Methylene chloride	0.20	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.20	U
127-18-4-----	Tetrachloroethene	0.20	U
71-55-6-----	1,1,1-Trichloroethane	0.20	U
79-00-5-----	1,1,2-Trichloroethane	0.20	U
79-01-6-----	Trichloroethene	0.20	U
75-69-4-----	Trichlorofluoromethane	1.0	U
75-01-4-----	Vinyl chloride	1.0	U