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MONITORING REPORT
October/November 1988

**Interim Remedial Measures,
Maintenance and Monitoring Program**

Wauconda Landfill Site
Wauconda, Illinois

PRINTED ON

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October/November 1988

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Maintenance and Monitoring Program**

Wauconda Landfill Site
Wauconda, Illinois



BROWNING-FERRIS INDUSTRIES

P.O. BOX 3151 • HOUSTON, TEXAS 77253 • 713/870-8100

January 16, 1989

Mr. Ed Addison
U.S. Environmental Protection Agency
Region V (SHS)
230 South Dearborn Street
Chicago, Illinois 60604

RE: Wauconda Sand & Gravel Site
U.S. EPA Docket No. V-W88C-124

Dear Mr. Addison:

Enclosed is the Final Monitoring Report for the October/November 1988 Ground Water Investigation performed by Conestoga-Rovers & Associates Limited at the Wauconda Sand & Gravel Site. This report is submitted pursuant to Section IX of the Administrative Order executed between Browning-Ferris Industries of Illinois, Inc. and the U.S. Environmental Protection Agency.

The analytical results for groundwater samples obtained during this round of sampling are consistent with results from previous sampling efforts. Although variations exist, they are of the type typically associated with natural variability in sampling, laboratory personnel and the analytic process. Although the numerical value of results for vinyl chloride are consistent with past results, a possible trend in the data over time may be emerging. We recommend that this possibility be reviewed when evaluating analytical results from future sampling efforts.

Should you wish to hold a meeting to discuss this report, please contact me at 713/870-7926 and we will make arrangements at your convenience.

Sincerely,

on behalf of Browning-Ferris
Industries of Illinois, Inc.

Kevin D. Romine
CERCLA Activities

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1.0 INTRODUCTION

This report provides the results of the well survey and groundwater monitoring pursuant to the USEPA/BFI Administrative Order (AO), Section VIII, Items 2, 3 and 4. This work was further detailed in Attachment A, Scope of Work Wauconda - Landfill Maintenance and Monitoring (SOW), of the letter to Browning-Ferris Industries of Illinois Inc. (BFIIIL) dated September 27, 1988.

1.1 BACKGROUND

The Wauconda Landfill operated from the 1940s until its closure in 1978. The 74 acre site received approximately 3.2 million cubic yards of residential and commercial waste. Less than 1 percent of the waste volume originated from industrial sources.

In 1983 the Wauconda Landfill was listed on the National Priorities List having been given a Hazard Ranking System (HRS) Score of 53.42. The listing was largely related to a rumor that 6 million pounds of PCBs were disposed of at the Site. This rumor was ultimately found to be incorrect.

From 1983 to 1985, the USEPA conducted a Remedial Investigation/Feasibility Study (RI/FS) at the Wauconda Landfill. These studies are documented in four reports (References 1 to 5). Throughout this period Conestoga-Rovers and Associates (CRA) did an independent study and provided overview and comment of USEPA studies for the Wauconda Task

Group (WTG) (References 6 to 9). Based on these studies the USEPA prepared a Record of Decision (ROD) stating that Interim Remedial Measures (IRMs) and an ongoing site evaluation be conducted. This work involved:

1. leachate collection,
2. installation of a site perimeter fence,
3. cap repairs and
4. supplemental groundwater and surface water evaluation.

In July 1986, the Wauconda Task Group (WTG), a group of companies identified as potential responsible parties, agreed to undertake the work identified by the Interim ROD pursuant to an Administrative Order (Reference 10). This work was undertaken during a period from July 1986 to September 1988. WTG's studies are documented in the report Supplemental RI/FS (Reference 11). This report recommended that the final site remedy consist of ongoing cap and fence maintenance with continued groundwater monitoring.

In April 1988, the USEPA prepared a Proposed Plan (Reference 12 to 14) which identified the scope of work which may form part of the Final ROD. This plan accepted the WTG's recommendation for ongoing cap and fence maintenance with continued groundwater monitoring, but also included the addition of leachate collection, a more extensive monitoring program and an air evaluation.

On September 16, 1988, WTG's obligations under their Administrative Order expired. Subsequently, BFIIL undertook continuation of

the ongoing Site maintenance and groundwater monitoring program. BFIL's obligation for this work expires on May 31, 1989. The work is being performed pursuant to an Administrative Order and as detailed in the September 27, 1988, SOW.

In October and November 1988, CRA completed sampling the monitoring and residential wells specified in Section VIII, Items 2 and 3 of the AO as well as sampling wells selected from the residential well survey specified in Item 4 of Section VIII. USEPA modifications were incorporated into the SOW for the work performed pursuant to the AO. The following discusses this monitoring and comprises both the Monitoring Well/North Residential Well Report and the South Residential Well Report shown in the schedule (Table 3) of the SOW.

2.0 SCOPE OF WORK

2.1 MONITORING WELL SAMPLING

Pursuant to Section VIII, Item 2 of the AO, sampling and analysis of nine monitoring wells was conducted. On October 4, 5, and 6, 1988, the Upper Aquifer monitoring wells were sampled as specified in the AO. Samples were collected from the following wells: G305B, OW408, OW407, OW406, G203A, OW405, OW403, G310 and OW411. Richard Boice of USEPA approved the elimination of well G201 due to the well being buried and inaccessible. The locations of these wells are shown on Figure 1.

Sampling was performed in accordance with the "Quality Assurance Project Plan (QAPP), Supplemental Remedial Investigation/ Feasibility Study," (CRA, dated May 1986) the variances agreed to previously and those stated in the SOW.

Table 1 provides a summary of the dates samples were collected and the parameters for which analyses were conducted. Additional sampling data is presented in Appendix B.

2.2 RESIDENTIAL WELL SAMPLING

As specified in Section VIII, Item 3 of the AO and USEPA's requested sampling priority, four residential wells northeast of the Site were sampled. On October 6, 1988, samples were collected from wells at [REDACTED]

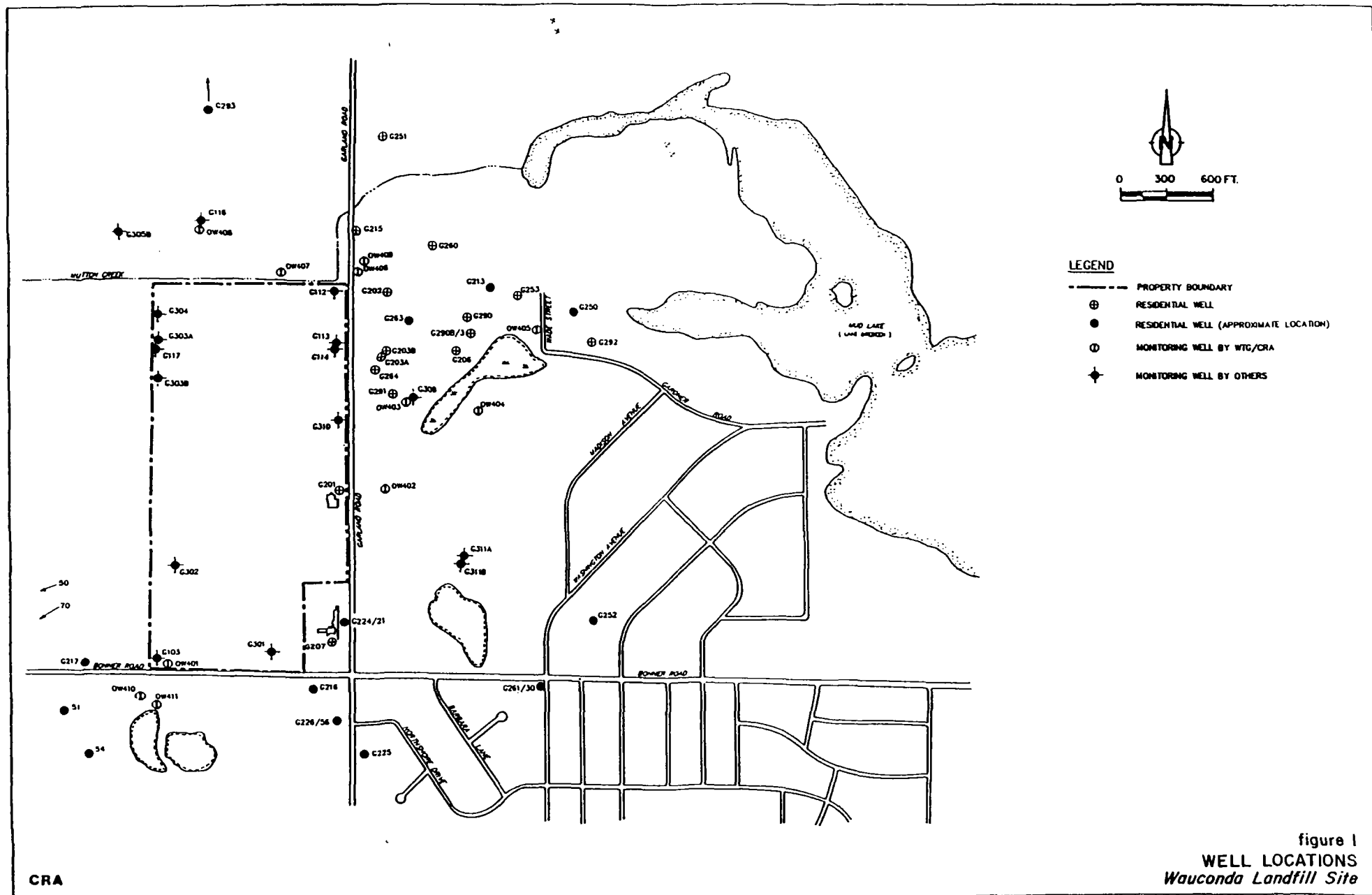


figure 1
WELL LOCATIONS
Wauconda Landfill Site

TABLE 1

MONITORING WELL
SAMPLING AND ANALYTICAL SUMMARY

<u>Well</u>	<u>Date Sampled</u>	<u>Volatile Organics</u>	<u>Semi-Volatile Organics</u>	<u>Pesticides/ PCBs</u>	<u>Metals</u>	<u>Chlorides</u>
OW405	10/4/88	X	X	X	X	X
G310	10/4/88	X	X	X	X	X
OW407	10/4/88	X	X	X	X	X
OW408	10/4/88	X	X	X	X	X
OW411	10/5/88	X	X	X	X	X
OW406	10/5/88	X	X	X	X	X
G305B	10/5/88	X	X	X	X	X
OW403	10/5/88	X	X	X	X	X
G203A	10/6/88	X	X	X	X	X

St. Figure 2 shows the locations of these wells. Sampling was performed in accordance with the "Quality Assurance Project Plan (QAPP), Supplemental Remedial Investigation/Feasibility Study" by CRA (dated May 1986), the variances agreed to previously and those stated in the SOW.

Table 2 provides a summary of the dates samples were collected and the parameters for which analyses were requested. Additional sampling data is presented in Appendix B.

2.3 WELL SURVEY

Pursuant to Section VIII, Item 4 of the AO and subsequent USEPA modifications, a survey of residential wells was conducted southwest of the Site and near the bend in Callahan Road, northwest of the Site, to collect information to identify candidate wells suitable for sampling. The southwest survey included wells stipulated by the AO and was conducted to identify wells screened in the Lower Aquifer or Bedrock. The Callahan Road survey was added as part of the residential well evaluation and sampling program to identify wells suitable for sampling that were screened in the Upper Aquifer. A total of two wells from each survey were to be selected for sampling. Available information regarding the surveyed wells was gathered from the following sources:

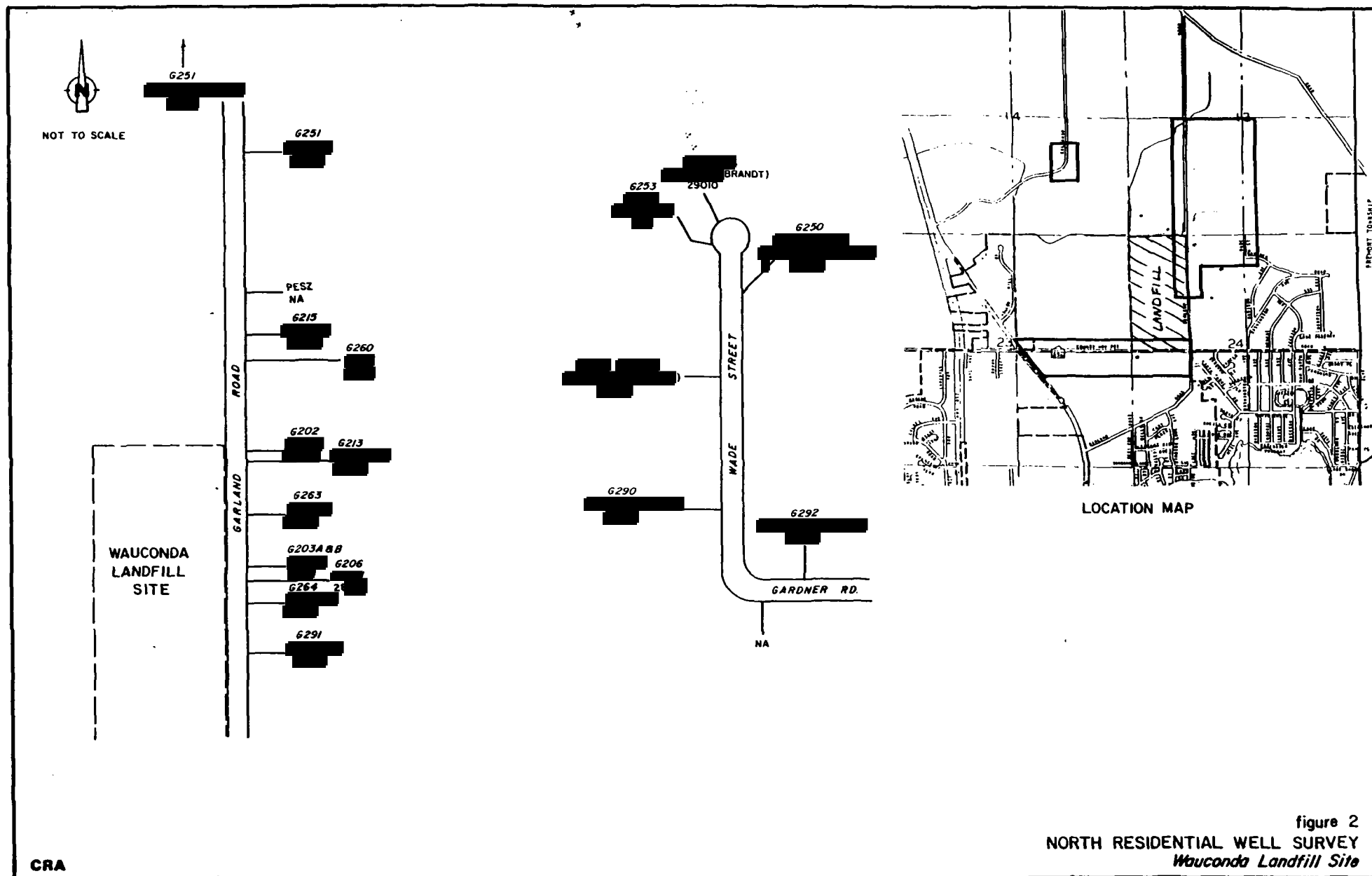


TABLE 2
RESIDENTIAL WELL
SAMPLING AND ANALYTICAL SUMMARY

<u>Residential Well</u>	<u>Date Sampled</u>	<u>Volatile Organics</u>	<u>Chlorides</u>
G291 [REDACTED])	10/6/88	X	X
G213 ([REDACTED])	10/6/88	X	X
[REDACTED]	10/6/88	X	X
[REDACTED]	10/6/88	X	X
 <u>Southwest Area</u> <u>Residential Well</u>			
G216 [REDACTED])	11/3/88	X	X
54 ([REDACTED])	11/3/88	X	X
 <u>Callahan Road Area</u> <u>Residential Well</u>			
[REDACTED]	11/3/88	X	X
[REDACTED]	11/3/88	X	X

1. the Lake County Health Department,
2. area water well drilling companies and
3. interviews of residential well owners.

The southwest area and Callahan Road area well surveys were completed on October 19, 1988. The sampling priority lists, as determined by the results of each survey, were given verbal approval by Richard Boice of USEPA on October 20, 1988. This information was submitted to USEPA, in a letter from BFIL dated October 25, 1988.

2.3.1 Southwest Well Survey

Fifteen residential wells have been identified southwest of the Site (Figure 3). The USEPA requested that two Lower Aquifer wells be sampled. Flow in the Lower Aquifer is southwest from the landfill.

In this area the Upper Aquifer is found at a depth of approximately 50 feet below ground surface, the Lower Aquifer at 175 feet and the bedrock aquifer below 175 feet.

Table 3 shows the results of the southwest residential well survey and was compiled to prioritize the wells for possible sampling. Factors considered when establishing priority were depth of well, proximity to the landfill and existing sampling data. Available well logs are contained in



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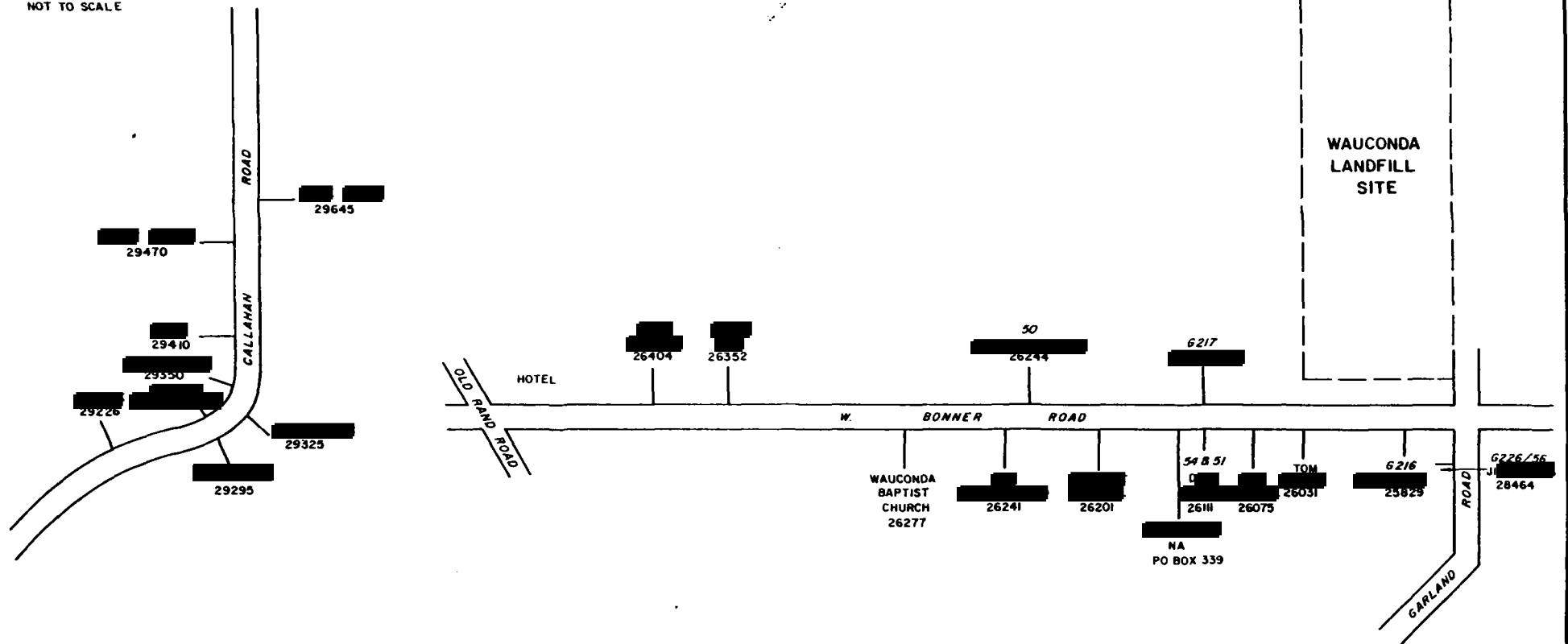


TABLE 3
SOUTHWEST RESIDENTIAL SURVEY
BONNER ROAD

<u>Priority</u>	<u>Name</u>	<u>Code(s)</u>	<u>Address</u>	<u>Phone</u>	<u>Depth</u>	<u>Drilled</u>	<u>Comments</u>
1		G216			190'	Oct-68	have logs sampled Nov-83, Nov-84, Apr-88
2		G217			150'	?	vacant, sampled Nov-83, Nov-84
3		54			147'	Nov-78	have logs, sampled Oct-84
4		51			100'	1944	
5					150'	1976	sampled Oct-86
6		G226/ 56			153'	Nov-78	have logs, sampled Nov-83, Nov-84
7					150'	Aug-70	Driller's Record
8					?	?	
9					300'	1987	
10		50			132'	Dec-84	have logs, sampled Feb-85, May-87
11					151'	1984	
12					?	1977	
13					155'	Dec-67	Driller's Record
14					185'	1985	deepened 1985
15					?	?	sampled Oct-84

Appendix A. From these data, wells G216 and G217 were given highest sampling priority by USEPA. Should access be denied by the well owner, the well next on the priority list would be sampled.

2.3.2 Southwest Residential Well Sampling

On November 3, 1988, CRA sampled priority number one, well 216 (), and priority number three, well 54 () from Table 1. Priority number two was not sampled because the home was vacant and the power was shut off.

Table 2 provides a summary of the dates samples were collected and the parameters for which analyses were requested. Additional sampling data is presented in Appendix B.

2.3.3 Callahan Road Area Survey

Eight residential wells have been identified in the area of the bend in Callahan Road which lies approximately 2,000 feet northwest of the Wauconda Landfill (Figure 1). The USEPA requested that two wells from this survey be sampled.

In the Callahan Road area the Upper Aquifer is believed to lie 50 to 90 feet below ground. Flow in the Upper Aquifer is north and northeast from the Site.

Table 4 presents the results of the survey and the priority of the wells to be sampled. Again in this effort, factors considered when establishing priority were depth of well, proximity to the landfill and existing sampling data. Available well logs are contained in Appendix A. From these data, wells located at [REDACTED] and [REDACTED] were given highest sampling priority by USEPA. Should access be denied by the well owner, the well next on the priority list would be sampled.

2.3.4 Callahan Road Residential Well Sampling

On November 3, 1988, priority number two, 29350 Callahan Rd. and priority number four, [REDACTED] from Table 2 were sampled.

The first priority, [REDACTED] was not sampled because, although sampling had been prearranged, the resident apparently forgot to turn on the outside water supply. The well owner of priority number three, [REDACTED], was not available on short notice to grant approval for sampling.

TABLE 4

RESIDENTIAL WELLS LOCATED AT THE BEND
IN CALLAHAN ROAD

<u>Priority</u>	<u>Name</u>	<u>Code(s)</u>	<u>Address</u>	<u>Phone</u>	<u>Depth</u>	<u>Drilled</u>	<u>Comments</u>
1					68'	May-84	have logs
2					96'	Oct-87	driller's record
3					134'	1981	no longer in use, driller's record
4					45'	1987	no residence on property
5		67			77'	Dec-77	sampled 1985 LCHD, have logs
6		70			67'	Nov-73	have logs
7					143'	Feb-88	driller's record
8					174'	1984	high nitrates, driller's record
9					78'	Sep-88	vacant home, driller's record

Table 2 provides a summary of the dates samples were collected and the parameters for which analyses were requested. Additional sampling data is presented in Appendix B.

2.4 DATA VALIDATION

The data was validated in accordance with the QAPP and the Quality Assurance Review is included in Appendix C.

2.5 GROUNDWATER ELEVATIONS

On October 3, 1988, groundwater elevations in the monitoring wells were measured. Table 5 presents these data.

TABLE 5
GROUNDWATER ELEVATIONS

<u>Well</u>	<u>Top of Casing Elevation (ft. AMSL)</u>	<u>Water Level (ft. BTOC)</u>	<u>Groundwater Elevation (ft. AMSL)</u>	<u>Aquifer</u>
OW407	774.84	9.90	764.94	U
G305B	768.50	5.94	762.56	U
G305A	767.60	5.29	762.31	U
G116	771.44	8.99	762.45	U
OW408	770.73	8.17	762.56	U
OW406	787.62	24.80	762.82	U
OW409	786.33	27.27	759.06	L
G112	796.66	32.30	764.36	U
G304	774.55	10.12	764.43	U
G303A	777.17	11.76	765.41	U
G117	777.87	10.95	766.92	U
G303B	776.53	11.62	764.91	U
G302	787.88	18.02	769.86	U
OW410	783.30	27.84	755.46	L
OW411	781.14	8.00	773.14	U
311B	783.03	16.20	758.05	L
311A	784.33	24.98	768.13	U
OW402	807.42	39.61	767.81	U
G114	805.42	39.85	765.57	U
G113	805.28	40.00	765.28	U
OW405	805.07	45.25	759.82	U
G310	812.06	46.43	765.63	U
OW407	774.84	9.90	764.94	U
G308	785.71	17.46	768.25	UF
G203A		47.92		U
OW403	821.32	56.75	764.57	U
G301	815.13	45.81	769.32	U
OW401	804.38	32.13	772.25	U
G306	777.74	7.75	769.99	UF
G307	783.08	17.35	765.73	U
G106	817.10	49.23	767.87	U

Notes:

U = Upper Aquifer
 UF = Upper Fine Grained Unit
 L = Lower Aquifer

Water Levels Taken 10/3/88

3.0 RESULTS

All monitoring described in the SOW was completed in the field on November 3, 1988. The Radian Lab sheets are attached in Appendix D. Qualifiers recommended by the Quality Assurance Review have been incorporated in Table 6 of Section 3.2.

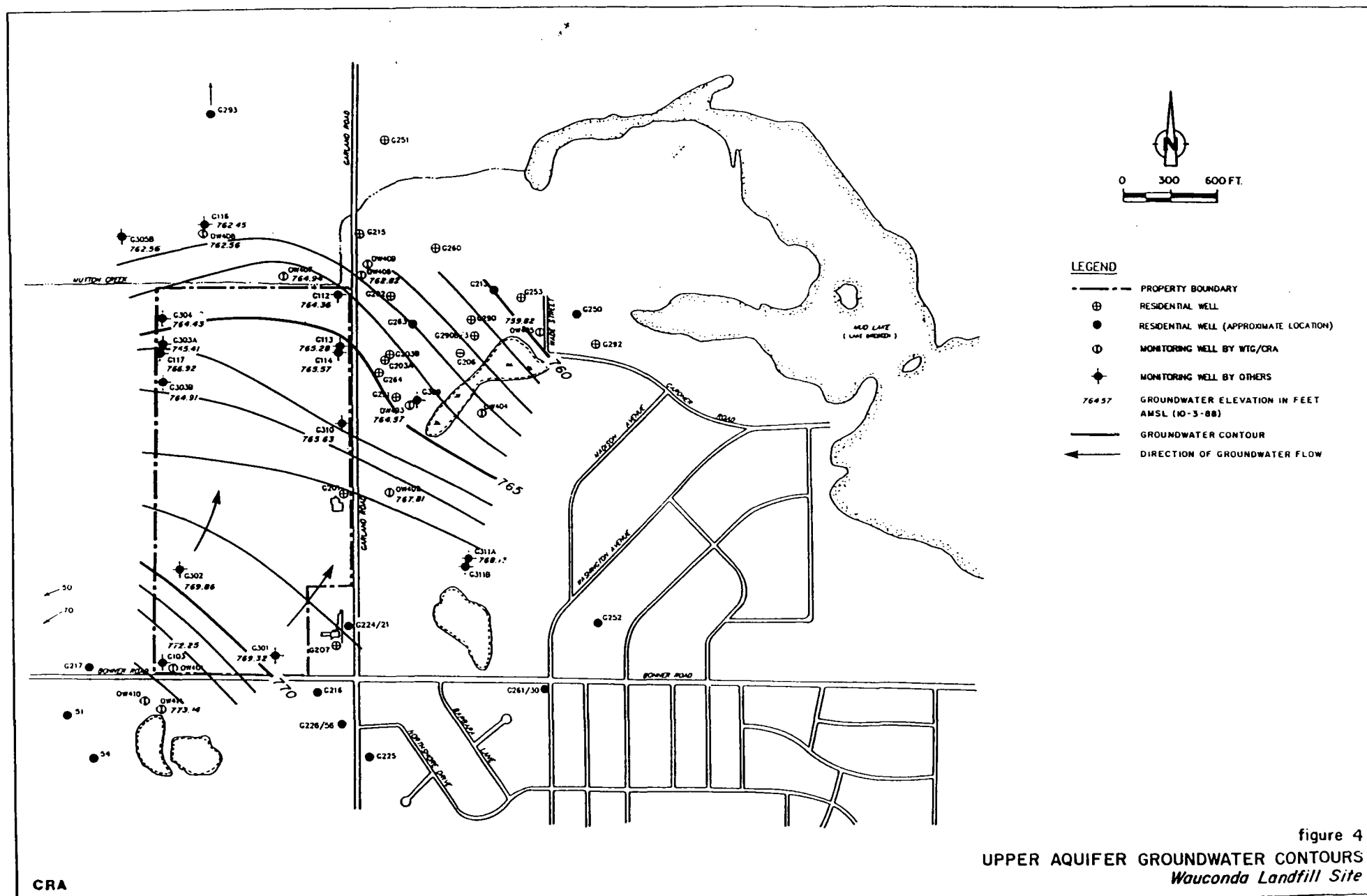
3.1 GROUNDWATER CONTOURS

Figure 4 shows the Upper Aquifer groundwater contours drawn from the water levels measured on October 3, 1988. Flow direction is to the north and northeast. This is consistent with the contours drawn for the Supplemental RI/FS (Reference 11).

Figure 5 shows the Lower Aquifer groundwater contours drawn from water levels measured on October 3, 1988. Flow direction is to the southwest. This is also consistent with the Lower Aquifer contours drawn previously.

3.2 MONITORING WELL SAMPLE RESULTS

Table 6 presents a summary of detected compounds in samples collected from Upper Aquifer monitoring wells in October 1988. Analytical data for all compounds is contained in Appendix D.



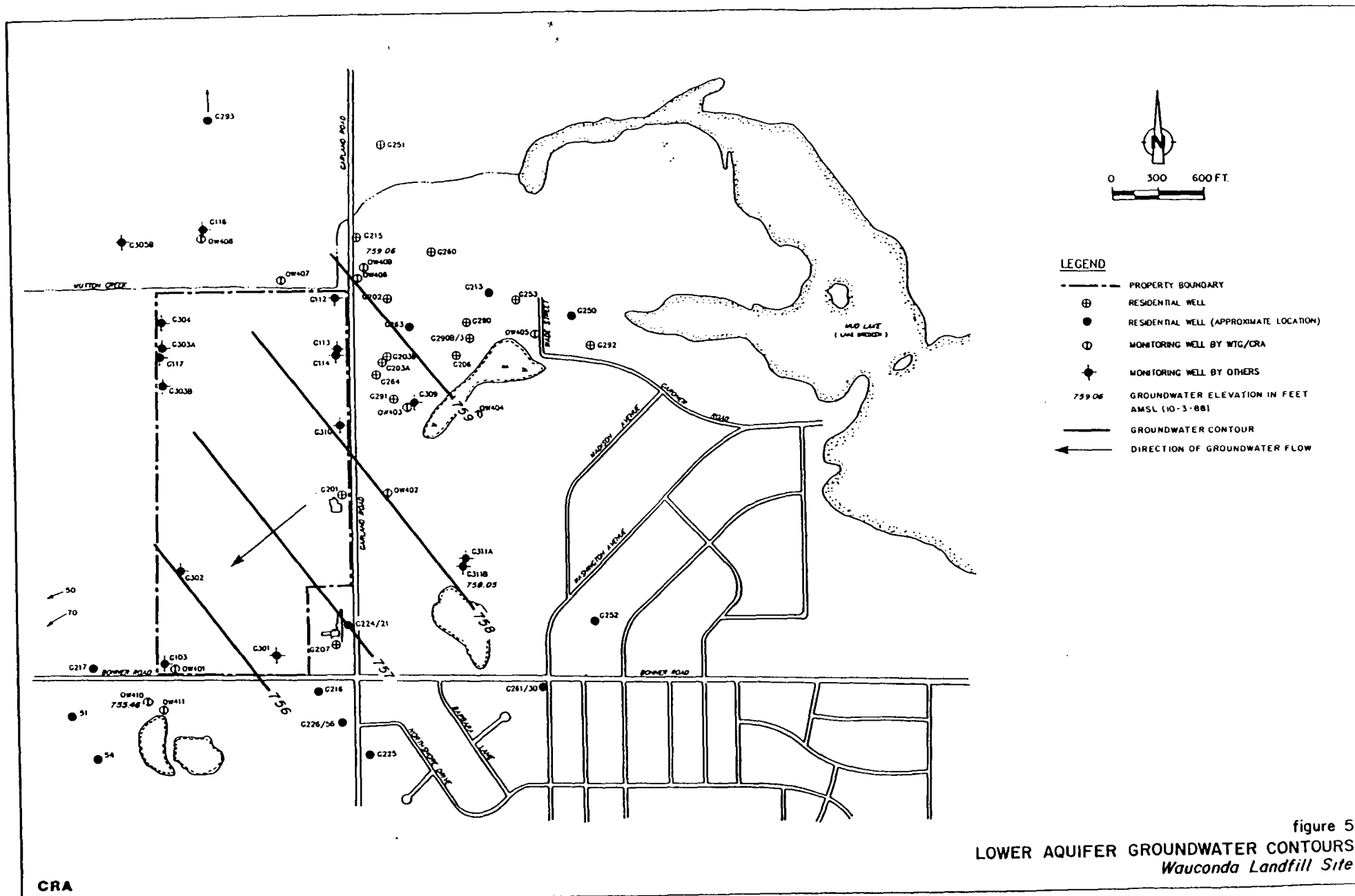


TABLE 6
MONITORING WELLS
DETECTED COMPOUNDS
OCTOBER/NOVEMBER 1988

Compound	<u>OW405</u>	<u>G310</u>	<u>G310 Dup.</u>	<u>OW407</u>	<u>OW408</u>	<u>OW411</u>	<u>OW406</u>	<u>G3058</u>	<u>G3058 Dup.</u>	<u>OW403</u>	<u>G203A</u>
<u>Volatiles (ug/L)</u>											
Vinyl Chloride		9.0	9.0	5.0	4.0		3.0	1.0J	1.0J	6.0	2.0
Chloroethane		6.0	6.0				0.7J			16.0	1.0J
Methylene Chloride		0.2J								0.8J	
Acetone	1.0	1.0J	1.0J				1.0J	1.0J	1.0J		
1,1-Dichloroethane		4.0	4.0							7.0	1.0
1,2-Dichloroethene (Total)		33.0	33.0							26.0	2.0
Chloroform											
1,2-Dichloroethane		1.0	1.0							1.0	
1,2-Dichloropropane		0.8J	0.7J							0.6J	
Trichloroethene		2.0	2.0							0.3J	
Benzene		0.8J	0.8J	0.07J						0.3J	5.0
Tetrachloroethene		0.7	0.7J								
Toluene											0.3J
Chlorobenzene											
Ethylbenzene	0.7J			0.4J						0.4J	
Total Xylenes				2.0			0.8J			1.0	
<u>Semi-Volatile Organic Compounds (ug/L)</u>											
Benzoic Acid			0.5J	1J	2J						2J
Bis(2-Ethylhexyl)Phthalate								94			
Di-n-Octylphthalate			1J	2J	0.5J	1J		0.6J	0.7J	3J	
Phenol				0.4J							
Di-n-Butylphthalate				0.3J							0.8J
Isophorone				0.4J	1J						
2,4-Dimethylphenol											
Diethylphthalate			0.8J								0.4J
<u>Pesticides/PCBs (ug/L)</u>											
Endrin	0.0033J						0.005J				
beta-BHC						0.075					
gamma-BHC (Lindane)						0.054					
Dieldrin						0.014J					

TABLE 6 (CONT'D)

MONITORING WELLS
DETECTED COMPOUNDS
OCTOBER/NOVEMBER 1988

Compound	<u>OW405</u>	<u>G310</u>	<u>G310 Dup.</u>	<u>OW407</u>	<u>OW408</u>	<u>OW411</u>	<u>OW406</u>	<u>G3058</u>	<u>G3058 Dup.</u>	<u>OW403</u>	<u>G203A</u>
<u>Metals (ug/L)</u>											
Aluminum	113.0	2,030.0	1,510.0	327.0	420.0	477.0	293.0	343.0	311.0	179.0J	993.0
Arsenic		4.7J	3.7J	4.3J	4.6J	2.0J	3.4J	1.8J		3.4J	9.3
Barium	68.9J	205.0	207.0	278.0	539.0	53.3J	150.0J	58.1J	57.0J	90.3J	514.0
Calcium	76,400.0	145,000.0	137,000.0	164,000.0	187,000.0	88,600.0	150,000.0	112,000.0	109,000.0	151,000.0	95,100.0
Cadmium		1.47	1.36	1.16						1.47J	54.6
Cobalt	8.9J	9.9J	8.0J	5.6J						5.2J	8.0J
Chromium	80.8	57.9	54.6	34.7	40.9	15.9	41.3	7.7J	6.3J	26.2	6.3J
Copper		32.6	29.7	3.0	3.2J	7.0J	6.1J	5.5J	4.4J		13.4J
Iron	45,900.0	9,750.0	8,100.0	28,800.0	18,500.0	2,390.0	10,900.0	3,000.0	2,880.0	14,800.0	23,900.0
Potassium	1,900.0	32,000.0	32,400.0	10,100.0	20,000.0	6,320.0	7,480.0	2,030.0J	1820.0J	7,470.0	60,300.0
Magnesium	45,400.0	65,600.0	61,500.0	87,200.0	110,000.0	38,500.0	86,700.0	51,100.0	51,000.0	56,700.0	57,900.0
Manganese	234.0	390	372.0	170.0	153.0	181.0	90.6	83.3	78.4	992.0	53.3
Sodium	6,120.0	45,200.0	46,300.0	357,000.0	706,000.0	13,300.0	232,000.0	11,900.0	11,900.0	18,900.0	886,000.0
Nickel	59.7	53.1	40.9	32.6J	56.6	10.8J	39.8J		7.5J	17.1	46.4
Lead	3.2J	21.8	9.2	2.0					2.3	1.9J	340.0
Antimony	73.1	138.0	110.0	155.0	104.0	36.6	107.0	95.6	38.0	104.0	81.6
Zinc	35.6	69.4	85.4				24.9		8.0	10.7	15,600
Mercury	2.7		0.2	1.8		2.4	3.6		2.3	1.3M	
Vanadium		6.7	4.4J								
<u>Chloride (mg/L)</u>											
Chloride	13	86	87	640	1,300	26	440	29	29	46	1,600

Notes:

J = Value is estimated, below CRLO Contract Reported Limit of Quantitation.

3.2.1 Volatile Organic Compounds (VOCs)

Results for VOCs for this sampling round were generally consistent with previous sampling rounds. Any deviation noted may be within the range of natural variability in sampling procedures, laboratory personnel and analytical processes involved and must be reviewed in conjunction with the monitoring data.

3.2.2 Semi-Volatile Organic Compounds

The results for semi-volatile compounds are consistent with the assessment presented in the Supplemental RI.

The majority of semi-volatile compounds were not detected in groundwater sampled from monitoring wells. The semi-volatile compounds which were detected were only slightly above analytical measurement and were phthalates. Phthalates are regarded as a common laboratory contaminant originating from plastic lab equipment.

3.2.3 Pesticide/PCBs

The results of pesticide/PCB monitoring for this round are consistent with the assessment presented in the Supplemental RI.

No PCBs were detected. Several pesticides were detected at the background well and are not considered to be associated with the landfill.

3.2.4 Metals and Chlorides

Heavy metal concentrations measured in Round 8 are similar to historical data and similar to background concentrations. Several metals such as calcium, sodium, magnesium and potassium are present at concentrations elevated above background. Chlorides are also elevated above background. The presence of the elevated compounds is consistent with past data and is associated with the dissolution of sanitary landfill wastes.

3.3 RESIDENTIAL WELL SAMPLING RESULTS

3.3.1 Volatile Organic Compounds

No VOCs were quantified in the residential wells with the exception of acetone and methylene chloride. The acetone measurement is attributed to laboratory contamination since it was found in the blank water samples. Methylene chloride is also attributed to laboratory contamination since it is a solvent used in the laboratory and often appears as false detections.

3.3.2 Chlorides

Chloride concentrations northeast of the landfill measured at residential wells on Garland Road and Wade Street range from 1.3 to 14 mg/L and are well below the values measured in the background well (OW411) of 26 mg/L.

Chloride concentrations northwest of the landfill measured at residential wells on Callahan Road range from 5 to 7 mg/L. These values are well below the background concentration measured at OW411 of 26 mg/L.

Chloride concentrations south of the landfill measured from residential wells on Bonner Road range from 65 to 71 mg/L. Those values are above the background concentration in the Upper Aquifer of 26 mg/L. However, the value is inconsistent with recent measurements of 5 mg/L measured at a nearby residential well (██████████) and 19 mg/L measured at Lower Aquifer well OW410. The presence of these chlorides may be associated with the well rather than the aquifer since the chloride levels in the Lower Aquifer monitoring wells were much lower and are not related to the landfill. In any event, the chloride values measured at the ██████████ Road well at 65/58 mg/L and at ██████████ at 71 mg/L are well below the Federal Secondary Drinking Water Standard of 250 mg/L.

Per request of USEPA Table 7 summarizes previous residential well information northeast of the Wauconda Landfill.

TABLE 7

HISTORICAL NORTH RESIDENTIAL WELL INFORMATION

<u>Priority</u>	<u>Well</u>	<u>Number of Samples Collected</u>	<u>Aquifer</u>	<u>Distance/Direction From Site</u>	<u>Latest Prior Sampling Date</u>
1.	██████████	0	--	1,200'/East	NA
2	G291	1	LA/B	280'/East	11/86
3	G213	2	LA/B	950'/East	11/84
4	G250 ⁽¹⁾	1	--	1,520'/East	11/83
5	G290	3	LA	870'/East	3/87
6	G253	3	LA/B	1,150'/East	3/85
7	G292	1	LA/B	1,650'/East	3/87
8	G215	4	LA/B	350'/North	3/87
9	G206	4	LA/B	720'/East	3/87
10	G251	4	--	1,000'/North	3/87

Notes:

LA - Lower Aquifer
 B - Bedrock
 -- - Well log not currently available.
 (1) - No longer used for water supply.
 NA - Not Applicable

All of which is respectfully submitted,
CONESTOGA-ROVERS & ASSOCIATES

A handwritten signature in cursive script, reading "Don Haycock".

Donald H. Haycock, P. Eng.

A handwritten signature in cursive script, reading "Ron Frehner".

Ronald Frehner, P. Eng.

REFERENCES

- (1) Remedial Action Master Plan, Wauconda Sand and Gravel, USEPA/CH2M-Hill/Ecology and Environment, March 22, 1983.
- (2) Remedial Investigation Data Report, Wauconda Sand and Gravel, USEPA/CH2M-Hill, August 29, 1984.
- (3) Remedial Investigation Analysis/Development of Alternatives Report, Wauconda Sand and Gravel, USEPA/CH2M-Hill, November 1, 1984.
- (4) Remedial Investigation Supplement, Wauconda Sand and Gravel, USEPA/CH2M-Hill, July 1985.
- (5) Public Comment Draft Feasibility Study Report, Wauconda Sand and Gravel, USEPA/CH2M-Hill, August 1985.
- (6) Review of CH2M-Hill RI Data Report, Review of CH2M-Hill RI Analysis Report, Work Plan, Wauconda Sand and Gravel Landfill Site, Wauconda, Illinois, WTG/CRA, March 1985.
- (7) Comments on the Public Comment Draft Feasibility Study Report, Wauconda Sand and Gravel Landfill Site, Wauconda, Illinois, WTG/CRA, May 1985.
- (8) Remedial Investigation Data Assessment Study, Phase I Report, Wauconda Sand and Gravel Landfill Site, Wauconda, Illinois, WTG/CRA, May 1985.
- (9) Remedial Investigation, Data Assessment Study, Phase II Report, Wauconda Sand and Gravel Landfill Site, Wauconda, Illinois, WTG/CRA, July 1985.
- (10) Administrative Order by Consent, USEPA, IEPA and Respondents, effective date July 28, 1986.
- (11) Supplemental Remedial Investigation/Feasibility Study, CRA, November 1987.
- (12) "Proposed Plan for the Wauconda Sand and Gravel Site, Wauconda, Illinois" by USEPA and Jacobs Engineering Group Inc., April 1988.
- (13) "Amendment to Supplemental Remedial Investigation/Feasibility Study" by the USEPA and IEPA, April 1988.
- (14) "Memorandum for Record: Conceptual Design for Site Remediation at Wauconda Sand and Gravel" by the US Corp. of Engineers, April 15, 1988.
- (15) "Interim Remedial Measures Operation and Maintenance Manual", CRA, June 1988.
- (16) "Health and Safety Plan, Interim Remedial Measures and Maintenance Program", CRA, June 1988.
- (17) Quality Assurance Project Plan (QAPP), Supplemental Remedial Investigation/Feasibility Study, Wauconda Sand and Gravel Landfill Site, Wauconda, Illinois, WTG/CRA, May 1986.

APPENDIX A

AVAILABLE RESIDENTIAL WELL LOGS

White Copy -
Ill. Dept. of Public Health
Yellow Copy - Well Contractor
Blue Copy - Well Owner

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE
DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST
JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER
SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

Wauconda
Sec 23

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

GEOLOGICAL AND WATER SURVEYS WELL RECORD

1. Type of Well

- a. Dug ☐ Bored ☒ Hole Diam. 7-7/8 in. Depth 151 ft.
Curb material ☐ Buried Slab: Yes ☐ No ☐
b. Driven ☐ Drive Pipe Diam. 5 in. Depth ☐ ft.
c. Drilled ☒ Finished in Drift ☒ In Rock ☐
Tubular ☐ Gravel Packed ☐

d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Drilling		
Mud	0	136

2. Distance to Nearest:

Building 15 Ft. Seepage Tile Field 75
Cess Pool ☐ Sewer (non Cast iron) ☐
Privy ☐ Sewer (Cast iron) ☐
Septic Tank 50 Barnyard ☐
Leaching Pit ☐ Manure Pile ☐

3. Well furnishes water for human consumption? Yes ☒ No ☐

4. Date well completed 1/27/84

5. Permanent Pump Installed? Yes ☒ Date 1/30/84 No ☐

Manufacturer Myers Type 91b Location ☐
Capacity 15 gpm. Depth of Setting 84 Ft.

6. Well Top Sealed? Yes ☒ No ☐ Type ☐

7. Pitless Adapter Installed? Yes ☒ No ☐

Manufacturer Baker Model Number Snappy
How attached to casing? u clamp

8. Well Disinfected? Yes ☒ No ☐

9. Pump and Equipment Disinfected? Yes ☒ No ☐

10. Pressure Tank Size 40 gal. Type Clayton Mark Location ☐

11. Water Sample Submitted? Yes ☐ No ☒

REMARKS:

10. Property of ☐

Address ☐

Driller Wm. F. Huemann License No. 102-142

11. Permit No. 111083 Date 1/27/84

12. Water from Broken Limestone & Gravel Formation County Lake

at depth 136 to 151 ft. Sec. 23

14. Screen: Diam. 5 in. Twp. 44

Length: 4 ft. Slot 5 Rge. 9

Elev. ☐

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	200 lb P.V.C.	0	147

SHOW
LOCATION IN
SECTION PLAT

16. Size Hole below casing 7-7/8 in.

17. Static level 55 ft. below casing top which is 1 ft.
above ground level. Pumping level 68 ft. when pumping at 5
gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Clay	12	12
Gravel	7	19
Sand & Clay	29	48
Clay	68	116
Broken Limestone & Gravel	15	131

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED William F. Huemann DATE 2-23-84

51 Dale Thomas

Property owner Camp Henry Horner

Well No.

Drilled by Henry Boyson, Jr.Oiler 1944

Formations passed through

Thick-
nessDepth of
Bottomyellow clay5sandy clay10blue clay85sand and gravel100

(Continue on back if necessary)

Finished in sand and gravel at 85' to 100' ft.Cased with 3 inch 257 blk wrt. steel from 0 to 100' ft.

and _____ inch _____ from _____ to _____ ft.

Size hole below casing _____ inch. Static level from surf. 30 ft.

Tested capacity _____ gal. per min. Temperature _____ °F.

Water lowered to _____ ft. in _____ hrs. _____ min.

Length of test 20 hrs. _____ min. Screen A.D. CookSlot _____ Diam. 2" Length 14' Bottom set at 100' ft.

(Show location in Section 1' lat)

Township name _____ Elev. _____ Sec. 23Description of location 650' W & 2300' N Twp. 44of the SE cor of Sec. 23 Rge. 9ESigned _____ County LakeCopy to: Illinois State Geol. Survey Index: 23-44N-9E

Jim Covers 28464 Garland Rd

GEOLOGICAL AND WATER SURVEYS WELL RECORD (56)

10. Property

Address

Driller Henry Boyson, Jr.License No. 92-13611. Permit No. 82579Date 11/29/7812. Water from Gravel13. County Lakeat depth 145 to 152 ft.Sec. 2414. Screen: Diam. 5 in.Twp. 44NLength: 4 ft. Slot 25Rge. 9E

Elev. _____

15. Casing and Liner Pipe

Diam (in)	Kind and Weight	From (ft)	To (ft)
<u>5</u>	<u>pvc</u>	<u>1</u>	<u>142</u>

SHOW
LOCATION IN
SECTION PLAT
27N, 150W, NE/4
NE/416. Size hole below casing: 5 in.17. Static level 50 ft. below casing top which is 1 ft.
above ground level. Pumping level 75 ft. when pumping at 20
gpm for 2 hours.

FORMATION PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
<u>brown clay</u>	<u>4</u>	<u>4</u>
<u>heavy gravel and sand</u>	<u>21</u>	<u>25</u>
<u>fine sand</u>	<u>65</u>	<u>90</u>
<u>gray clay and sand</u>	<u>55</u>	<u>145</u>
<u>gravel and sand</u>	<u>8</u>	<u>153</u>

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Jim Covers DATE 12/19/78

SURFACE HEALTH... SECTION, WE.
1. DO NOT DETACH GEOLOGICAL/WATER
PROPER WELL LOCATION

GEOLOGICAL AND WATER SURVEYS WELL RECORD #154

Completed 11-30-78

10. Property of [REDACTED]
Address [REDACTED]
Driller William M. Boetsch License No. 92-436
11. Permit No. 81636 Date 11/6/78
12. Water from gravel 13. County Lake
Formation
at depth 138 to 147 ft. Sec. 23
14. Screen: Diam. 5 in. Twp. 44N
Length: 4 ft. Slot 25 Rge. 9E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	pvc	1	143

SHOW
LOCATION IN
SECTION PLAT
Tract "C" DeWolf
Acres Subd. NE NE
SE (permit)

16. Size Hole below casing: 5 in.
17. Static level 45 ft. below casing top which is 1 ft.
above ground level. Pumping level 55 ft. when pumping at 30
gpm for 2 hours. Sub. pump set at 100'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
top soil	6	6
gravel and sand	54	60
grey clay and sand	78	138
gravel and sand	9	147

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Wm M Boetsch DATE 12/14/78

LAKE

COUNTY NO 26119

23-44N-9E

Page 1 ILLINOIS GEOLOGICAL SURVEY, URBANA 1501

Depth	Thickness	Top	Bottom
Gravel		0	5
Clay		5	28
Sand		28	60
Red sand (some water)		60	69
Fine soupy sand		69	75
Grey clay and sand		75	95
Grey clay		95	130
Grey gravel		130	132
			TD

Finished in grey gravel.
Casing: 4" from 0 to 132'
Static level from surface: 65'
Tested capacity: 15 gallons per minute
Water lowered: 5'

NO FLOW

COMPANY C. L. Wertz
FARM Hanoogian
DATE DRILLED December 1939
AUTHORITY C. L. Wertz
ELEVATION _____
LOCATION SE SW NE
COUNTY LAKE

NO. 1
COUNTY NO. 2

23-44N-9E

Walter Schroeder
26119 DeWolf

CONSUMER HEALTH PROTECTION, 535 WEST
2761. DO NOT DETACH GEOLOGICAL/WATER
DE PROPER WELL LOCATION.

GEOLOGICAL AND WATER SURVEYS WELL RECORD #67
Completed 2-28-77

10. Property of [REDACTED]
Address [REDACTED]
Driller HENRY BOYSEN CO License No. 102-6
11. Permit No. 57106 Date 2/25/77
12. Water from Fine Gravel & Sand 13. County Lake
at depth 71 to 77 ft. Sec. 14
14. Screen: Diam. 5 in. Twp. 44N
Length: 4 ft. Slot 15 Rge. 9E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Steel	grade	74

SHOW
LOCATION IN
SECTION PLAT
50'SL, 325'WL,
NE SE NE
(permit)

16. Size Hole below casing: 5 in.
17. Static level 20 ft. below casing top which is 1 ft.
above ground level. Pumping level 22 ft. when pumping at 30
gpm for _____ hours. Sub. pump set at 40'.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Sandy Yellow Clay	25	25
Fine Sand	27	52
Sand (Coarse)	5	57
Sand (Muddy Silty)	14	71
Clean Sand, Fine Gravel	6	77

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [Signature] DATE 12/30/77

COUNTY No. 25571...

LAKE

14-44N-9E

AL/WATER SURVEYS SECTION. BE SURE TO

#70

GEOLOGICAL AND WATER SURVEYS WELL RECORD
Completed 8-28-72

10. Property of [REDACTED]
Address [REDACTED]
Driller Henry Boysen Co. License No. 102-6
11. Permit No. # 19441 Date 8/14/73
12. Water from Limestone 13. County Lake
at depth 59 to 67 ft. Sec. 14
14. Screen: Diam. 5 in. Twp. 44N
Length: 3 ft. Slot 15 Rge. 9E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	galvanized	grade	67

SHOW
LOCATION IN
SECTION PLAT
SE SW NE
(permit)

16. Size Hole below casing: 5 in.
17. Static level 59 ft. below casing top which is 1 ft.
above ground level. Pumping level 20 ft. when pumping at 25
gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS DP	DEPTH OF BOTTOM
Red clay	0	10
Sand	10	42
Blue clay	42	59
Gravel	59	67

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [Signature] DATE 11-17-73

COUNTY No. 24041..

LAKE

14-44N-9E

White Copy -
Ill. Dept. of Public Health
Yellow Copy - Well Contractor
Blue Copy - Well Owner

INSTRUCTIONS TO DRILLERS

Jankowski

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE
DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST
JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER
SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

RECEIVED

JUL 7 1984

ENVIRONMENTAL HEALTH DIVISION

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

GEOLOGICAL AND WATER SURVEYS WELL RECORD

1. Type of Well

- a. Dug ☐ Bored ☒ Hole Diam. 7-7/8 in. Depth 68 ft.
Curb material ☐ Burled Slab: Yes ☐ No ☐
b. Driven ☐ Drive Pipe Diam. 5 in. Depth 64 ft.
c. Drilled ☒ Finished in Drift ☒ In Rock ☐
Tubular ☐ Gravel Packed ☐
d. Grout:

(KIND)	FROM (FT.)	TO (FT.)
Drilling		
Mud	0	56

2. Distance to Nearest:

Building 16 Ft. Seepage Tile Field 75
Cess Pool ☐ Sewer (non Cast iron) ☐
Privy ☐ Sewer (Cast iron) ☐
Septic Tank 50 Barnyard ☐
Leaching Pit ☐ Manure Pile ☐

3. Well furnishes water for human consumption? Yes ☒ No ☐

4. Date well completed 3/14/84

5. Permanent Pump Installed? Yes ☒ Date 4/24/84 No ☐

Manufacturer Red Jacket Type sub Location ☐
Capacity 15 gpm. Depth of Setting 40 Ft.

6. Well Top Sealed? Yes ☒ No ☐ Type ☐

7. Pitless Adapter Installed? Yes ☒ No ☐

Manufacturer Snappy Model Number Baker
How attached to casing? u clamp

8. Well Disinfected? Yes ☒ No ☐

9. Pump and Equipment Disinfected? Yes ☒ No ☐

10. Pressure Tank Size 42 gal. Type Con Aire
Location ☐

11. Water Sample Submitted? Yes ☐ No ☒

REMARKS:

10. Property owner

Address ☐

Driller Wm. F. Huemann License No. 102-142

11. Permit No. 111448 Date 4/3/84

12. Water from Gravel 13. County M Lake

at depth 56 to 68 ft.

14. Screen: Diam. 5 in.

Length: 4 ft. Slot 20

Sec. 14

Twp. 44

Rge. 9

Elev. ☐

SHOW
LOCATION IN
SECTION PLAT

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	200 lb P.V.C.	0	64

16. Size Hole below casing: 7-7/8 in.

17. Static level 21 ft. below casing top which is 1 ft.
above ground level. Pumping level 24 ft. when pumping at 25
gpm for 3 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Clay & Gravel	4	4
Sand & Clay	52	56
Gravel	12	68

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED

William F. Huemann DATE 5-21-84

NAME WAUCONDA BAPTIST CHURCH

Mr. Schafer

Phone No. 526-6402

Address _____

616 Lake Shore Blvd., Wauconda, Ill.

LOCATION OF WELL Bonner Road east of Old Rand Road

WELL INFORMATION

Well Size 5" Depth 155' Desc. Galv. Date Drilled 12-15-67 Drilled By Tom-Bob Gumm

Remarks 2' above grade

Completed In Gravel Water Head 65' Draw Down 20' GPM 15 Test Date _____

Strainer Make Johnson Size, Gauze or Slot 20 slot 4" screen

PUMP INFORMATION

Pump Mfg. RED JACKET Model 75N1-9BB Submersible ☒; Jet ☐; Plunger ☐; Turbine ☐; _____

Motor Serial No. _____ Pump Serial No. ACKP 744

H. P. 3/4 Phase 1 Cycles _____ Fuse _____ Volts 230 Amps. _____

Well Pit ☐ or Pitless ☒ Well Seal ☐ Description: MFG. Martinson 5 x 5

Tank Size, etc. 82 gallon galvanized Air Control ☐ Float System ☒

Drop Pipe: Feet 105' Size 1" Desc. Galv.

Motor Cable: Feet 115' Description # 12/ 3/c

Check Valve In ☐ Out ☐ _____

Magnetic Starters: No. _____ Overload Protector: No. _____

Special Pump Controls _____

Other Pump Information _____

Installed by HAROLD-DAVE

Date Installed 3-13-68

NAME [REDACTED]

LOCATION OF WELL Bonner Road

WELL INFORMATION

Well Size 5" Depth 150' Desc. Galv. Date Drilled 8-1-70 Drilled By Chris Clements

Remarks Rotary

Completed In Sand & Gravel Water Head 75 Draw Down 90 GPM 15 Test Date

Strainer Make Johnson Size, Gauge or Slot 20 slot

PUMP INFORMATION

Pump Mfg. RED JACKET Model 12 BC Submersible ☒ Jet ☐ Plunger ☐ Turbine ☐

Motor Serial No. Pump Serial No. HEY P 561

H. P. 3/4 Phase 1 Cycles Fuse Volts 230 Amps.

Well Pit ☐ or Pitless ☒ Well Seal ☐ Description: MFG. 5" Martinson Pitless

Tank Size, etc. 82 gallon galv. Air Control ☐ Float System ☒

Drop Pipe: Feet 126' Size 1" Desc. Galv.

Motor Cable: Feet 141' Description #12 3/c

Check Valve In ☒ Out ☐

Magnetic Starters: No. Overload Protector: No.

Special Pump Controls

Other Pump Information

Installed by Harold & Verlon Date Installed 9-10-70

SEPTEMBER 26, 1988

From Peter Snelto
& Sons

DRIFT 78'
ROCK
DEPTH 78'

5" PVC
WATER LEVEL 26'
60 G.P.M.

SEPTEMBER 30, 1988

1/2 H.P., 230V, "RED JACKET" 60' (WILLIAMS, WM-12)

3' x 5", #20 SLOT S.S.SCREEN

NOVEMBER 25, 1981

Drift - 134' 5" Black
Rock water level - 28 ft.
Depth - 134' 15 G.P.M. @ 32'

Nov. 30/81

1/2 H.P. 230V(CR) "Red Jacket" 57', (Williams, CA-220)

AUG. 28, 1984

Drift 214' 5" PVC
rock 2' water level 51'
Depth 216' 25 G.P.M.

AUG 30/84

1/2 H.P., 230V, "Red Jacket" 100' (Williams, Aqua-Air V-100)

████████████████████ OCT 21, 1983

From Peter Snelton
+ Sons

Drift 174' 5" PVC
Depth 174' water level 16'
25 G.P.M.

DEC. 14/83

1 H.P., 230V, "Red Jacket" 60', (Williams, CM #170-45)

████████████████████ FEBRUARY 22, 1988
████████████████████

DRIFT 5" PVC
ROCK WATER LEVEL 17'
DEPTH 143' 30 G.P.M.

FEBRUARY 27, 1988

3/4 H.P., 230V, "RED JACKET" 100' (WILLIAMS, 82w/b)

3' x 5", #20 SLOT SCREEN

████████████████████ OCTOBER 1, 1987

████████████████████, WAUCONDA

DRIFT 96' 5" PVC
ROCK WATER LEVEL 7'
DEPTH 96' 80 G.P.M.

OCTOBER 10, 1987

1/2 H.P., 230V, "RED JACKET" 60' (WILLIAMS, 40 GALV. W/FLT)

3' x 5", #20 SLOT S.S.S SCREEN

APPENDIX B

SAMPLING KEY

WAUCONDA LANDFILL
SAMPLING KEY

<u>Sample No.</u>	<u>Location</u>	<u>Description</u>	<u>Analysis</u>	<u>Conductivity</u>	<u>pH</u>
W-100488-GN-0101	OW405 056	Rinsate Blank	VOCs		
W-100488-GN-0201			BNAs		
W-100488-GN-0301			Pest./PCBs		
W-100488-GN-0401			Metals		
W-100488-GN-0501			Cyanide		
W-100488-GN-0102	OW405 056	Sample	VOCs	700	7.60
W-100488-GN-0202			BNAs		
W-100488-GN-0302			Pest./PCBs		
W-100488-GN-0402			Metals		
W-100488-GN-0502			Cyanide		
W-100488-GN-0103	G310 056	Sample	VOCs	900	6.55
W-100488-GN-0203			BNAs		
W-100488-GN-0303			Pest./PCBs		
W-100488-GN-0403			Metals		
W-100488-GN-0503			Cyanide		
W-100488-GN-0104	G310 056	Duplicate	VOCs		
W-100488-GN-0204			BNAs		
W-100488-GN-0304			Pest./PCBs		
W-100488-GN-0404			Metals		
W-100488-GN-0504			Cyanide		
W-100488-GN-0105	OW407 056	Sample	VOCs	1900	6.90
W-100488-GN-0205			BNAs		
W-100488-GN-0305			Pest./PCBs		
W-100488-GN-0405			Metals		
W-100488-GN-0505			Cyanide		
W-100488-GN-0106	OW408 056	Sample	VOCs	500	7.20
W-100488-GN-0206			BNAs		
W-100488-GN-0306			Pest./PCBs		
W-100488-GN-0406			Metals		
W-100488-GN-0506			Cyanide		
W-100588-GN-0108	OW411 056	Rinsate Blank	VOCs		
W-100588-GN-0208			BNAs		
W-100588-GN-0308			Pest./PCBs		
W-100588-GN-0408			Metals		
W-100588-GN-0508			Cyanide		
W-100588-GN-0109	OW411 056	Sample	VOCs	300	7.3
W-100588-GN-0209			BNAs		
W-100588-GN-0309			Pest./PCBs		
W-100588-GN-0409			Metals		
W-100588-GN-0509			Cyanide		

WAUCONDA LANDFILL
SAMPLING KEY (CONT'D)

<u>Sample No.</u>	<u>Location</u>	<u>Description</u>	<u>Analysis</u>	<u>Conductivity</u>	<u>pH</u>
W-100588-GN-0110	OW406	Sample	VOCs	2600	7.20
W-100588-GN-0210			BNAs		
W-100588-GN-0310			Pest./PCBs		
W-100588-GN-0410			Metals		
W-100588-GN-0510			Cyanide		
W-100588-GN-0111	G305B	Sample	VOCs	800	7.2
W-100588-GN-0211			BNAs		
W-100588-GN-0311			Pest./PCBs		
W-100588-GN-0411			Metals		
W-100588-GN-0511			Cyanide		
W-100588-GN-0112	G305B	Duplicate	VOCs	900	7.30
W-100588-GN-0212			BNAs		
W-100588-GN-0312			Pest./PCBs		
W-100588-GN-0412			Metals		
W-100588-GN-0512			Cyanide		
W-100588-GN-0113	OW403	Sample	VOCs	2600	7.10
W-100588-GN-0213			BNAs		
W-100588-GN-0313			Pest./PCBs		
W-100588-GN-0413			Metals		
W-100588-GN-0513			Cyanide		
W-100688-GN-0114	G203A	Sample	VOCs	760	6.95
W-100688-GN-0214			BNAs		
W-100688-GN-0314			Pest./PCBs		
W-100688-GN-0414			Metals		
W-100688-GN-0514			Cyanide		
W-100688-GN-0114MS	G203A	Matrix Spike	VOCs		
W-100688-GN-0214MS			BNAs		
W-100688-GN-0314MS			Pest./PCBs		
W-100688-GN-0414MS			Metals		
W-100688-GN-0514MS			Cyanide		
W-100688-GN-0114MSD	G203A	Matrix Spike Dup.	VOCs		
W-100688-GN-0214MSD			BNAs		
W-100688-GN-0314MSD			Pest./PCBs		
W-100688-GN-0414MSD			Metals		
W-100688-GN-0514MSD			Cyanide		
W-100688-GN-0115	28985 N. Garland	Sample	VOCs	700	7.5
W-100688-GN-0615			Chlorides		

WAUCONDA LANDFILL
SAMPLING KEY (CONT'D)

<u>Sample Sample No.</u>	<u>Location</u>	<u>Description</u>	<u>Analysis</u>	<u>Conductivity</u>	<u>pH</u>
W-100688-GN-0116	28855 N. Garland	Sample	VOCs	800	7.6
W-100688-GN-0616			Chlorides		
W-100688-GN-0117	28954 N. Wade St.	Sample	VOCs	1300	7.5
W-100688-GN-0617			Chlorides		
W-100688-GN-0118	29010 N. Wade St.	Sample	VOCs	700	7.4
W-100688-GN-0618			Chlorides		
W-100688-GN-0119	29010 N. Wade St.	Duplicate	VOCs		
W-100688-GN-0619			Chlorides		
W-110388-GN-0120	29350 Callahan	Sample	VOCs	550	7.10
W-110388-GN-0620			Chlorides		
W-110388-GN-0120MS		Matrix Spike	VOCs	.	
W-110388-GN-0120MSD *		Matrix Spike Dup.	VOCs		
W-110388-GN-0121	25829 Bonner	Sample	VOCs	900	7.15
W-110388-GN-0621			Chlorides		
W-110388-GN-0122	26111(54) Bonner	Sample	VOCs	800	7.45
W-110388-GN-0622			Chlorides		
W-110388-GN-0123	26111(54) Bonner	Duplicate	VOCs		
W-110388-GN-0623			Chlorides		
W-110388-GN-0124	29325 Callahan	Sample	VOCs	500	7.65
W-110388-GN-0624			Chlorides		

APPENDIX C

DATA VALIDATION MEMO

MEMO

TO: Bruce Clegg, CRA
FROM: David Dempsey, CRA
REFERENCE NO. 2669
DATE: January 10, 1989
RE: Quality Assurance Review and validation for samples collected at the Wacanda Landfill, Fall 1988
Wacanda, Illinois

The following details a quality assurance review for samples from 17 wells collected September 26, 1988 through November 3, 1988 at the Wacanda Landfill Site, Wacanda, Illinois. The samples were analyzed for the volatile organic compounds (VOC), Base/Neutral/acid extractable organic compounds (BNA) pesticides and polychlorinated biphenyls (PEST/PCB), TCL metals, Cyanide and Chloride content. The data evaluation was based upon result packages obtained from Radian Corporation.

Criteria for the data evaluation was taken from the Wacanda QAPP and references within. Among the quality control criteria reviewed were field blanks, Tripblanks, field duplicate, surrogate recurrences, and Matrix Spike/matrix spike duplicate recoveries.

Holding Times

Holding times for samples were taken from Table A-5 in the QAPP. All samples were analyzed within the proper holding times.

Instrument Tuning

To insure the data reported for VOC and BNA be interpreted correctly, instruments were tuned with Bromofluorobenzene (BFB) and Decafluorotriphenyl -phosphine (DFTPP), respectively. For each set of tuning data, Form V of CLP package, the data was found to have met the CLP limits.

The raw data from which the retention windows for the PEST/PCB analyses were not included in the CLP package, but were reported by Radian to be correct. 4, 4'-DDT was found to have its retention time greater than 12 minutes for all standards, which indicates that the gas chromatograph was in proper order.

Initial Calibration

The initial calibration data demonstrated the instruments ability to produce at acceptable levels. Due to deviating from normal CLP procedures, using 25 ml water purge, the VOC calibration data cannot be used to qualify the sample results. It is noted that the data reported by Radian is consistent with previous samples that use similar deviations from CLP. Similarly, since a 2.0 L volume, rather than 1.0 L, the BNA calibration data cannot be used as well. The 4, 4'-DDT calibration factor was found to have percent relative standard deviation (%RSD) greater than 10% for both column used. All associated positive results 4, 4' DDT should be qualified as estimated (J). The data reported for the metal and cyanide, analyses were found to have met the quality control criteria listed in the CLP manual.

Continuing Calibration

For the same reasons listed in the initial calibration section, the data reported for VOC and BNA continuing calibration may not be used to qualify the data. Again, the results are consistent with previous data. Table 1 lists the Analytes for the PEST/PCB continuing calibration checks that had a percent difference with the initial calibration check greater than 10% only analytes not reported the initial calibration are listed. The metal and cyanide data were found to have met the CLP criteria.

Method Blanks

Although acetone was detected in several VOC blanks, and methylene chloride in at least one other VOC blank, the data may remain unqualified since in each case the concentration was well below the contract required limit of quantitation (CRLQ). In fact, all detected analytes in every method blank were detected below the CRLQ, as such no qualifiers need to be placed upon this data.

Surrogate recoveries

Laboratory performance on samples is established by means of spiking the sample with surrogate compounds. The QAPP lists the spiking guidelines used for VOC, BNA and PEST/PCB samples. However, due to the deviation from CLP procedures requested by EPA for VOC and BNA analyses, surrogate recoveries quality assurance data may not be used to qualify the reported data. The reported percent recoveries (%R) for VOC surrogates are consistently above the accepted limits, however, Radian has reported such %R values when similar deviations from CLP methods are used. Percent recoveries for BNA surrogates, despite the deviation from CLP methods, for the majority, fell within the accepted windows. Although samples GN-313 had the surrogate dibutylchloride %R outside the accepted window, protocol allows the data to remain unqualified.

ICP Interference check sample (ICP ICS)

To verify that interelements and background correction factors were properly used, ICP ICS %R were calculated. Each %R fell within the 80-120% window, so no qualifiers need be placed on the data.

Laboratory Control Sample (LCS)

The LCS serves as a monitor of the overall performance in the analysis. The %R for the reported data fell within the control window of 80-120%. Values for mercury and cyanide were not reported by Radian.

Duplicate Sample Analysis

To measure the precision of each method of analysis for inorganic analytes a duplicate analysis was performed. Each parameter was found to have %R within 2X CRLQ, showing excellent agreement between analyses.

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

MS/MSD samples are used to check any affect that the matrix may have upon the sample results. Table 2 lists the MS/MSD recoveries that fell outside the control windows. VOC and BNA MS/MSD recoveries may only be used as qualitative estimates due to deviations from normal CLP methods. Results for cadmium, selenium and mercury analyses should be flagged as unusable (R), since the recoveries were less

than 30%. Thallium should be flagged (UJ). The remaining metal parameters may remain unqualified since the sample result was more than 4X (spike level). No qualifiers need be placed on the PEST/PCB data.

The frequency established by the QAPP of one MS/MSD sample for every twenty investigative samples was met.

ICP Serial Dilution Sample

To determine matrix effects upon ICP methods, a sample, once analyzed, was diluted five times and re-analyzed. The initial result should match the 5-fold dilution result within 10%. Analytes with sufficiently high enough initial concentration were found to have % differences within the 10% limits.

Field Duplicates

To test any effects due to the sampling procedure, as well as the analytical methods, field duplicate samples were collected. Frequency of duplicate sample collection established by the QAPP is one per ten investigative samples.

Tables 3 and 4 list the analytes detected in field duplicates. In each set of duplicate samples on the same analytes were detected, and usually within the same concentrations. Thus, there was a high degree of precision throughout the sampling process.

Trip Blanks and Rinsate Blanks

Trip blanks were used to measure the amount, if any, of cross contamination that may have occurred during shipment. Samples collected on October 4, 1988 did not have a trip blank sent, while all other shipments did. Each trip blank analyzed was found to be free of VOC analytes, an indication of no cross-contamination samples, therefore arrived at Radian intact.

To insure that none of the samples were contaminated by field equipment, rinsate blanks were collected after the equipment had been cleaned. The rinsate blanks were analyzed for VOC, BNA, PEST/PCB, Metals and cyanide content. No analytes were detected in any of the rinsate blanks, showing that the bailers did not contaminate samples.

Overall Assessment

Due to deviations from CLP methods, quality control parameters for VOC and BNA analyses could not be used to qualify the data. Since the results from the deviation were within limits observed by Radian for previous analyses, the data was felt to be precise and accurate. Data for the PEST/PCB, metal, and cyanide analyses were also found to be acceptable. With the few qualifiers listed in the above report, the data may be used without any changes.

TABLE 1
OUTLYING CONTINUING CALIBRATION VALUES FOR
PEST/PCB ANALYSES

DATE	TIME	COLUMN	PARAMETER	% D (1)	QUALIFIER (2)
10/19/88	23:09	MIX Phase	4,4 (1)-DDE	-17.7	J
			4,4, (1)-DDO	-16.0	J
			Endo Sulfate	-15.7	J
			alpha-Chlordane	-17.7	J
10/19/88	15:23	SP2/00	Endrin ketone	19.3	J
10/19/88	23:10	SP2/00	Endrin ketone	-17.0	J

(1) % difference (%D) = $\frac{\text{initial calibration factor} - \text{calibration factor}}{\text{initial calibration factor}} \times 100$

(2) The associated value, for positive results, is on estimated value.

TABLE 2
OUTLYING PERCENT RECOVERIES FOR MS/MSD SAMPLES

SAMPLE	ANALYSIS	PARAMETER	%MS(1)	%MSD(1)	LIMITS(2)
GN - 120	VOC	1,1-Dichlorethene	264	262	61-145
		Toluene	142	139	76-125
GN-0214	BNA	2-Chlorophenol	23	43	27-123
GN-0314	PESTY/PCB	Lindane	49	112	56-123
		Heptachlor	51	39	40-131
		Aldrin	36	32	40-120
		Dieldrin	52	48	52-126
		Endrin	59	55	56-121
GC-0414	Metal	Cadmium	Ø	Ø	75-125
		Mercury(3)	55	50	75-125
		Zinc	2600	Ø	75-125
		Iron	90	Ø	75-125
		Lead	85	Ø	75-125
		Thallium	77.8	74.4	75-125
		Selenium	23.0	23.0	75-125

(1) Values are reported as percent recovery

(2) Limits were taken from the QAPP

(3) Mercury recoveries were taken from the post Digest Spike data

TABLE 3

COMPARISON OF DETECTED TCL VOC
ANALYTES IN FIELD DUPLICATE SAMPLES

PARAMETER	Sample GN-0103	Sample GN-0104
Vinyl Chloride	9	9
Chloroethane	6	6
1,1,-Dichloroethane	4	4
1,2-Dichloroethene	33	33
1,2-Dichloroethane	1	1
Trichloroethene	2	2

All Values are in $\mu\text{g/L}$

TABLE 4

COMPARISON OF DETECTED TCL ANALYTES
FOR METAL ANALYSES FROM FIELD DUPLICATE SAMPLES

PARAMETER	Sample GN-0403	Sample GN-0404	Sample GN-0411	Sample GN-0412
Aluminum	2,030.00	1,510.00	34.30	311.00
Antimony	138.00	110.00	95.60	38.08
Barium	205.00	207.00		
Calcium	14,500.00	13,700.00	112,000.00	10,900.00
Chromium	57.90	54.60		
Copper	32.60	29.70		
Iron	9,750.00	8,100.00	3,000.00	2,880.00
Lead	21.80	9.20		
Magnesium	65,600.00	61,500.00	51,100.00	51,000.00
Manganese	390.00	372.00	83.30	78.40
Nickel	53.10	40.90		
Potassium	32,000.00	32,400.00		
Sodium	45,200.00	46,300.00	11,900.00	11,900.00
Zinc	69.40	85.40		

All Values are in µg/L

APPENDIX D

CHEMICAL DATA

THE FOLLOWING ARE LAB SHEETS FROM
RADIAN, ADJUSTED AS PER THE QUALITY ASSURANCE REVIEW

CASE NARRATIVE

Laboratory: Radian - SacCase Number: CRA1AClient: Conestoga-Rovers and Assoc.Report Number: S8-10-013

This data package compiles sample and standard analyses for the following water samples received by Radian on 10-5-88:

<u>Laboratory I.D.</u>	<u>Client I.D.</u>	<u>Formaster I.D.</u>
S810013-01	W-100488-GN-0201	<i>Rinsale Blank</i> 488GN0201
S810013-02	W-100488-GN-0101	488GN0101
S810013-03	W-100488-GN-0301	488GN0301
S810013-04	W-100488-GN-0202	<i>CW405</i> 488GN0202
S810013-05	W-100488-GN-0102	488GN0102
S810013-06	W-100488-GN-0302	488GN0302
S810013-07	W-100488-GN-0203	<i>G310</i> 488GN0203
S810013-08	W-100488-GN-0103	488GN0103
S810013-09	W-100488-GN-0303	488GN0303
S810014-01	W-100488-GN-0204	<i>G310 D-p.</i> 488GN0204
S810014-02	W-100488-GN-0104	488GN0104
S810014-03	W-100488-GN-0304	488GN0304
S810014-04	W-100488-GN-0205	<i>CW407</i> 488GN0205
S810014-05	W-100488-GN-0105	488GN0105
S810014-06	W-100488-GN-0305	488GN0305
S810014-07	W-100488-GN-0206	<i>CW408</i> 488GN0206
S810014-08	W-100488-GN-0106	488GN0106
S810014-09	W-100488-GN-0306	488GN0306

EPA SAMPLE NO.

Contract:

CW 405

SAS No.:

SDG No.:

Lab Sample ID: S81001305A

Lab File ID: 1001305A

Date Received: 10/04/88

Date Analyzed: 10/09/88

Dilution Factor: 1.00

CONCENTRATION UNITS:

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

Q

CAS NO.

COMPOUND

7A

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

488GN0102

b Name: RADIAN - SAC Contract: _____Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: S81001305ASample wt/vol: 25.0 (g/mL) MLLab File ID: 1001305ALevel: (low/med) LOWDate Received: 10/04/88

% Moisture: not dec. _____

Date Analyzed: 10/09/88Column (pack/cap) PACKDilution Factor: 1.00Number TICs found: 1CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-69-4	TRICHLOROFLUOROMETHANE	6.90	3.6	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. ³⁸

488GN0103
G3/C

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001308A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1001308A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ Date Analyzed: 10/09/88

Column: (pack/cap) PACK Dilution Factor: 1.00

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

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	9	
75-00-3-----	Chloroethane	6	
75-09-2-----	Methylene Chloride	0.2	J
67-64-1-----	Acetone	1	J
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	4	
540-59-0-----	1,2-Dichloroethene (total)	33	
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	0.8	J
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	2	
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	0.8	J
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	0.7	J
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

39
EPA SAMPLE NO.

488GN0103

Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001308A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1001308A

Level: (low/med) LOW Date Received: 10/04/88

Moisture: not dec. _____ Date Analyzed: 10/09/88

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 6 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 74-45-6	METHANE, CHLORODIFLUORO-	1.45	34	J
2.	UNKNOWN	3.35	1.7	J
3. 75-43-4	METHANE, DICHLOROFLUORO-	4.30	15	J
4. 4354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-TR	8.05	27	J
5.	UNKNOWN	9.35	1.1	J
6. 75-69-4	TRICHLOROFLUOROMETHANE	6.80	1.4	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

73
EPA SAMPLE NO.

488GN0104
G310 Duplicate

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001402A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1001402A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ Date Analyzed: 10/09/88

Column: (pack/cap) PACK Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3	-----Chloromethane	2	U
74-83-9	-----Bromomethane	2	U
75-01-4	-----Vinyl Chloride	9	
75-00-3	-----Chloroethane	6	
75-09-2	-----Methylene Chloride	1	U
67-64-1	-----Acetone	1	J
75-15-0	-----Carbon Disulfide	1	U
75-35-4	-----1,1-Dichloroethene	1	U
75-34-3	-----1,1-Dichloroethane	4	
540-59-0	-----1,2-Dichloroethene (total)	33	
67-66-3	-----Chloroform	1	U
107-06-2	-----1,2-Dichloroethane	.1	
78-93-3	-----2-Butanone	2	U
71-55-6	-----1,1,1-Trichloroethane	1	U
56-23-5	-----Carbon Tetrachloride	1	U
108-05-4	-----Vinyl Acetate	2	U
75-27-4	-----Bromodichloromethane	1	U
78-87-5	-----1,2-Dichloropropane	0.7	J
10061-01-5	-----cis-1,3-Dichloropropene	1	U
79-01-6	-----Trichloroethene	2	
124-48-1	-----Dibromochloromethane	1	U
79-00-5	-----1,1,2-Trichloroethane	1	U
71-43-2	-----Benzene	0.8	J
10061-02-6	-----Trans-1,3-Dichloropropene	1	U
75-25-2	-----Bromoform	1	U
108-10-1	-----4-Methyl-2-Pentanone	2	U
591-78-6	-----2-Hexanone	2	U
127-18-4	-----Tetrachloroethene	0.7	J
79-34-5	-----1,1,2,2-Tetrachloroethane	1	U
108-88-3	-----Toluene	1	U
108-90-7	-----Chlorobenzene	1	U
100-41-4	-----Ethylbenzene	1	U
100-42-5	-----Styrene	1	U
1330-20-7	-----Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

7.4
EPA SAMPLE NO.

488GN0104

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001402A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1001402A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ Date Analyzed: 10/09/88

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 5 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-45-6	METHANE, CHLORODIFLUORO- (ISOM)	1.45	36	J
2. 75-43-4	METHANE, DICHLOROFLUORO- (ISOM)	4.35	16	J
3. 354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-TR	8.10	29	J
4.	UNKNOWN	9.40	4.7	J
5. 75-69-4	TRICHLOROFLUOROMETHANE	6.85	1.2	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0105
CW4c7

Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001405A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1001405R

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ Date Analyzed: 10/10/88

Column: (pack/cap) PACK Dilution Factor: 1.00

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

CAS NO. COMPOUND Q

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	5	
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	5	X U
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	0.07	J
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	0.4	J
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	2	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

488GN0105

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001405A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1001405R

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ Date Analyzed: 10/10/88

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 4 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.55	8.0	J
2. 75-43-4	METHANE, DICHLOROFLUORO-	4.85	1.4	J
3.	UNKNOWN	9.55	5.5	J
4. 95-47-6	BENZENE, 1,2-DIMETHYL-	24.05	1.1	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: RADIAN - SAC

Contract: _____

488GN0106

OW408

Lab Code: RADIANCase No.: CRA1A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81001408ASample wt/vol: 25.0 (g/mL) MLLab File ID: 1001408RLevel: (low/med) LOWDate Received: 10/04/88

% Moisture: not dec. _____

Date Analyzed: 10/11/88Column: (pack/cap) PACKDilution Factor: 1.00

CAS NO.

COMPOUND

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

Q

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	4	X
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	5	U
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

488GN0106

Name: RADIAN - SAC Contract: _____
Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: S81001408A
Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1001408R
Level: (low/med) LOW Date Received: 10/04/88
Moisture: not dec. _____ Date Analyzed: 10/11/88
Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 3 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-45-6	METHANE, CHLORODIFLUORO-	1.50	7.7	J
2.	UNKNOWN	7.88	6.3	J
3. 75-69-4	TRICHLOROFLUOROMETHANE	7.15	1.4	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

25.1
EPA SAMPLE NO.
See reextracted data
488GN0202
CW405

Lab Name: RADIAN - SAC Contract: _____
Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: S81001304A
Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001304A
Level: (low/med) LOW Date Received: 10/04/88
% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88
Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88
GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

108-95-2-----	Phenol	0.6	J
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	3	U
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	3	U
65-85-0-----	Benzoic Acid	0.7	J
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0202

Name: RADIAN - SAC Contract: _____
 Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: S81001304A
 Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001304A
 Level: (low/med) LOW Date Received: 10/04/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88
 Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88
 Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

99-09-2-----3-Nitroaniline	13	U
83-32-9-----Acenaphthene	3	U
51-28-5-----2,4-Dinitrophenol	13	U
100-02-7-----4-Nitrophenol	13	U
132-64-9-----Dibenzofuran	3	U
121-14-2-----2,4-Dinitrotoluene	3	U
84-66-2-----Diethylphthalate	3	U
7005-72-3-----4-Chlorophenyl-phenylether	3	U
86-73-7-----Fluorene	3	U
100-01-6-----4-Nitroaniline	13	U
534-52-1-----4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----N-Nitrosodiphenylamine	3	U
101-55-3-----4-Bromophenyl-phenylether	3	U
118-74-1-----Hexachlorobenzene	3	U
87-86-5-----Pentachlorophenol	13	U
85-01-8-----Phenanthrene	3	U
120-12-7-----Anthracene	3	U
84-74-2-----Di-n-Butylphthalate	3	U
206-44-0-----Fluoranthene	3	U
129-00-0-----Pyrene	3	U
85-68-7-----Butylbenzylphthalate	3	U
91-94-1-----3,3'-Dichlorobenzidine	5	U
56-55-3-----Benzo(a)Anthracene	3	U
218-01-9-----Chrysene	3	U
117-81-7-----bis(2-Ethylhexyl)Phthalate	5	B
117-84-0-----Di-n-Octyl Phthalate	2	J
205-99-2-----Benzo(b)Fluoranthene	3	U
207-08-9-----Benzo(k)Fluoranthene	3	U
50-32-8-----Benzo(a)Pyrene	3	U
193-39-5-----Indeno(1,2,3-cd)Pyrene	3	U
53-70-3-----Dibenz(a,h)Anthracene	3	U
191-24-2-----Benzo(g,h,i)Perylene	3	U

(1) - Cannot be separated from Diphenylamine

256

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

488GN0202

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001304A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001304A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	14.09	27	J
2.	UNKNOWN	7.70	28	J
3. 10111-08-7	1H-IMIDAZOLE-2-CARBOXALDEHYD	8.79	25	J
4. 556-67-2	CYCLOTETRASILOXANE, OCTAMETHY	9.10	26	J
5. 74630-08-3	1-OCTENE, 3-ETHYL-	19.15	14	J
6. 4291-80-9	CYCLOHEXANE, 1-METHYL-3-PROPY	8.32	14	J
7.	UNKNOWN	13.30	5.0	J
8. 143-07-7 *	DODECANOIC ACID	17.55	8.0	J
9.	UNKNOWN	15.00	7.0	J
10.	UNKNOWN	14.40	4.0	J
11.	UNKNOWN	7.40	2.5	J
12. 74630-08-3	1-OCTENE, 3-ETHYL-	7.95	6.0	J
13. 541-02-6	CYCLOPENTASILOXANE, DECAMETHY	11.77	4.0	J
14. 544-63-8	TETRADECANOIC ACID	19.92	3.0	J
15. 18476-57-8	2,6-OCTADIENE, 4,5-DIMETHYL-	14.19	3.0	J
16.	UNKNOWN	8.40	3.0	J
17. 124-07-2	OCTANOIC ACID	11.99	2.0	J
18. 121-32-4	BENZALDEHYDE, 3-ETHOXY-4-HYDR	15.52	1.8	J
19. 140-03-4	9-OCTADECENOIC ACID, 12-(ACET	21.77	2.4	J
20. 123-75-1	PYRROLIDINE (DOT)	8.27	5.7	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

290
EPA SAMPLE NO.
see reextracted data

488GN0203
G3/0

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001307A

Sample wt/vol: 1890 (g/mL) ML Lab File ID: 1001307A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.491

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	0.5	J
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	3	U
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	3	U
65-85-0-----	Benzoic Acid	0.6	J
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

297
EPA SAMPLE NO.

488GN0203

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001307A

Sample wt/vol: 1890 (g/mL) ML Lab File ID: 1001307A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

C Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.491

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	0.3	J
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	7	B
117-84-0-----	Di-n-Octyl Phthalate	1	J
205-99-2-----	Benzo(b)Fluoranthene	3	U
207-08-9-----	Benzo(k)Fluoranthene	3	U
50-32-8-----	Benzo(a)Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	3	U
53-70-3-----	Dibenz(a,h)Anthracene	3	U
191-24-2-----	Benzo(g,h,i)Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

488GN0203

Sample Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001307A

Sample wt/vol: 1890 (g/mL) ML Lab File ID: 1001307A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.491

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	13.45	83	J
2.	UNKNOWN	14.30	160	J
3. 556-67-2	CYCLOTETRAILOXANE, OCTAMETHY	9.10	130	J
4.	UNKNOWN	7.72	43	J
5. 69078-80-4	ETHANETHIOIC ACID, S-(2-METHY	19.19	17	J
6. 541-02-6	CYCLOPENTASILOXANE, DECAMETHY	11.77	22	J
7.	UNKNOWN	8.25	21	J
8. 143-07-7 **	DODECANOIC ACID	17.60	12	J
9. 4291-80-9	CYCLOHEXANE, 1-METHYL-3-PROPY	8.32	21	J
10.	UNKNOWN	21.44	6.8	J
11. 74630-08-3	1-OCTENE, 3-ETHYL-	7.95	12	J
12.	UNKNOWN	22.85	5.2	J
13. 540-97-6	CYCLOHEXASILOXANE, DODECAMETH	14.40	6.0	J
14. 544-63-8	TETRADECANOIC ACID	19.95	4.0	J
15.	UNKNOWN	7.42	4.0	J
16.	UNKNOWN	14.50	4.0	J
17.	UNKNOWN	8.80	26	J
18.	UNKNOWN	8.40	6.6	J
19. 55499-24-3	3-DECENE, 2, 2-DIMETHYL-, (E) -	7.00	3.8	J
20.	UNKNOWN	19.02	5.7	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0204

G310 Duplicate

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIANCase No.: CRA1A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81001401ASample wt/vol: 2000 (g/mL) MLLab File ID: 1001401ALevel: (low/med) LOWDate Received: 10/04/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/06/88Extraction: (SepF/Cont/Sonc) CONTDate Analyzed: 10/11/88Cleanup: (Y/N) N pH: _____Dilution Factor: 0.500

CAS NO.

COMPOUND

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

Q

108-95-2-----	Phenol	3	U
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	3	U
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	3	U
65-85-0-----	Benzoic Acid	0.5	J
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

341
EPA SAMPLE NO.

488GN0204

Job Name: RADIAN - SAC Contract: _____
Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: S81001401A
Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001401A
Level: (low/med) LOW Date Received: 10/04/88
% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88
Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88
PC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	0.8	J
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	3	U
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	2	U U
117-84-0-----	Di-n-Octyl Phthalate	1	J
205-99-2-----	Benzo(b) Fluoranthene	3	U
207-08-9-----	Benzo(k) Fluoranthene	3	U
50-32-8-----	Benzo(a) Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd) Pyrene	3	U
53-70-3-----	Dibenz(a,h) Anthracene	3	U
191-24-2-----	Benzo(g,h,i) Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

488GN0204

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001401A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001401A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

C Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

Number TICs found: 20

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	25.41	26	J
2. 120-40-1	DODECANAMIDE, N, N-BIS(2-HYDRO	17.57	14	J
3.	UNKNOWN	7.78	12	J
4. 124-07-2	OCTANOIC ACID	12.04	4.6	J
5. 4291-79-6	CYCLOHEXANE, 1-METHYL-2-PROPY	8.37	10	J
6. 57-10-3	HEXADECANOIC ACID	22.10	4.1	J
7. 544-63-8	TETRADECANOIC ACID	19.92	4.6	J
8.	UNKNOWN HYDROCARBON	23.90	2.6	J
9. 334-48-5	DECANOIC ACID	14.92	3.3	J
10. 74630-08-3	1-OCTENE, 3-ETHYL-	8.00	4.3	J
11. 123-75-1	PYRROLIDINE (DOT)	8.30	6.1	J
12. 55499-02-0	3-DECENE, 2, 2-DIMETHYL-, (E) -	7.10	3.5	J
13. 16022-08-5	BICYCLO[3.1.1]HEPTAN-2-ONE, 3	12.64	1.0	J
14.	UNKNOWN	24.09	0.75	J
15. 80-39-7	BENZENESULFONAMIDE, N-ETHYL-4	19.69	0.78	J
16. 5989-27-5	D-LIMONENE	9.87	1.4	J
17. 85-60-9	PHENOL, 4, 4'-BUTYLIDENE BIS[2-	29.12	6.1	J
18. 149-57-5	HEXANOIC ACID, 2-ETHYL-	11.15	1.2	J
19. 7094-26-0	CYCLOHEXANE, 1, 1, 2-TRIMETHYL	7.33	0.95	J
20. 88-19-7	BENZENESULFONAMIDE, 2-METHYL-	18.60	0.79	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

379
EPA SAMPLE NO.

488GN0205
CW407

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001404A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001404A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

APC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

CAS NO.	COMPOUND		
108-95-2-----	Phenol	0.4	J
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	0.4	J
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	3	U
65-85-0-----	Benzoic Acid	1	J
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0205

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001404A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001404A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

PC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	0.3	J
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	1	U U
117-84-0-----	Di-n-Octyl Phthalate	2	J
205-99-2-----	Benzo(b) Fluoranthene	3	U
207-08-9-----	Benzo(k) Fluoranthene	3	U
50-32-8-----	Benzo(a) Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd) Pyrene	3	U
53-70-3-----	Dibenz(a,h) Anthracene	3	U
191-24-2-----	Benzo(g,h,i) Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

488GN0205

Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001404A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001404A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

PC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

Number TICs found: 20 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	25.42	32	J
2. 120-40-1	DODECANAMIDE, N, N-BIS (2-HYDRO	17.55	5.1	J
3. 10471-14-4	ETHANE, 1-ETHOXY-1-METHOXY-	12.42	8.0	J
4. 20324-32-7	2-PROPANOL, 1-(2-METHOXY-1-ME	9.29	11	J
5. 20324-33-8	2-PROPANOL, 1-[2-(2-METHOXY-1	14.10	5.8	J
6.	UNKNOWN	23.30	1.4	J
7. 57-10-3	HEXADECANOIC ACID	22.10	4.0	J
8. 107-49-3	DIPHOSPHORIC ACID, TETRAETHYL	11.35	3.3	J
9.	UNKNOWN	15.15	2.1	J
10. 17269-94-2	BENZENE, 1-(1,1-DIMETHYLETHYL	16.74	2.3	J
11. 17233-71-5	HEXATHIEPANE	20.12	2.4	J
12.	UNKNOWN	16.55	2.1	J
13. 55683-32-4	AZETIDINE, 2-METHYL-1-(1METHY	11.42	2.6	J
14.	UNKNOWN	21.19	2.3	J
15. 544-63-8	TETRADECANOIC ACID	19.92	2.3	J
16.	UNKNOWN	13.92	1.8	J
17. 149-57-5	HEXANOIC ACID, 2-ETHYL-	11.17	1.6	J
18. 85-60-9	PHENOL, 4,4'-BUTYLIDENE BIS[2-	29.04	3.3	J
19. 334-48-5	DECANOIC ACID	24.09	1.8	J
20. 143-24-8	2,5,8,11,14-PENTAOXAPENTADEC	17.24	1.8	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

427
EPA SAMPLE NO.

488GN0206
CW 408

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001407A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001407A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

SPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2	Phenol	3	U
111-44-4	bis(2-Chloroethyl) Ether	2	U
95-57-8	2-Chlorophenol	3	U
541-73-1	1,3-Dichlorobenzene	3	U
106-46-7	1,4-Dichlorobenzene	3	U
100-51-6	Benzyl Alcohol	3	U
95-50-1	1,2-Dichlorobenzene	3	U
95-48-7	2-Methylphenol	3	U
108-60-1	bis(2-Chloroisopropyl) Ether	3	U
106-44-5	4-Methylphenol	3	U
621-64-7	N-Nitroso-Di-n-Propylamine	3	U
67-72-1	Hexachloroethane	3	U
98-95-3	Nitrobenzene	3	U
78-59-1	Isophorone	1	J
88-75-5	2-Nitrophenol	3	U
105-67-9	2,4-Dimethylphenol	3	U
65-85-0	Benzoic Acid	2	J
111-91-1	bis(2-Chloroethoxy) Methane	3	U
120-83-2	2,4-Dichlorophenol	3	U
120-82-1	1,2,4-Trichlorobenzene	3	U
91-20-3	Naphthalene	3	U
106-47-8	4-Chloroaniline	3	U
87-68-3	Hexachlorobutadiene	3	U
59-50-7	4-Chloro-3-Methylphenol	3	U
91-57-6	2-Methylnaphthalene	3	U
77-47-4	Hexachlorocyclopentadiene	3	U
88-06-2	2,4,6-Trichlorophenol	3	U
95-95-4	2,4,5-Trichlorophenol	13	U
91-58-7	2-Chloronaphthalene	3	U
88-74-4	2-Nitroaniline	13	U
131-11-3	Dimethyl Phthalate	3	U
208-96-8	Acenaphthylene	3	U
606-20-2	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0206

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001407A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001407A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

PC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	3	U
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	2	U
117-84-0-----	Di-n-Octyl Phthalate	0.5	J
205-99-2-----	Benzo(b)Fluoranthene	3	U
207-08-9-----	Benzo(k)Fluoranthene	3	U
50-32-8-----	Benzo(a)Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	3	U
53-70-3-----	Dibenz(a,h)Anthracene	3	U
191-24-2-----	Benzo(g,h,i)Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. ⁴²⁹

488GN0206

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81001407A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1001407A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/06/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

GC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

Number TICs found: 21

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	12.47	22	J
2.	UNKNOWN	25.56	12	J
3. 20324-33-8	2-PROPANOL, 1-[2-(2-METHOXY-1	14.09	6.8	J
4. 38653-49-5	1,3-DIOXOLANE, 2-(2-PROPENYL)	12.02	2.5	J
5.	UNKNOWN	21.27	5.0	J
6. 98-73-7	BENZOIC ACID, 4-(1,1-DIMETHYL	16.84	3.5	J
7.	UNKNOWN	16.35	3.5	J
8. 111-76-2	ETHANOL, 2-BUTOXY-	15.19	2.3	J
9. 5989-27-5	D-LIMONENE	9.85	3.3	J
10.	UNKNOWN	23.37	3.0	J
11. 3302-10-1	HEXANOIC ACID, 3,5,5-TRIMETHY	11.60	2.1	J
12.	UNKNOWN	14.29	2.0	J
13.	UNKNOWN	8.34	1.5	J
14. 110-03-2	2,5-HEXANEDIOL, 2,5-DIMETHYL-	10.22	1.8	J
15.	UNKNOWN	27.12	1.5	J
16.	UNKNOWN	27.24	1.5	J
17.	UNKNOWN	7.58	1.8	J
18. 20324-32-7	C7H16O3 (ISOMER)	9.24	3.6	J
19. 20324-32-7	C7H16O3 (ISOMER)	9.30	7.1	J
20. 1696-20-4	MORPHOLINE, 4-ACETYL-	12.60	6.8	J
21. 98-51-1	BENZENE, 1-(1,1-DIMETHYL ETHY	21.35	1.8	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0302
0W405

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 7-1-81018-21

Sample wt/vol: 2000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/05/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/18/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.800

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.020	U
319-85-7	beta-BHC	0.010	U
319-86-8	delta-BHC	0.010	U
58-89-9	gamma-BHC (Lindane)	0.010	U
76-44-8	Heptachlor	0.060	U
309-00-2	Aldrin	0.020	U
1024-57-3	Heptachlor epoxide	0.020	U
959-98-8	Endosulfan I	0.020	U
60-57-1	Dieldrin	0.020	U
72-55-9	4,4'-DDE	0.040	U
72-20-8	Endrin	0.0033	J
33213-65-9	Endosulfan II	0.040	U
72-54-8	4,4'-DDD	0.040	U
1031-07-8	Endosulfan sulfate	0.040	U
50-29-3	4,4'-DDT	0.040	U
72-43-5	Methoxychlor	0.20	U
53494-70-5	Endrin ketone	0.040	U
5103-71-9	alpha-Chlordane	0.20	U
5103-74-2	gamma-Chlordane	0.20	U
8001-35-2	Toxaphene	0.40	U
12674-11-2	Aroclor-1016	0.20	U
11104-28-2	Aroclor-1221	0.20	U
11141-16-5	Aroclor-1232	0.20	U
53469-21-9	Aroclor-1242	0.20	U
12672-29-6	Aroclor-1248	0.20	U
11097-69-1	Aroclor-1254	0.40	U
11096-82-5	Aroclor-1260	0.40	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0303
G310

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 7-1-81018-22

Sample wt/vol: 1980 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/05/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/18/88

C Cleanup: (Y/N) N pH: _____ Dilution Factor: 4.00

CONCENTRATION UNITS:

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

319-84-6-----alpha-BHC	0.10	U
319-85-7-----beta-BHC	0.051	U
319-86-8-----delta-BHC	0.051	U
58-89-9-----gamma-BHC (Lindane)	0.051	U
76-44-8-----Heptachlor	0.30	U
309-00-2-----Aldrin	0.10	U
1024-57-3-----Heptachlor epoxide	0.10	U
959-98-8-----Endosulfan I	0.10	U
60-57-1-----Dieldrin	0.10	U
72-55-9-----4,4'-DDE	0.20	U
72-20-8-----Endrin	0.20	U
33213-65-9-----Endosulfan II	0.20	U
72-54-8-----4,4'-DDD	0.20	U
1031-07-8-----Endosulfan sulfate	0.20	U
50-29-3-----4,4'-DDT	0.20	U
72-43-5-----Methoxychlor	1.0	U
53494-70-5-----Endrin ketone	0.20	U
5103-71-9-----alpha-Chlordane	1.0	U
5103-74-2-----gamma-Chlordane	1.0	U
8001-35-2-----Toxaphene	2.0	U
12674-11-2-----Aroclor-1016	1.0	U
11104-28-2-----Aroclor-1221	1.0	U
11141-16-5-----Aroclor-1232	1.0	U
53469-21-9-----Aroclor-1242	1.0	U
12672-29-6-----Aroclor-1248	1.0	U
11097-69-1-----Aroclor-1254	2.0	U
11096-82-5-----Aroclor-1260	2.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

561
EPA SAMPLE NO.

488GN0304

6310 Duplicate

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN

Case No.: CRA1A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 7-1-81018-23

Sample wt/vol: 2000 (g/mL) ML

Lab File ID: _____

Level: (low/med) LOW

Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/05/88

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 10/18/88

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

Dilution Factor: 2.00

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	0.050	U
319-85-7-----	beta-BHC	0.025	U
319-86-8-----	delta-BHC	0.025	U
58-89-9-----	gamma-BHC (Lindane)	0.025	U
76-44-8-----	Heptachlor	0.15	U
309-00-2-----	Aldrin	0.050	U
1024-57-3-----	Heptachlor epoxide	0.050	U
959-98-8-----	Endosulfan I	0.050	U
60-57-1-----	Dieldrin	0.050	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9-----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5-----	Endrin ketone	0.10	U
5103-71-9-----	alpha-Chlordane	0.50	U
5103-74-2-----	gamma-Chlordane	0.50	U
8001-35-2-----	Toxaphene	1.0	U
12674-11-2-----	Aroclor-1016	0.50	U
11104-28-2-----	Aroclor-1221	0.50	U
11141-16-5-----	Aroclor-1232	0.50	U
53469-21-9-----	Aroclor-1242	0.50	U
12672-29-6-----	Aroclor-1248	0.50	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

564
EPA SAMPLE NO.

488GN0305

CW407

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 7-1-81018-50

Sample wt/vol: 2000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/05/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/19/88

SPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 80.0

CONCENTRATION UNITS:

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

319-84-6-----	alpha-BHC	2.0	U
319-85-7-----	beta-BHC	1.0	U
319-86-8-----	delta-BHC	1.0	U
58-89-9-----	gamma-BHC (Lindane)	1.0	U
76-44-8-----	Heptachlor	6.0	U
309-00-2-----	Aldrin	2.0	U
1024-57-3-----	Heptachlor epoxide	2.0	U
959-98-8-----	Endosulfan I	2.0	U
60-57-1-----	Dieldrin	2.0	U
72-55-9-----	4,4'-DDE	4.0	U
72-20-8-----	Endrin	4.0	U
33213-65-9-----	Endosulfan II	4.0	U
72-54-8-----	4,4'-DDD	4.0	U
1031-07-8-----	Endosulfan sulfate	4.0	U
50-29-3-----	4,4'-DDT	4.0	U
72-43-5-----	Methoxychlor	20	U
53494-70-5-----	Endrin ketone	4.0	U
5103-71-9-----	alpha-Chlordane	20	U
5103-74-2-----	gamma-Chlordane	20	U
8001-35-2-----	Toxaphene	40	U
12674-11-2-----	Aroclor-1016	20	U
11104-28-2-----	Aroclor-1221	20	U
11141-16-5-----	Aroclor-1232	20	U
53469-21-9-----	Aroclor-1242	20	U
12672-29-6-----	Aroclor-1248	20	U
11097-69-1-----	Aroclor-1254	40	U
11096-82-5-----	Aroclor-1260	40	U

567

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0306

CW408

Lab Name: RADIAN - SAC Contract: _____Lab Code: RADIAN Case No.: CRA1A SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: 7-1-81018-28Sample wt/vol: 2000 (g/mL) ML Lab File ID: _____Level: (low/med) LOW Date Received: 10/04/88% Moisture: not dec. _____ dec. _____ Date Extracted: 10/05/88Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/19/88Cleanup: (Y/N) N pH: _____ Dilution Factor: 8.00

CONCENTRATION UNITS:

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

319-84-6-----	alpha-BHC	0.20	U
319-85-7-----	beta-BHC	0.10	U
319-86-8-----	delta-BHC	0.10	U
58-89-9-----	gamma-BHC (Lindane)	0.10	U
76-44-8-----	Heptachlor	0.60	U
309-00-2-----	Aldrin	0.20	U
1024-57-3-----	Heptachlor epoxide	0.20	U
959-98-8-----	Endosulfan I	0.20	U
60-57-1-----	Dieldrin	0.20	U
72-55-9-----	4,4'-DDE	0.40	U
72-20-8-----	Endrin	0.40	U
33213-65-9-----	Endosulfan II	0.40	U
72-54-8-----	4,4'-DDD	0.40	U
1031-07-8-----	Endosulfan sulfate	0.40	U
50-29-3-----	4,4'-DDT	0.40	U
72-43-5-----	Methoxychlor	2.0	U
53494-70-5-----	Endrin ketone	0.40	U
5103-71-9-----	alpha-Chlordane	2.0	U
5103-74-2-----	gamma-Chlordane	2.0	U
8001-35-2-----	Toxaphene	4.0	U
12674-11-2-----	Aroclor-1016	2.0	U
11104-28-2-----	Aroclor-1221	2.0	U
11141-16-5-----	Aroclor-1232	2.0	U
53469-21-9-----	Aroclor-1242	2.0	U
12672-29-6-----	Aroclor-1248	2.0	U
11097-69-1-----	Aroclor-1254	4.0	U
11096-82-5-----	Aroclor-1260	4.0	U

CASE NARRATIVE

Laboratory: Radian - Sac
Client: Conestoga-Rovers and Assoc.

Case Number: CRA1B
Report Number: S8-10-062

This data package compiles sample and standard analyses for the following water samples received by Radian on 10-5-88:

<u>Laboratory I.D.</u>	<u>Client I.D.</u>	<u>Formaster I.D.</u>
S810062-01	W-100488-GN-0202 CW405	488GN0202RE
S810062-02	W-100488-GN-0203 G3/C	488GN0203RE

Clarifications regarding these analyses are as follows:

1. This data is for the above samples which were reextracted and reanalyzed due to the low acid surrogate recoveries in the original analyses. The data for the original analyses were reported in Case Number CRA1A which was sent on 11/3/88. The surrogate recoveries in the reanalyses are within the CLP control limits.
2. In some cases, there will be a slight difference between the results found on the quantitation report and the results found on Form I. This difference is due to the fact that the Formaster program rounds the values before the calculation of the final results to two significant figures, whereas the GC/MS data system rounds the final results after all the calculations are made.
3. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Karen Ghilarducci
Karen Ghilarducci
Quality Assurance Supervisor
Radian Laboratory Services, Sacramento

11/5/88
Date of Signature

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0202RE
CW405

Lab Name: RADIAN - SAC Contract: _____
Lab Code: RADIAN Case No.: CRA1B SAS No.: _____ SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: S81006201A
Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1006201A
Level: (low/med) LOW Date Received: 10/04/88
% Moisture: not dec. _____ dec. _____ Date Extracted: 10/12/88
Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/18/88
GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

108-95-2-----	Phenol	3	U
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	3	U
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	3	U
65-85-0-----	Benzoic Acid	13	U
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

8
EPA SAMPLE NO.

488GN0202RE

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN

Case No.: CRA1B

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81006201A

Sample wt/vol: 2000 (g/mL) ML

Lab File ID: 1006201A

Level: (low/med) LOW

Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/12/88

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 10/18/88

PC Cleanup: (Y/N) N

pH: _____

Dilution Factor: 0.500

CONCENTRATION UNITS:

CAS NO.

COMPOUND

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

Q

99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	3	U
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	3	U
117-84-0-----	Di-n-Octyl Phthalate	2	U
205-99-2-----	Benzo(b)Fluoranthene	3	U
207-08-9-----	Benzo(k)Fluoranthene	3	U
50-32-8-----	Benzo(a)Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	3	U
53-70-3-----	Dibenz(a,h)Anthracene	3	U
191-24-2-----	Benzo(g,h,i)Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

488GN0202RE

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1B SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81006201A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1006201A

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/12/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/18/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

Number TICs found: 12

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 464-17-5	BICYCLO[2.2.1]HEPT-2-ENE, 1,7	9.64	1.1	J
2. 149-57-5	HEXANOIC ACID, 2-ETHYL-	11.17	1.2	J
3.	UNKNOWN	13.69	0.90	J
4. 120-40-1	DODECANAMIDE, N,N-BIS(2-HYDRO	17.82	1.3	J
5. 544-63-8	TETRADECANOIC ACID	20.27	1.2	J
6. 57-10-3	HEXADECANOIC ACID	22.52	4.2	J
7.	UNKNOWN	24.39	2.1	J
8. 334-48-5	DECANOIC ACID	24.59	2.3	J
9.	UNKNOWN	25.92	8.1	J
10. 85-60-9	PHENOL, 4,4'-BUTYLIDENE BIS[2-	29.97	1.1	J
11.	UNKNOWN PHTHALATE	29.97	1.1	J
12. 603-11-2	1,2-BENZENEDICARBOXYLIC ACID	31.06	1.8	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

488GN0203RE

G30

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIANCase No.: CRA1B

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81006202ASample wt/vol: 1970 (g/mL) MLLab File ID: 1006202RLevel: (low/med) LOWDate Received: 10/04/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/12/88Extraction: (SepF/Cont/Sonc) CONTDate Analyzed: 10/21/88GC Cleanup: (Y/N) N

pH: _____

Dilution Factor: 0.500

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	3	U
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	3	U
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	3	U
65-85-0-----	Benzoic Acid	1	U
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

35
EPA SAMPLE NO.

488GN0203RE

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1B SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81006202A

Sample wt/vol: 1970 (g/mL) ML Lab File ID: 1006202R

Level: (low/med) LOW Date Received: 10/04/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/12/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/21/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	1	U U
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	2	U U
117-84-0-----	Di-n-Octyl Phthalate	3	U
205-99-2-----	Benzo(b)Fluoranthene	3	U
207-08-9-----	Benzo(k)Fluoranthene	3	U
50-32-8-----	Benzo(a)Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	3	U
53-70-3-----	Dibenz(a,h)Anthracene	3	U
191-24-2-----	Benzo(g,h,i)Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

488GN0203RE

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN Case No.: CRA1B

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81006202ASample wt/vol: 1970 (g/mL) MLLab File ID: 1006202RLevel: (low/med) LOWDate Received: 10/04/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/12/88Extraction: (SepF/Cont/Sonc) CONTDate Analyzed: 10/21/88GPC Cleanup: (Y/N) N pH: _____Dilution Factor: 0.500Number TICs found: 14

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 120-4-1	DODECANAMIDE, N, N-BIS(2-HYDRO	17.32	8.1	J
2. 57-10-3	HEXADECANOIC ACID	22.00	9.9	J
3. 124-07-2	OCTANOIC ACID	11.65	4.0	J
4. 544-63-8	TETRADECANOIC ACID	19.74	4.5	J
5. 334-48-5	DECANOIC ACID	14.60	1.6	J
6. 29424-94-0	OXETANE, 2, 4-DIMETHYL-, TRANS-	13.65	2.0	J
7.	UNKNOWN	13.20	0.73	J
8. 80-39-7	BENZENESULFONAMIDE, N-ETHYL-4	19.47	0.79	J
9. 149-57-5	HEXANOIC ACID, 2-ETHYL-	10.77	0.75	J
10. 88-19-7	BENZENESULFONAMIDE, 2-METHYL-	18.35	0.59	J
11.	UNKNOWN HYDROCARBON	23.87	8.1	J
12. 57-11-4	OCTADECANOIC ACID	24.07	12	J
13.	UNKNOWN	25.36	11	J
14. 5129-64-6	DECANOIC ACID, 8-METHYL-, METH	23.74	1.8	J

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RAS - Austin

REPORT

Work Order # 88-10-014

01/11/89 15:13:18

REPORT Conestoga-Rovers and Assoc.
TO 651 Colby Dr.
Waterloo, Ontario N2V 1C2
Canada
ATTN Bruce Clegg

PREPARED Radian Analytical Services
BY 8501 Mo-pac Bl.
PO Box 201088
Austin, TX 78720-1088
ATTN
PHONE 512-454-4797

[Signature]
CERTIFIED BY

CONTACT GALE

CLIENT CRA SAMPLES 14
COMPANY Conestoga-Rovers and Assoc.
FACILITY

See GC report for explanation of footnotes.

WORK ID Wauconda
TAKEN GN
TRANS Fed Ex
TYPE
P.O. #
INV. # 12498

Duplicate of report of 11/30/88.

Previously Reported on 11/07/88.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit.
Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the
specific matrix was not within acceptable limits indicating
an interferent present.

SAMPLE IDENTIFICATION

01 W-100488-GN-0401
02 W-100488-GN-0402
03 W-100488-GN-0403
04 W-100488-GN-0404
05 W-100488-GN-0405
06 W-100488-GN-0406
07 W-100488-GN-0407
08 W-100488-GN-0501
09 W-100488-GN-0502
10 W-100488-GN-0503
11 W-100488-GN-0504
12 W-100488-GN-0505
13 W-100488-GN-0506
14 W-100488-GN-0507

TEST CODES and NAMES used on this report

AG E	Silver, ICPEs	MG E	Magnesium, ICPEs
AL E	Aluminum, ICPEs	MN E	Manganese, ICPEs
AS G	Arsenic, graphite AA	NA E	Sodium, ICPEs
BA E	Barium, ICPEs	NI E	Nickel, ICPEs
BE E	Beryllium, ICPEs	PB G	Lead, graphite AA
CA E	Calcium, ICPEs	SB E	Antimony, ICPEs
CD G	Cadmium, graphite AA	SE G	Selenium, graphite AA
CN DIS	Cyanide distillation	TL G	Thallium, graphite AA
CN TOT	Total cyanide	VE	Vanadium, ICPEs
CO E	Cobalt, ICPEs	ZN E	Zinc, ICPEs
CR E	Chromium, ICPEs		
CU E	Copper, ICPEs		
DG3020	Digestion, method 3020		
DG6010	Digestion, method 6010		
FE E	Iron, ICPEs		
HG	Mercury, cold vapor		
PT	Potassium, ICPEs		

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CORPORATION

RAS - Austin

REPORT

Work Order # 88-10-014

Results By Test

SAMPLE	Test: AG E	Test: AL E	Test: AS G	Test: BA E	Test: BE E
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	ug/ml
Rinsate Blank 01 W-100488-GN-040	3.0U ug/L	50.9B ug/L	2.7B ug/L	3.0U ug/L	1.0U ug/L
OW405 02 W-100488-GN-040	3.0U ug/L	113.0B ug/L	1.7U ug/L	68.9B J ug/L	1.0U ug/L
G310 03 W-100488-GN-040	3.0U ug/L	2030.0 ug/L	4.7B J ug/L	205.0 ug/L	1.0U ug/L
G310 Duplicate 04 W-100488-GN-040	3.0U ug/L	1510.0 ug/L	3.7B J ug/L	207.0 ug/L	1.0U ug/L
OW407 05 W-100488-GN-040	3.0U ug/L	327.0 ug/L	4.3B J ug/L	278.0 ug/L	1.0U ug/L
OW408 06 W-100488-GN-040	3.0U ug/L	420.0 ug/L	4.6B J ug/L	539.0 ug/L	1.0U ug/L

SAMPLE	Test: CA E	Test: CD G	Test: CN DIS	Test: CO E	Test: CR E
Sample Id	ug/ml	ug/ml	date complete	ug/ml	ug/ml
Rinsate Blank 01 W-100488-GN-040	1630.0B ug/L	0.69UW ug/L		3.0U ug/L	3.0U ug/L
OW405 02 W-100488-GN-040	76400.0 ug/L	0.69UW ug/L		8.9B J ug/L	80.8 ug/L
G310 03 W-100488-GN-040	145000.0 ug/L	1.47BWN ug/L		9.9B J ug/L	57.9 ug/L
G310 Duplicate 04 W-100488-GN-040	137000.0 ug/L	1.36BWN ug/L		8.0B J ug/L	54.6 ug/L
OW407 05 W-100488-GN-040	164000.0 ug/L	1.16BWN ug/L		5.6B J ug/L	34.7 ug/L
OW408 06 W-100488-GN-040	187000.0 ug/L	6.9UW ug/L		3.0U ug/L	40.9 ug/L

Received: 10/05/88

Results By Test

Continued From Above

SAMPLE	Test: CA E	Test: CB G	Test: CN DIS	Test: CO E	Test: CR E
Sample Id	ug/ml	ug/ml	date complete	ug/ml	ug/ml
Rinsate Blank 08			10/11/88		
W-100488-GN-050					
OW 405 09			10/11/88		
W-100488-GN-050					
G 310 10			10/11/88		
W-100488-GN-050					
G 310 Duplicate 11			10/11/88		
W-100488-GN-050					
OW 407 12			10/11/88		
W-100488-GN-050					
OW 408 13			10/11/88		
W-100488-GN-050					

SAMPLE	Test: CU E	Test: DG3020	Test: DG6010	Test: FE E	Test: K E
Sample Id	ug/ml	date complete	date complete	ug/ml	ug/ml
Rinsate Blank 01	5.8B	10/11/88	10/17/88	27.4B	701.0B
W-100488-GN-040	ug/L			ug/L	ug/L
OW 405 02	3.0U	10/11/88	10/17/88	45900.0	1900.0
W-100488-GN-040	ug/L			ug/L	ug/L
G 310 03	32.6	10/11/88	10/17/88	9750.0	32000.0
W-100488-GN-040	ug/L			ug/L	ug/L
G 310 Duplicate 04	29.7	10/11/88	10/17/88	8100.0	32400.0
W-100488-GN-040	ug/L			ug/L	ug/L
OW 407 05	3.0U	10/11/88	10/17/88	28800.0	10100.0
W-100488-GN-040	ug/L			ug/L	ug/L

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RAS - Austin
Results By Test

Work Order # 88-10-014
Continued From Above

SAMPLE	Test: <u>CU E</u>	Test: <u>DG3020</u>	Test: <u>DG6010</u>	Test: <u>FE E</u>	Test: <u>K E</u>
Sample Id	<u>ug/ml</u>	date complete	date complete	<u>ug/ml</u>	<u>ug/ml</u>
OW408 06 W-100488-GN-040	3.28J ug/L	10/11/88	10/17/88	18500.0 ug/L	20000.0 ug/L

SAMPLE	Test: <u>MG E</u>	Test: <u>MN E</u>	Test: <u>NA E</u>	Test: <u>NI E</u>	Test: <u>PB G</u>
Sample Id	<u>ug/ml</u>	<u>ug/ml</u>	<u>ug/ml</u>	<u>ug/ml</u>	<u>ug/ml</u>
Rinsate Blank 01 W-100488-GN-040	92.2B ug/L	1.2B ug/L	2160.0B ug/L	6.0U ug/L	2.8B ug/L
OW405 02 W-100488-GN-040	45400.0 ug/L	234.0 ug/L	6120.0 ug/L	59.7 ug/L	3.28WJ ug/L
G3/0 03 W-100488-GN-040	65600.0 ug/L	390.0 ug/L	45200.0 ug/L	53.1 ug/L	21.8 ug/L
G3/0 Duplicate 04 W-100488-GN-040	61500.0 ug/L	372.0 ug/L	46300.0 ug/L	40.9 ug/L	9.2 ug/L
OW407 05 W-100488-GN-040	87200.0 ug/L	170.0 ug/L	357000.0 ug/L	32.68J ug/L	2.08 ug/L
OW408 06 W-100488-GN-040	110000.0 ug/L	153.0 ug/L	706000.0 ug/L	56.6 ug/L	1.79UW ug/L

SAMPLE	Test: <u>SB E</u>	Test: <u>SE G</u>	Test: <u>TL G</u>	Test: <u>V E</u>	Test: <u>ZN E</u>
Sample Id	<u>ug/ml</u>	<u>ug/ml</u>	<u>ug/ml</u>	<u>ug/ml</u>	<u>ug/ml</u>
Rinsate Blank 01 W-100488-GN-040	24.0U ug/L	2.4UN ug/L	1.26UN ug/L	3.0U ug/L	8.9B ug/L
OW405 02 W-100488-GN-040	73.1 ug/L	24.2UN ug/L	1.26UWN ug/L	3.0U ug/L	35.6 ug/L

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CORPORATION

RAS - Austin

Results By Test

REPORT

Work Order # 88-10-014

Continued From Above

SAMPLE	Test: <u>SB E</u>	Test: <u>SE G</u>	Test: <u>TL G</u>	Test: <u>V E</u>	Test: <u>ZN E</u>
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	ug/ml
G310 03 W-100488-GN-040	138.0 ug/L	24.2UN ug/L	1.26UWN ug/L	6.78 ug/L	69.4 ug/L
G310 Replicate 04 W-100488-GN-040	110.0 ug/L	24.2UN ug/L	1.26UWN ug/L	4.48 J ug/L	85.4 ug/L
OW407 05 W-100488-GN-040	155.0 ug/L	24.2UN ug/L	1.26UWN ug/L	3.0U ug/L	26.7U ug/L
OW408 06 W-100488-GN-040	104.0 ug/L	24.2UN ug/L	1.26UWN ug/L	3.0U ug/L	12.48U ug/L

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RAS - Austin

REPORT

Work Order # 88-10-014

Results by Sample

SAMPLE ID W-100488-GN-0401 Rinsate Blank FRACTION 01A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/04/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>2.7N</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100488-GN-0402 ow405 FRACTION 02A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/04/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>0.20N</u>	<u>0.2</u>

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RAS - Austin
Results by Sample

Work Order # 88-10-014
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SAMPLE ID W-100488-GN-0402 0W405 FRACTION 02A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/04/88 Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

SAMPLE ID W-100488-GN-0403 G310 FRACTION 03A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/04/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>0.204</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

Received: 10/05/88

CORPORATION

RAS - Austin REPORT
Results by Sample

Work Order # 88-10-014

SAMPLE ID W-100488-GN-0404 G310 Dup. FRACTION 04A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/04/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>0.2DN</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100488-GN-0405 ow407 FRACTION 05A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/04/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>1.8DN</u>	<u>0.2</u>

Received: 10/05/88

CORPORATION

RAS - Austin

REPORT

Results by Sample

Work Order # 88-10-014

Continued From Above

SAMPLE ID W-100488-GN-0405 OW407

FRACTION Q5A

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 10/04/88

Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100488-GN-0406 OW408

FRACTION Q6A

TEST CODE HG C

NAME Mercury, cold vapor

Date & Time Collected 10/04/88

Category _____

VERIFIED RHH

ANALYST KCP

INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>0.204</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

age 10
received: 10/05/88

RAS - Austin
Results by Sample

Work Order # 88-10-014

SAMPLE ID W-100488-GN-0501 Rinsate Blank FRACTION Q8A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/04/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100488-GN-0502 ow405 FRACTION Q9A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/04/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

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RAS - Austin
Results by Sample

REPORT

Work Order # 88-10-014
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SAMPLE ID W-100488-GN-0502 OW405 FRACTION 09A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/04/88 Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100488-GN-0503 G310 FRACTION 10A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/04/88 Category _____

VERIFIED LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

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RAS - Austin REPORT
Results by Sample

Work Order # 88-10-014

SAMPLE ID W-100488-GN-0504 G310 Dup. FRACTION 11A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/04/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100488-GN-0505 OW407 FRACTION 12A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/04/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

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WALSH
CORPORATION

RAS - Austin
Results by Sample

REPORT

Work Order # 88-10-014
Continued From Above

SAMPLE ID W-100488-GN-0505 OW407 FRACTION 12A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/04/88 Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100488-GN-0506 OW408 FRACTION 13A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/04/88 Category _____

VERIFIED LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

Received: 10/05/88

NonReported Work

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

07A : HOLD
14A : HOLD

CASE NARRATIVE

 Laboratory: Radian - Sac

 Case Number: CRA2A

 Client: Conestoga-Rovers and Assoc.

 Report Number: S810021, -023, -035

This data package compiles sample and standard analyses for the following water samples received by Radian on 10-5-88 and 10-6-88

<u>Laboratory I.D.</u>	<u>Client I.D.</u>	<u>Formaster I.D.</u>
S810021-01	W-100588-GN-0210 OW406	588GN0210
S810021-02	W-100588-GN-0110 ↓	588GN0110
S810021-03	W-100588-GN-0310 ↓	588GN0310
S810021-04	W-100588-GN-0211 G305B	588GN0211
S810021-05	W-100588-GN-0111 ↓	588GN0111
S810021-06	W-100588-GN-0311 ↓	588GN0311
S810021-07	W-100588-GN-0212 G305B D.p.	588GN0212
S810021-08	W-100588-GN-0112 ↓	588GN0112
S810021-09	W-100588-GN-0312 ↓	588GN0312
S810023-01	W-100588-GN-0213 OW403	588GN0213
S810023-02	W-100588-GN-0113 ↓	588GN0113
S810023-03	W-100588-GN-0313 ↓	588GN0313
S810023-04	W-100588-GN-0208 Rinse Blank	588GN0208
S810023-05	W-100588-GN-0108 ↓	588GN0108
S810023-06	W-100588-GN-0308 ↓	588GN0308
S810023-07	W-100588-GN-0209 OW411	588GN0209
S810023-08	W-100588-GN-0109 ↓	588GN0109
S810023-09	W-100588-GN-0309 ↓	588GN0309
S810023-10	TB-3	TB-3
S810023-11	TB-5	TB-5
S810035-01	W-100688-GN-0214 G203A	688GN0214 p. 611
S810035-04	W-100688-GN-0314 ↓	688GN0314
S810035-07	W-100688-GN-0114 ↓	688GN0114

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

25
EPA SAMPLE NO.

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002308A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1002308A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ Date Analyzed: 10/11/88

Column: (pack/cap) PACK Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	U
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	4	U
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

588GN0109

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN Case No.: CRA2A

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81002308ASample wt/vol: 25.0 (g/mL) MLLab File ID: 1002308ALevel: (low/med) LOWDate Received: 10/05/88

% Moisture: not dec. _____

Date Analyzed: 10/11/88Column (pack/cap) PACKDilution Factor: 1.00Number TICs found: 1CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-69-4	TRICHLOROFLUOROMETHANE	7.20	2.1	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

588GN0110
OW406

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002102A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1002102A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ Date Analyzed: 10/09/88

Column: (pack/cap) PACK Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3	Chloromethane	2	U
74-83-9	Bromomethane	2	U
75-01-4	Vinyl Chloride	3	
75-00-3	Chloroethane	0.7	J
75-09-2	Methylene Chloride	1	U
67-64-1	Acetone	1	J
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
540-59-0	1,2-Dichloroethene (total)	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	2	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
108-05-4	Vinyl Acetate	2	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Total Xylenes	0.8	J

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

588GN0110

OW406

Lab Name: RADIAN - SAC Contract: _____Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: S81002102ASample wt/vol: 25.0 (g/mL) MLLab File ID: 1002102ALevel: (low/med) LOWDate Received: 10/05/88

% Moisture: not dec. _____

Date Analyzed: 10/09/88Column (pack/cap) PACKDilution Factor: 1.00Number TICs found: 3CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-45-6	METHANE, CHLORODIFLUORO-	1.45	8.3	J
2.	UNKNOWN	9.40	6.3	J
3. 75-69-4	TRICHLORFLUOROMETHANE	6.85	1.1	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. ⁵³

588GN0111

63058

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN

Case No.: CRA2A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81002105A

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: 1002105A

Level: (low/med) LOW

Date Received: 10/05/88

% Moisture: not dec. _____

Date Analyzed: 10/09/88

Column: (pack/cap) PACK

Dilution Factor: 1.00

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

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	1	J
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	1	J
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

588GN0111

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIANCase No.: CRA2A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81002105ASample wt/vol: 25.0 (g/mL) MLLab File ID: 1002105ALevel: (low/med) LOWDate Received: 10/05/88

% Moisture: not dec. _____

Date Analyzed: 10/09/88Column (pack/cap) PACKDilution Factor: 1.00Number TICs found: 1CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-69-4	TRICHLOROFLUOROMETHANE	6.85	0.89	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 0064

Lab Name: RADIAN - SAC

Contract: _____

588GN0112
G305B Dup.

Lab Code: RADIAN Case No.: CRA2A

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81002108A

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: 1002108A

Level: (low/med) LOW

Date Received: 10/05/88

% Moisture: not dec. _____

Date Analyzed: 10/09/88

Column: (pack/cap) PACK

Dilution Factor: 1.00

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

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	1	J
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	1	J
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

65
EPA SAMPLE NO.

588GN0112

Name: RADIAN - SAC Contract: _____
Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: S81002108A
Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1002108A
Level: (low/med) LOW Date Received: 10/05/88
% Moisture: not dec. _____ Date Analyzed: 10/09/88
Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-69-4	TRICHLOROFLUOROMETHANE	6.80	0.94	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

588G⁰⁶N0113 75
04/403

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002302A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1002302A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ Date Analyzed: 10/11/88

Column: (pack/cap) PACK Dilution Factor: 1.00

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

CAS NO. COMPOUND Q

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	6	
75-00-3-----	Chloroethane	16	
75-09-2-----	Methylene Chloride	0.8	J
67-64-1-----	Acetone	3	BU
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	7	
540-59-0-----	1,2-Dichloroethene (total)	26	
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	0.6	J
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	0.3	J
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	0.3	J
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	0.4	J
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

588GN0113 76

Lab Name: RADIAN - SAC Contract: _____
Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____
Matrix: (soil/water) WATER Lab Sample ID: S81002302A
Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1002302A
Level: (low/med) LOW Date Received: 10/05/88
% Moisture: not dec. _____ Date Analyzed: 10/11/88
Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-45-6	METHANE, CHLORODIFLUORO-	1.50	17	J
2.	UNKNOWN	5.00	2.2	J
3. 354-23-4	ETHANE, 1,2-DICHLORO-1,1,2-TR	8.25	4.2	J
4.	UNKNOWN	9.55	2.0	J
5. 108-38-3	BENZENE, 1,3-DIMETHYL-	24.05	1.6	J
6. 75-69-4	TRICHLOROFLUOROMETHANE	7.10	1.5	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

112
EPA SAMPLE NO.

Lab Name: RADIAN - SAC

Contract: _____

688GN0114
G203A

Lab Code: RADIAN Case No.: CRA2A

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81003507A

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: 1003507A

Level: (low/med) LOW

Date Received: 10/06/88

% Moisture: not dec. _____

Date Analyzed: 10/12/88

Column: (pack/cap) PACK

Dilution Factor: 1.00

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

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	
75-00-3-----	Chloroethane	1	J
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	5	U
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	
540-59-0-----	1,2-Dichloroethene (total)	2	
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	5	
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	0.3	J
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

113
EPA SAMPLE NO.

688GN0114

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81003507A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1003507A

Level: (low/med) LOW Date Received: 10/06/88

% Moisture: not dec. _____ Date Analyzed: 10/12/88

Column (pack/cap) PACK Dilution Factor: 1.00

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

Number TICs found: 5

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.55	1.0	J
2.	UNKNOWN	5.05	1.0	J
3.	UNKNOWN	9.55	10	J
4. 1066-40-6	SILANOL, TRIMETHYL-	11.40	2.6	J
5. 75-69-4	TRICHLOROFLUOROMETHANE	7.10	1.3	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

251
EPA SAMPLE NO.

588GN0209
OW411

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN Case No.: CRA2A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81002307A

Sample wt/vol: 2000 (g/mL) ML

Lab File ID: 1002307A

Level: (low/med) LOW

Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/08/88

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 10/11/88

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

Dilution Factor: 0.500

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

108-95-2-----Phenol	3	U
111-44-4-----bis(2-Chloroethyl) Ether	2	U
95-57-8-----2-Chlorophenol	3	U
541-73-1-----1,3-Dichlorobenzene	3	U
106-46-7-----1,4-Dichlorobenzene	3	U
100-51-6-----Benzyl Alcohol	3	U
95-50-1-----1,2-Dichlorobenzene	3	U
95-48-7-----2-Methylphenol	3	U
108-60-1-----bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----4-Methylphenol	3	U
621-64-7-----N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----Hexachloroethane	3	U
98-95-3-----Nitrobenzene	3	U
78-59-1-----Isophorone	3	U
88-75-5-----2-Nitrophenol	3	U
105-67-9-----2,4-Dimethylphenol	3	U
65-85-0-----Benzoic Acid	13	U
111-91-1-----bis(2-Chloroethoxy) Methane	3	U
120-83-2-----2,4-Dichlorophenol	3	U
120-82-1-----1,2,4-Trichlorobenzene	3	U
91-20-3-----Naphthalene	3	U
106-47-8-----4-Chloroaniline	3	U
87-68-3-----Hexachlorobutadiene	3	U
59-50-7-----4-Chloro-3-Methylphenol	3	U
91-57-6-----2-Methylnaphthalene	3	U
77-47-4-----Hexachlorocyclopentadiene	3	U
88-06-2-----2,4,6-Trichlorophenol	3	U
95-95-4-----2,4,5-Trichlorophenol	13	U
91-58-7-----2-Chloronaphthalene	3	U
88-74-4-----2-Nitroaniline	13	U
131-11-3-----Dimethyl Phthalate	3	U
208-96-8-----Acenaphthylene	3	U
606-20-2-----2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

252
EPA SAMPLE NO.

588GN0209

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002307A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1002307A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/08/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	0.3	U
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	3	U
117-84-0-----	Di-n-Octyl Phthalate	1	J
205-99-2-----	Benzo(b) Fluoranthene	3	U
207-08-9-----	Benzo(k) Fluoranthene	3	U
50-32-8-----	Benzo(a) Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd) Pyrene	3	U
53-70-3-----	Dibenz(a,h) Anthracene	3	U
191-24-2-----	Benzo(g,h,i) Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

588GN0209

Lab Name: RADIAN - SAC Contract: _____Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: S81002307ASample wt/vol: 2000 (g/mL) MLLab File ID: 1002307ALevel: (low/med) LOWDate Received: 10/05/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/08/88Extraction: (SepF/Cont/Sonc) CONTDate Analyzed: 10/11/88GPC Cleanup: (Y/N) N pH: _____Dilution Factor: 0.500Number TICs found: 4CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 5989-27-5	D-LIMONENE	9.82	1.8	J
2. 97-78-9	GLYCINE, N-METHYL-N-(1-OXODOD	22.10	1.2	J
3.	UNKNOWN	25.39	4.9	J
4. 28553-12-0	1,2-BENZENEDICARBOXYLIC ACID	30.59	0.62	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

588GN0210
OW406

b Name: RADIAN - SAC

Contract: _____

Lab Code: RADIANCase No.: CRA2A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81002101ASample wt/vol: 2000 (g/mL) MLLab File ID: 1002101ALevel: (low/med) LOWDate Received: 10/05/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/10/88Extraction: (SepF/Cont/Sonc) CONTDate Analyzed: 10/13/88Cleanup: (Y/N) N

pH: _____

Dilution Factor: 0.500

CAS NO.

COMPOUND

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

Q

108-95-2-----	Phenol	3	U
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	3	U
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	3	U
65-85-0-----	Benzoic Acid	13	U
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

272
EPA SAMPLE NO.

588GN0210

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002101A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1002101A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/13/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	0.5	BU
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	2	BU
117-84-0-----	Di-n-Octyl Phthalate	2	J
205-99-2-----	Benzo(b)Fluoranthene	3	U
207-08-9-----	Benzo(k)Fluoranthene	3	U
50-32-8-----	Benzo(a)Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	3	U
53-70-3-----	Dibenz(a,h)Anthracene	3	U
191-24-2-----	Benzo(g,h,i)Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

588GN0210

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002101A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1002101A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/13/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 138-86-3	LIMONENE	9.75	1.8	J
2. 149-57-5	HEXANOIC ACID, 2-ETHYL-	11.15	1.0	J
3. 107-49-3	DIPHOSPHORIC ACID, TETRAETHYL	11.37	2.3	J
4.	UNKNOWN	11.44	1.5	J
5. 112-49-2	2,5,8,11-TETRAOXADODECANE	13.45	4.0	J
6. 98-73-7	BENZOIC ACID, 4-(1,1-DIMETHYL	16.92	0.54	J
7. 112-49-2	2,5,8,11-TETRAOXADODECANE	17.47	1.9	J
8. 143-07-7	DODECANOIC ACID	17.79	2.0	J
9. 88-19-7	BENZENESULFONAMIDE, 2-METHYL-	18.85	0.83	J
10. 544-63-8	TETRADECANOIC ACID	20.24	1.3	J
11.	UNKNOWN	21.52	4.4	J
12. 57-10-3	HEXADECANOIC ACID	22.49	2.3	J
13.	UNKNOWN	24.55	1.0	J
14.	UNKNOWN	25.89	13	J
15. 20324-32-7	2-PROPANOL, 1-(2-METHOXY-1-ME	9.20	2.3	J
16.	UNKNOWN	23.70	2.0	J
17.	UNKNOWN HYDROCARBON	24.35	1.3	J
18.	UNKNOWN ACID	24.55	1.0	J
19. 112-36-7	ETHANE, 1,1-OXYBIS[2-ETHOXY-	12.49	1.8	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
See diluted sample

588GN0211
6305 B

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN

Case No.: CRA2A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81002104A

Sample wt/vol: 2000 (g/mL) ML

Lab File ID: 1002104A

Level: (low/med) LOW

Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 10/13/88

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

Dilution Factor: 0.500

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	3	U
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	3	U
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	3	U
65-85-0-----	Benzoic Acid	13	U
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

588GN0211

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002104A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1002104A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/13/88

☐ Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	2	BU
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	60	BE
117-84-0-----	Di-n-Octyl Phthalate	0.6	JU
205-99-2-----	Benzo(b) Fluoranthene	3	U
207-08-9-----	Benzo(k) Fluoranthene	3	U
50-32-8-----	Benzo(a) Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd) Pyrene	3	U
53-70-3-----	Dibenz(a,h) Anthracene	3	U
191-24-2-----	Benzo(g,h,i) Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

588GN0211

Sample Name: RADIAN - SAC Contract: _____
 Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____
 Matrix: (soil/water) WATER Lab Sample ID: S81002104A
 Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1002104A
 Level: (low/med) LOW Date Received: 10/05/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88
 Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/13/88
 Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

Number TICs found: 6

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 4923-78-8	CYCLOHEXANE, 1-METHYL-2-PROPY	7.98	2.0	J
2. 138-86-3	LIMONENE	9.67	2.0	J
3. 120-40-1	DODECANAMIDE, N, N-BIS(2-HYDRO	17.75	0.61	J
4. 97-78-9	GLYCINE, N-METHYL-N-(1-OXODOD	22.47	0.74	J
5. 117-81-7	BIS(2-ETHYLHEXYL) PHTH. ISOMER	27.84	0.55	J
6.	UNKNOWN	7.30	1.3	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

330
EPA SAMPLE NO.

588GN0211DL

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002104A

Sample wt/vol: 1960 (g/mL) ML Lab File ID: 1002104R

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/14/88

CPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.51

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	8	U
111-44-4-----	bis(2-Chloroethyl) Ether	5	U
95-57-8-----	2-Chlorophenol	8	U
541-73-1-----	1,3-Dichlorobenzene	8	U
106-46-7-----	1,4-Dichlorobenzene	8	U
100-51-6-----	Benzyl Alcohol	8	U
95-50-1-----	1,2-Dichlorobenzene	8	U
95-48-7-----	2-Methylphenol	8	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	8	U
106-44-5-----	4-Methylphenol	8	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	8	U
67-72-1-----	Hexachloroethane	8	U
98-95-3-----	Nitrobenzene	8	U
78-59-1-----	Isophorone	8	U
88-75-5-----	2-Nitrophenol	8	U
105-67-9-----	2,4-Dimethylphenol	8	U
65-85-0-----	Benzoic Acid	39	U
111-91-1-----	bis(2-Chloroethoxy) Methane	8	U
120-83-2-----	2,4-Dichlorophenol	8	U
120-82-1-----	1,2,4-Trichlorobenzene	8	U
91-20-3-----	Naphthalene	8	U
106-47-8-----	4-Chloroaniline	8	U
87-68-3-----	Hexachlorobutadiene	8	U
59-50-7-----	4-Chloro-3-Methylphenol	8	U
91-57-6-----	2-Methylnaphthalene	8	U
77-47-4-----	Hexachlorocyclopentadiene	8	U
88-06-2-----	2,4,6-Trichlorophenol	8	U
95-95-4-----	2,4,5-Trichlorophenol	39	U
91-58-7-----	2-Chloronaphthalene	8	U
88-74-4-----	2-Nitroaniline	39	U
131-11-3-----	Dimethyl Phthalate	8	U
208-96-8-----	Acenaphthylene	8	U
606-20-2-----	2,6-Dinitrotoluene	8	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

331
EPA SAMPLE NO.

588GN0211DL

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002104A

Sample wt/vol: 1960 (g/mL) ML Lab File ID: 1002104R

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/14/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.51

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	39	U
83-32-9-----	Acenaphthene	8	U
51-28-5-----	2,4-Dinitrophenol	39	U
100-02-7-----	4-Nitrophenol	39	U
132-64-9-----	Dibenzofuran	8	U
121-14-2-----	2,4-Dinitrotoluene	8	U
84-66-2-----	Diethylphthalate	8	U
7005-72-3-----	4-Chlorophenyl-phenylether	8	U
86-73-7-----	Fluorene	8	U
100-01-6-----	4-Nitroaniline	39	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	39	U
86-30-6-----	N-Nitrosodiphenylamine	8	U
101-55-3-----	4-Bromophenyl-phenylether	8	U
118-74-1-----	Hexachlorobenzene	8	U
87-86-5-----	Pentachlorophenol	39	U
85-01-8-----	Phenanthrene	8	U
120-12-7-----	Anthracene	8	U
84-74-2-----	Di-n-Butylphthalate	8	U
206-44-0-----	Fluoranthene	8	U
129-00-0-----	Pyrene	8	U
85-68-7-----	Butylbenzylphthalate	8	U
91-94-1-----	3,3'-Dichlorobenzidine	15	U
56-55-3-----	Benzo(a)Anthracene	8	U
218-01-9-----	Chrysene	8	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	94	BD
117-84-0-----	Di-n-Octyl Phthalate	8	U
205-99-2-----	Benzo(b) Fluoranthene	8	U
207-08-9-----	Benzo(k) Fluoranthene	8	U
50-32-8-----	Benzo(a) Pyrene	8	U
193-39-5-----	Indeno(1,2,3-cd) Pyrene	8	U
53-70-3-----	Dibenz(a,h) Anthracene	8	U
191-24-2-----	Benzo(g,h,i) Perylene	8	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

588GN0211DL

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002104A

Sample wt/vol: 1960 (g/mL) ML Lab File ID: 1002104R

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/14/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.51

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 142-62-1	HEXANOIC ACID (DOT)	8.55	9.7	J
2. 138-86-3	LIMONENE	9.69	2.0	J
3. 120-78-5	BENZOTHAZOLE, 2,2'DITHIOBIS-	22.84	2.0	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

34
EPA SAMPLE NO.

588GN0212
6305B Dup.

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002107A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1002107A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/13/88

PC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

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

108-95-2-----Phenol	3	U
111-44-4-----bis(2-Chloroethyl) Ether	2	U
95-57-8-----2-Chlorophenol	3	U
541-73-1-----1,3-Dichlorobenzene	3	U
106-46-7-----1,4-Dichlorobenzene	3	U
100-51-6-----Benzyl Alcohol	3	U
95-50-1-----1,2-Dichlorobenzene	3	U
95-48-7-----2-Methylphenol	3	U
108-60-1-----bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----4-Methylphenol	3	U
621-64-7-----N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----Hexachloroethane	3	U
98-95-3-----Nitrobenzene	3	U
78-59-1-----Isophorone	3	U
88-75-5-----2-Nitrophenol	3	U
105-67-9-----2,4-Dimethylphenol	3	U
65-85-0-----Benzoic Acid	13	U
111-91-1-----bis(2-Chloroethoxy) Methane	3	U
120-83-2-----2,4-Dichlorophenol	3	U
120-82-1-----1,2,4-Trichlorobenzene	3	U
91-20-3-----Naphthalene	3	U
106-47-8-----4-Chloroaniline	3	U
87-68-3-----Hexachlorobutadiene	3	U
59-50-7-----4-Chloro-3-Methylphenol	3	U
91-57-6-----2-Methylnaphthalene	3	U
77-47-4-----Hexachlorocyclopentadiene	3	U
88-06-2-----2,4,6-Trichlorophenol	3	U
95-95-4-----2,4,5-Trichlorophenol	13	U
91-58-7-----2-Chloronaphthalene	3	U
88-74-4-----2-Nitroaniline	13	U
131-11-3-----Dimethyl Phthalate	3	U
208-96-8-----Acenaphthylene	3	U
606-20-2-----2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

588GN0212

G305B Dup

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN Case No.: CRA2A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81002107ASample wt/vol: 2000 (g/mL) MLLab File ID: 1002107ALevel: (low/med) LOWDate Received: 10/05/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/10/88Extraction: (SepF/Cont/Sonc) CONTDate Analyzed: 10/13/88SOP Cleanup: (Y/N) N

pH: _____

Dilution Factor: 0.500

CAS NO.

COMPOUND

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

Q

99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	9	U
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	2	U
117-84-0-----	Di-n-Octyl Phthalate	0.7	J
205-99-2-----	Benzo(b) Fluoranthene	3	U
207-08-9-----	Benzo(k) Fluoranthene	3	U
50-32-8-----	Benzo(a) Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd) Pyrene	3	U
53-70-3-----	Dibenz(a,h) Anthracene	3	U
191-24-2-----	Benzo(g,h,i) Perylene	3	U

(1) - Cannot be separated from Diphenylamine

345

EPA SAMPLE NO.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

588GN0212

G305B Dup

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIANCase No.: CRA2A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81002107ASample wt/vol: 2000 (g/mL) MLLab File ID: 1002107ALevel: (low/med) LOWDate Received: 10/05/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/10/88Extraction: (SepF/Cont/Sonc) CONTDate Analyzed: 10/13/88GPC Cleanup: (Y/N) N pH: _____Dilution Factor: 0.500Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 138-86-3	LIMONENE	9.77	1.5	J
2.	UNKNOWN	11.05	0.33	J
3. 149-57-5	HEXANOIC ACID, 2-ETHYL-	11.14	0.51	J
4. 120-40-1	DODECANAMIDE, N, N-BIS(2-HYDRO	17.75	0.76	J
5. 97-78-9	GLYCINE, N-METHYL-N-(1-OXODOD	20.20	0.56	J
6. 97-78-9	GLYCINE, N-METHYL-N-(OXODODEC	22.45	1.0	J
7.	UNKNOWN	24.50	0.65	J
8.	UNKNOWN	25.81	3.8	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

588GN0213
OW 403

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002301A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1002301A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/08/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

SPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

CONCENTRATION UNITS:

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

108-95-2-----	Phenol	3	U
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	3	U
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	3	U
65-85-0-----	Benzoic Acid	13	U
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

588GN0213

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002301A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1002301A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/08/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

SPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	0.3	BU
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl)Phthalate	2	BU
117-84-0-----	Di-n-Octyl Phthalate	3	J
205-99-2-----	Benzo(b)Fluoranthene	3	U
207-08-9-----	Benzo(k)Fluoranthene	3	U
50-32-8-----	Benzo(a)Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	3	U
53-70-3-----	Dibenz(a,h)Anthracene	3	U
191-24-2-----	Benzo(g,h,i)Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

389
EPA SAMPLE NO.

588GN0213

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81002301A

Sample wt/vol: 2000 (g/mL) ML Lab File ID: 1002301A

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/08/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/11/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.500

Number TICs found: 17 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 95-47-6	BENZENE, 1,2-DIMETHYL-	7.32	0.54	J
2. 142-62-1	HEXANOIC ACID (DOT)	8.75	0.66	J
3.	UNKNOWN	8.99	1.0	C
4. 597-49-9	3-PENTANOL, 3-ETHYL-	9.92	9.2	J
5. 124-19-6	NONANAL	11.10	0.33	J
6. 149-57-5	HEXANOIC ACID, 2-ETHYL-	11.20	0.74	J
7. 124-07-2	OCTANOIC ACID	12.04	0.35	J
8. 28643-57-4	2-BENZIMIDAZOLINONE, 5-METHYL	13.54	0.020	C
9. 4884-24-6	[1,1'-BICYCLOPENTYL]-2-ONE	14.14	0.64	J
10. 6705-89-1	2,2'-BI-1,3-DIOXOLANE	14.44	0.15	J
11.	UNKNOWN	17.44	0.92	J
12. 143-07-7	DODECANOIC ACID	17.62	3.4	J
13. 17312-55-9	DECANE, 3,8-DIMETHYL-	19.32	0.25	C
14. 17312-82-2	UNDECANE, 4,6-DIMETHYL-	21.54	0.30	J
15. 7228-36-6	1,3-BENZODIOXOLE, 5-(1,1-DIME	22.87	0.18	J
16.	UNKNOWN	25.49	4.2	J
17. 30571-71-2	DECANE, 3-BROMO-	27.12	0.59	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

688GN0214
G203A

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81003501A

Sample wt/vol: 1960 (g/mL) ML Lab File ID: 1003501A

Level: (low/med) LOW Date Received: 10/06/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/11/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/14/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.510

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2-----	Phenol	1	J
111-44-4-----	bis(2-Chloroethyl) Ether	2	U
95-57-8-----	2-Chlorophenol	3	U
541-73-1-----	1,3-Dichlorobenzene	3	U
106-46-7-----	1,4-Dichlorobenzene	3	U
100-51-6-----	Benzyl Alcohol	3	U
95-50-1-----	1,2-Dichlorobenzene	3	U
95-48-7-----	2-Methylphenol	3	U
108-60-1-----	bis(2-Chloroisopropyl) Ether	3	U
106-44-5-----	4-Methylphenol	3	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	3	U
67-72-1-----	Hexachloroethane	3	U
98-95-3-----	Nitrobenzene	3	U
78-59-1-----	Isophorone	3	U
88-75-5-----	2-Nitrophenol	3	U
105-67-9-----	2,4-Dimethylphenol	0.4	J
65-85-0-----	Benzoic Acid	2	J
111-91-1-----	bis(2-Chloroethoxy) Methane	3	U
120-83-2-----	2,4-Dichlorophenol	3	U
120-82-1-----	1,2,4-Trichlorobenzene	3	U
91-20-3-----	Naphthalene	3	U
106-47-8-----	4-Chloroaniline	3	U
87-68-3-----	Hexachlorobutadiene	3	U
59-50-7-----	4-Chloro-3-Methylphenol	3	U
91-57-6-----	2-Methylnaphthalene	3	U
77-47-4-----	Hexachlorocyclopentadiene	3	U
88-06-2-----	2,4,6-Trichlorophenol	3	U
95-95-4-----	2,4,5-Trichlorophenol	13	U
91-58-7-----	2-Chloronaphthalene	3	U
88-74-4-----	2-Nitroaniline	13	U
131-11-3-----	Dimethyl Phthalate	3	U
208-96-8-----	Acenaphthylene	3	U
606-20-2-----	2,6-Dinitrotoluene	3	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

688GN0214

Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81003501A

Sample wt/vol: 1960 (g/mL) ML Lab File ID: 1003501A

Level: (low/med) LOW Date Received: 10/06/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/11/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/14/88

Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.510

CONCENTRATION UNITS:

CAS NO.

COMPOUND

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

Q

99-09-2-----	3-Nitroaniline	13	U
83-32-9-----	Acenaphthene	3	U
51-28-5-----	2,4-Dinitrophenol	13	U
100-02-7-----	4-Nitrophenol	13	U
132-64-9-----	Dibenzofuran	3	U
121-14-2-----	2,4-Dinitrotoluene	3	U
84-66-2-----	Diethylphthalate	3	U
7005-72-3-----	4-Chlorophenyl-phenylether	3	U
86-73-7-----	Fluorene	3	U
100-01-6-----	4-Nitroaniline	13	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	13	U
86-30-6-----	N-Nitrosodiphenylamine	3	U
101-55-3-----	4-Bromophenyl-phenylether	3	U
118-74-1-----	Hexachlorobenzene	3	U
87-86-5-----	Pentachlorophenol	13	U
85-01-8-----	Phenanthrene	3	U
120-12-7-----	Anthracene	3	U
84-74-2-----	Di-n-Butylphthalate	3	U
206-44-0-----	Fluoranthene	3	U
129-00-0-----	Pyrene	3	U
85-68-7-----	Butylbenzylphthalate	3	U
91-94-1-----	3,3'-Dichlorobenzidine	5	U
56-55-3-----	Benzo(a)Anthracene	3	U
218-01-9-----	Chrysene	3	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	2	U
117-84-0-----	Di-n-Octyl Phthalate	0.8	J
205-99-2-----	Benzo(b) Fluoranthene	3	U
207-08-9-----	Benzo(k) Fluoranthene	3	U
50-32-8-----	Benzo(a) Pyrene	3	U
193-39-5-----	Indeno(1,2,3-cd) Pyrene	3	U
53-70-3-----	Dibenz(a,h) Anthracene	3	U
191-24-2-----	Benzo(g,h,i) Perylene	3	U

(1) - Cannot be separated from Diphenylamine

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

688GN0214

Lab Name: RADIAN - SAC Contract: _____Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: S81003501ASample wt/vol: 1960 (g/mL) ML Lab File ID: 1003501ALevel: (low/med) LOW Date Received: 10/06/88% Moisture: not dec. _____ dec. _____ Date Extracted: 10/11/88Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/14/88SOP Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.510Number TICs found: 19CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 20324-33-8	2-PROPANOL, 1-[2-(2-METHOXY-1	14.09	22	J
2. 57-10-3	HEXADECANOIC ACID	22.45	16	J
3.	UNKNOWN	25.89	15	J
4. 59410-98-9	1-NONENE, 4,6,8-TRIMETHYL-	24.54	9.9	J
5. 2238-07-5	OXIRANE, 2,2'-[OXYBIS(METHYLE	10.77	19	J
6. 74685-36-2	OXACYCLOTETRADECANE-2,11-DIO	24.34	4.9	J
7. 20324-32-7	2-PROPANOL, 1-(2-METHOXY-1-ME	9.00	11	J
8. 80-34-7	BENZENESULFONAMIDE, N-ETHYL-4	19.22	2.0	J
9. 111-90-0	ETHANOL, 2-(2-ETHOXYETHOXY)-	11.20	3.1	J
10. 143-07-7	DODECANOIC ACID	17.74	3.9	J
11.	UNKNOWN HYDROCARBON	22.27	3.9	J
12. 98-83-9	BENZENE, (1-METHYLETHENYL)-	8.69	6.0	J
13. 54063-18-2	ETHENE, (2-ETHOXY-1-METHOXYET	13.35	3.1	J
14.	UNKNOWN	14.30	1.7	J
15. 544-63-8	TETRADECANOIC ACID	20.19	3.1	J
16. 111-76-2	ETHANOL, 2-BUTOXY-	15.22	3.1	J
17.	UNKNOWN	9.57	3.3	J
18. 20324-33-8	2-PROPANOL, [2-(2-METHOXY-1-M	14.02	4.9	J
19. 20324-33-8	2-PROPANOL, [2-(2-METHOXY-1-M	14.14	4.4	J

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

629
EPA SAMPLE NO.

588GN0309
00411

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN Case No.: CRA2A

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 7-1-81018-43

Sample wt/vol: 2000 (g/mL) ML

Lab File ID: _____

Level: (low/med) LOW

Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/08/88

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 10/19/88

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

Dilution Factor: 0.800

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

CAS NO.

COMPOUND

319-84-6-----	alpha-BHC	0.020	U
319-85-7-----	beta-BHC	0.075	
319-86-8-----	delta-BHC	0.010	U
58-89-9-----	gamma-BHC (Lindane)	0.054	
76-44-8-----	Heptachlor	0.060	U
309-00-2-----	Aldrin	0.020	U
1024-57-3-----	Heptachlor epoxide	0.020	U
959-98-8-----	Endosulfan I	0.020	U
60-57-1-----	Dieldrin	0.014	J
72-55-9-----	4,4'-DDE	0.040	U
72-20-8-----	Endrin	0.040	U
33213-65-9-----	Endosulfan II	0.040	U
72-54-8-----	4,4'-DDD	0.040	U
1031-07-8-----	Endosulfan sulfate	0.040	U
50-29-3-----	4,4'-DDT	0.040	U
72-43-5-----	Methoxychlor	0.20	U
53494-70-5-----	Endrin ketone	0.040	U
5103-71-9-----	alpha-Chlordane	0.20	U
5103-74-2-----	gamma-Chlordane	0.20	U
8001-35-2-----	Toxaphene	0.40	U
12674-11-2-----	Aroclor-1016	0.20	U
11104-28-2-----	Aroclor-1221	0.20	U
11141-16-5-----	Aroclor-1232	0.20	U
53469-21-9-----	Aroclor-1242	0.20	U
12672-29-6-----	Aroclor-1248	0.20	U
11097-69-1-----	Aroclor-1254	0.40	U
11096-82-5-----	Aroclor-1260	0.40	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

632
EPA SAMPLE NO.

588GN0310
0W406

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 7-1-81018-49

Sample wt/vol: 2000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/19/88

SPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 4.00

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

CAS NO. COMPOUND Q

319-84-6-----	alpha-BHC	0.10	U
319-85-7-----	beta-BHC	0.050	U
319-86-8-----	delta-BHC	0.050	U
58-89-9-----	gamma-BHC (Lindane)	0.050	U
76-44-8-----	Heptachlor	0.30	U
309-00-2-----	Aldrin	0.10	U
1024-57-3-----	Heptachlor epoxide	0.10	U
959-98-8-----	Endosulfan I	0.10	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.20	U
72-20-8-----	Endrin	0.0058	J
33213-65-9-----	Endosulfan II	0.20	U
72-54-8-----	4,4'-DDD	0.20	U
1031-07-8-----	Endosulfan sulfate	0.20	U
50-29-3-----	4,4'-DDT	0.20	U
72-43-5-----	Methoxychlor	1.0	U
53494-70-5-----	Endrin ketone	0.20	U
5103-71-9-----	alpha-Chlordane	1.0	U
5103-74-2-----	gamma-Chlordane	1.0	U
8001-35-2-----	Toxaphene	2.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	1.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	2.0	U
11096-82-5-----	Aroclor-1260	2.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

635
EPA SAMPLE NO.

588GN0311
6305 B

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 7-1-81018-31

Sample wt/vol: 2000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/10/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/19/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.400

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.010	U
319-85-7	beta-BHC	0.0050	U
319-86-8	delta-BHC	0.0050	U
58-89-9	gamma-BHC (Lindane)	0.0050	U
76-44-8	Heptachlor	0.030	U
309-00-2	Aldrin	0.010	U
1024-57-3	Heptachlor epoxide	0.010	U
959-98-8	Endosulfan I	0.010	U
60-57-1	Dieldrin	0.010	U
72-55-9	4,4'-DDE	0.020	U
72-20-8	Endrin	0.020	U
33213-65-9	Endosulfan II	0.020	U
72-54-8	4,4'-DDD	0.020	U
1031-07-8	Endosulfan sulfate	0.020	U
50-29-3	4,4'-DDT	0.020	U
72-43-5	Methoxychlor	0.10	U
53494-70-5	Endrin ketone	0.020	U
5103-71-9	alpha-Chlordane	0.10	U
5103-74-2	gamma-Chlordane	0.10	U
8001-35-2	Toxaphene	0.20	U
12674-11-2	Aroclor-1016	0.10	U
11104-28-2	Aroclor-1221	0.10	U
11141-16-5	Aroclor-1232	0.10	U
53469-21-9	Aroclor-1242	0.10	U
12672-29-6	Aroclor-1248	0.10	U
11097-69-1	Aroclor-1254	0.20	U
11096-82-5	Aroclor-1260	0.20	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: RADIAN - SAC

Contract: _____

588GN0312
G305B Duplicate

Lab Code: RADIAN Case No.: CRA2A

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 7-1-81018-32Sample wt/vol: 1970 (g/mL) ML

Lab File ID: _____

Level: (low/med) LOWDate Received: 10/05/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/10/88Extraction: (SepF/Cont/Sonc) CONTDate Analyzed: 10/19/88GPC Cleanup: (Y/N) N pH: _____Dilution Factor: 0.400

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6-----	alpha-BHC	0.010	U
319-85-7-----	beta-BHC	0.0051	U
319-86-8-----	delta-BHC	0.0051	U
58-89-9-----	gamma-BHC (Lindane)	0.0051	U
76-44-8-----	Heptachlor	0.030	U
309-00-2-----	Aldrin	0.010	U
1024-57-3-----	Heptachlor epoxide	0.010	U
959-98-8-----	Endosulfan I	0.010	U
60-57-1-----	Dieldrin	0.010	U
72-55-9-----	4,4'-DDE	0.020	U
72-20-8-----	Endrin	0.020	U
33213-65-9-----	Endosulfan II	0.020	U
72-54-8-----	4,4'-DDD	0.020	U
1031-07-8-----	Endosulfan sulfate	0.020	U
50-29-3-----	4,4'-DDT	0.020	U
72-43-5-----	Methoxychlor	0.10	U
53494-70-5-----	Endrin ketone	0.020	U
5103-71-9-----	alpha-Chlordane	0.10	U
5103-74-2-----	gamma-Chlordane	0.10	U
8001-35-2-----	Toxaphene	0.20	U
12674-11-2-----	Aroclor-1016	0.10	U
11104-28-2-----	Aroclor-1221	0.10	U
11141-16-5-----	Aroclor-1232	0.10	U
53469-21-9-----	Aroclor-1242	0.10	U
12672-29-6-----	Aroclor-1248	0.10	U
11097-69-1-----	Aroclor-1254	0.20	U
11096-82-5-----	Aroclor-1260	0.20	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

641
EPA SAMPLE NO.
See diluted sample
588GN0313
OW403

b Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA2A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 7-1-81018-35

Sample wt/vol: 2000 (g/mL) ML Lab File ID: _____

Level: (low/med) LOW Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 10/08/88

Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/19/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.25	U
319-85-7	beta-BHC	0.13	U
319-86-8	delta-BHC	0.13	U
58-89-9	gamma-BHC (Lindane)	0.13	U
76-44-8	Heptachlor	0.75	U
309-00-2	Aldrin	0.25	U
1024-57-3	Heptachlor epoxide	0.25	U
959-98-8	Endosulfan I	0.25	U
60-57-1	Dieldrin	0.25	U
72-55-9	4,4'-DDE	0.50	U
72-20-8	Endrin	0.022	J
33213-65-9	Endosulfan II	0.50	U
72-54-8	4,4'-DDD	0.50	U
1031-07-8	Endosulfan sulfate	0.50	U
50-29-3	4,4'-DDT	0.50	U
72-43-5	Methoxychlor	2.5	U
53494-70-5	Endrin ketone	0.50	U
5103-71-9	alpha-Chlordane	2.5	U
5103-74-2	gamma-Chlordane	2.5	U
8001-35-2	Toxaphene	5.0	U
12674-11-2	Aroclor-1016	2.5	U
11104-28-2	Aroclor-1221	2.5	U
11141-16-5	Aroclor-1232	2.5	U
53469-21-9	Aroclor-1242	2.5	U
12672-29-6	Aroclor-1248	2.5	U
11097-69-1	Aroclor-1254	5.0	U
11096-82-5	Aroclor-1260	5.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

644
EPA SAMPLE NO.

Lab Name: RADIAN - SAC

Contract: _____

588GN0313DL
ow 403

Lab Code: RADIAN Case No.: CRA2A

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: 7-1-81018-51

Sample wt/vol: 2000 (g/mL) ML

Lab File ID: _____

Level: (low/med) LOW

Date Received: 10/05/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/08/88

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 10/19/88

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

Dilution Factor: 40.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
---------	----------	---	---

319-84-6-----	alpha-BHC	1.0	U
319-85-7-----	beta-BHC	0.50	U
319-86-8-----	delta-BHC	0.50	U
58-89-9-----	gamma-BHC (Lindane)	0.50	U
76-44-8-----	Heptachlor	3.0	U
309-00-2-----	Aldrin	1.0	U
1024-57-3-----	Heptachlor epoxide	1.0	U
959-98-8-----	Endosulfan I	1.0	U
60-57-1-----	Dieldrin	1.0	U
72-55-9-----	4,4'-DDE	2.0	U
72-20-8-----	Endrin	2.0	U
33213-65-9-----	Endosulfan II	2.0	U
72-54-8-----	4,4'-DDD	2.0	U
1031-07-8-----	Endosulfan sulfate	2.0	U
50-29-3-----	4,4'-DDT	2.0	U
72-43-5-----	Methoxychlor	10	U
53494-70-5-----	Endrin ketone	2.0	U
5103-71-9-----	alpha-Chlordane	10	U
5103-74-2-----	gamma-Chlordane	10	U
8001-35-2-----	Toxaphene	20	U
12674-11-2-----	Aroclor-1016	10	U
11104-28-2-----	Aroclor-1221	10	U
11141-16-5-----	Aroclor-1232	10	U
53469-21-9-----	Aroclor-1242	10	U
12672-29-6-----	Aroclor-1248	10	U
11097-69-1-----	Aroclor-1254	20	U
11096-82-5-----	Aroclor-1260	20	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

688GN0314

G203A

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN Case No.: CRA2A

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: 7-1-81018-44Sample wt/vol: 1970 (g/mL) ML

Lab File ID: _____

Level: (low/med) LOWDate Received: 10/06/88

% Moisture: not dec. _____ dec. _____

Date Extracted: 10/11/88Extraction: (SepF/Cont/Sonc) CONTDate Analyzed: 10/19/88SOP Cleanup: (Y/N) N pH: _____Dilution Factor: 4.00

CONCENTRATION UNITS:

CAS NO.

COMPOUND

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

Q

319-84-6-----	alpha-BHC	0.10	U
319-85-7-----	beta-BHC	0.051	U
319-86-8-----	delta-BHC	0.051	U
58-89-9-----	gamma-BHC (Lindane)	0.051	U
76-44-8-----	Heptachlor	0.30	U
309-00-2-----	Aldrin	0.10	U
1024-57-3-----	Heptachlor epoxide	0.10	U
959-98-8-----	Endosulfan I	0.10	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.20	U
72-20-8-----	Endrin	0.20	U
33213-65-9-----	Endosulfan II	0.20	U
72-54-8-----	4,4'-DDD	0.20	U
1031-07-8-----	Endosulfan sulfate	0.20	U
50-29-3-----	4,4'-DDT	0.20	U
72-43-5-----	Methoxychlor	1.0	U
53494-70-5-----	Endrin ketone	0.20	U
5103-71-9-----	alpha-Chlordane	1.0	U
5103-74-2-----	gamma-Chlordane	1.0	U
8001-35-2-----	Toxaphene	2.0	U
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	1.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	2.0	U
11096-82-5-----	Aroclor-1260	2.0	U



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RAS - Austin REPORT
Results By Test

Work Order # 88-10-020

SAMPLE	Test: AG E	Test: AL E	Test: AS G	Test: BA E	Test: BE E
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	ug/ml
Rinsate Blank 01	3.0U	54.2B	1.7U	3.0U	1.0U
W-100588-GN-040	ug/L	ug/L	ug/L	ug/L	ug/L
OW411 02	3.0U	477.0	2.0BJ	53.3BJ	1.0U
W-100588-GN-040	ug/L	ug/L	ug/L	ug/L	ug/L
OW406 03	3.0U	293.0	3.4BJ	150.0BJ	1.0U
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L
G305B 04	30.U	343.0	1.8BJ	58.1BJ	1.0U
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L
G305B Duplicate 05	3.0U	311.0	1.7U	57.0BJ	1.0U
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L
OW403 06	3.0U	179.0BJ	3.4BJ	90.3BJ	1.0U
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L

SAMPLE	Test: CA E	Test: CD G	Test: CL IC	Test: CN DIS	Test: CO E
Sample Id	ug/ml	ug/ml	mg/L	date complete	ug/ml
Rinsate Blank 01	1710.0B	0.690W			3.0U
W-100588-GN-040	ug/L	ug/L			ug/L
OW411 02	88600.0	0.690W			3.0U
W-100588-GN-040	ug/L	ug/L			ug/L
OW406 03	150000.0	0.690W			3.0U
W-100588-GN-041	ug/L	ug/L			ug/L
G305B 04	112000.0	0.690W			3.0U
W-100588-GN-041	ug/L	ug/L			ug/L
G305B Duplicate 05	109000.0	0.690W			3.0U
W-100588-GN-041	ug/L	ug/L			ug/L
OW403 06	151000.0	1.47BWJ			5.2BJ
W-100588-GN-041	ug/L	ug/L			ug/L

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CORPORATION

RAS - Austin

REPORT

Results By Test

Work Order # 88-10-020

Continued From Above

SAMPLE	Test: CA E	Test: CD G	Test: CL IC	Test: CN DIS	Test: CO E
Sample Id	ug/ml	ug/ml	mg/L	date complete	ug/ml
Rinsate Blank 07 W-100588-GN-050				10/11/88	
OW411 08 W-100588-GN-050				10/11/88	
OW406 09 W-100588-GN-051				10/11/88	
G305B 10 W-100588-GN-051				10/11/88	
G305B Duplicate 11 W-100588-GN-051				10/11/88	
OW403 12 W-100588-GN-051				10/11/88	
Rinsate Blank 13 W-100588-GN-030			0.9*		
OW411 14 W-100588-GN-030			260		
OW406 15 W-100588-GN-031			440		
G305B 16 W-100588-GN-031			29		
G305B Duplicate 17 W-100588-GN-031			29		
OW403 18 W-100588-GN-031			46		
Rinsate Blank 19 W-100488-GN-030			<0.5		
OW405 20 W-100488-GN-030			13		

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RAS - Austin
Results By Test

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Work Order # 88-10-020
Continued From Above

SAMPLE	Test: CA E	Test: CD G	Test: CL IC	Test: CN DIS	Test: CO E
Sample Id	ug/ml	ug/ml	mg/L	date complete	ug/ml
G310 21 W-100488-GN-030			860		
G310 Duplicate 22 W-100488-GN-030			87		
OW407 23 W-100488-GN-030			640		
OW408 24 W-100488-GN-030			1300		

SAMPLE	Test: CR E	Test: CU E	Test: DG3020	Test: DG6010	Test: FE E
Sample Id	ug/ml	ug/ml	date complete	date complete	ug/ml
Rinsate Blank 01 W-100588-GN-040	3.00 ug/L	7.9B ug/L	10/11/88	10/17/88	26.6B ug/L
OW411 02 W-100588-GN-040	15.9 ug/L	7.0B J ug/L	10/11/88	10/17/88	2390.0 ug/L
OW406 03 W-100588-GN-041	41.3 ug/L	6.1B J ug/L	10/11/88	10/17/88	10900.0 ug/L
G305B 04 W-100588-GN-041	7.7B J ug/L	5.5B J ug/L	10/11/88	10/17/88	3000.0 ug/L
G305B Duplicate 05 W-100588-GN-041	6.3B J ug/L	4.4B J ug/L	10/11/88	10/17/88	2880.0 ug/L
OW403 06 W-100588-GN-041	26.2 ug/L	3.00 ug/L	10/11/88	10/17/88	14800.0 ug/L

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RAS - Austin REPORT
Results By Test

Work Order # 88-10-020

SAMPLE	Test: K E	Test: MG E	Test: MN E	Test: NA E	Test: NI E
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	ug/ml
Rinsate Blank 01	568.0B	107.0B	1.2B	2360.0B	6.0U
W-100588-GN-040	ug/L	ug/L	ug/L	ug/L	ug/L
OW411 02	6320.0	38500.0	181.0	13300.0	10.8BJ
W-100588-GN-040	ug/L	ug/L	ug/L	ug/L	ug/L
OW406 03	7480.0	86700.0	90.6	232000.0	39.8BJ
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L
G305B 04	2030.0BJ	51100.0	83.3	11900.0	6.0U
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L
G305B duplicate 05	1820.0BJ	51000.0	78.4	11900.0	7.5BJ
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L
OW403 06	7470.0	56700.0	992.0	18900.0	17.1BJ
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L

SAMPLE	Test: PB G	Test: SB E	Test: SE G	Test: TL G	Test: V E
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	ug/ml
Rinsate Blank 01	2.8BW	24.0U	2.4UN	1.26UN	3.0U
W-100588-GN-040	ug/L	ug/L	ug/L	ug/L	ug/L
OW411 02	1.8U	36.6BJ	2.4UWN	1.26UWN	3.0U
W-100588-GN-040	ug/L	ug/L	ug/L	ug/L	ug/L
OW406 03	1.8U	107.0	24.2UWN	1.26UWN	3.0U
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L
G305B 04	1.8UW	95.6	24.2UWN	1.26UW	3.0U
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L
G305 duplicate 05	2.3BW	38.0BJ	24.2UWN	1.26UW	3.0U
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L
OW403 06	1.9BJ	104.0	24.2UWN	1.26UW	3.0U
W-100588-GN-041	ug/L	ug/L	ug/L	ug/L	ug/L

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Results By Test

SAMPLE		Test: ZN E
Sample Id		ug/ml
Rinsate Blank 01		9.88
W-100588-GN-040		ug/L
OW 411 02		16.08 U
W-100588-GN-040		ug/L
OW 406 03		24.9
W-100588-GN-041		ug/L
G 305 B 04		3.68 U
W-100588-GN-041		ug/L
G 305 B duplicate 05		8.08
W-100588-GN-041		ug/L
OW 403 06		10.78 U
W-100588-GN-041		ug/L

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RAS - Austin REPORT
Results by Sample

Work Order # 88-10-020

SAMPLE ID W-100588-GN-0408 Binsale Blank FRACTION 01A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/05/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>0.2UN</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100588-GN-0409 ow411 FRACTION 02A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/05/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>2.4X</u>	<u>0.2</u>

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RAS - Austin
Results by Sample

Work Order # 88-10-020
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SAMPLE ID W-100588-GN-0409 ow411 FRACTION 02A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/05/88 Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

SAMPLE ID W-100588-GN-0410 ow406 FRACTION 03A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/05/88 Category _____

VERIFIED RRH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>3.6</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.
DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

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RAS - Austin REPORT
Results by Sample

Work Order # 88-10-020

SAMPLE ID W-100588-GN-0411 G305 B FRACTION 04A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/05/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>0.204</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100588-GN-0412 G305 B Pop. FRACTION 05A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/05/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>2.304</u>	<u>0.2</u>

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 **CORPORATION**

RAS - Austin
Results by Sample

REPORT

Work Order # 88-10-020
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SAMPLE ID W-100588-GN-0412 G305B af. FRACTION 05A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/05/88 Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100588-GN-0413 OW403 FRACTION 06A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/05/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88

UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>1.34</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

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CORPORATION

RAS - Austin REPORT
Results by Sample

Work Order # 88-10-020

SAMPLE ID W-100588-GN-0508 Rinsate Blank FRACTION 07A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/05/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100588-GN-0507 ow411 FRACTION 08A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/05/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

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RAS - Austin
Results by Sample

Work Order # 88-10-020
Continued From Above

SAMPLE ID W-100588-GN-0509 OW411 FRACTION 08A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/05/88 Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

SAMPLE ID W-100588-GN-0510 OW406 FRACTION 09A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/05/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT
ND = not detected at detection limit
NA = not analyzed
* = less than 5 times the detection limit
N/A = not available

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RAS - Austin REPORT
Results by Sample

Work Order # 88-10-020

SAMPLE ID W-100588-GN-0511G305B FRACTION 10A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/05/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.0U 10

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100588-GN-0512G305B Dep. FRACTION 11A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/05/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.0U 10

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RAS - Austin REPORT
Results by Sample

Work Order # 88-10-020
Continued From Above

SAMPLE ID W-100588-GN-0512 G305B Dup. FRACTION 11A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/05/88 Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100588-GN-0513 OW403 FRACTION 12A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/05/88 Category _____

VERIFIED LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

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RAS - Austin

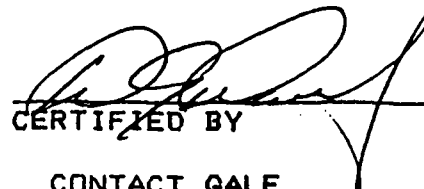
REPORT

Work Order # 88-10-028

01/11/89 15:33:02

REPORT Conestoga-Rovers and Assoc.
TO 651 Colby Dr.
Waterloo, Ontario N2V 1C2
Canada
ATTEN Bruce Clegg

PREPARED Radian Analytical Services
BY 8501 Mo-pac Bl.
PQ Box 201088
Austin, TX 78720-1088
ATTEN _____
PHONE 512-454-4797


CERTIFIED BY
CONTACT GALE

CLIENT CRA SAMPLES 14
COMPANY Conestoga-Rovers and Assoc.
FACILITY _____

WORK ID Wauconda
TAKEN GN
TRANS Fed Ex
TYPE _____
P.O. # _____
INV. # 12496

See QC report for explanation of footnotes.

Duplicate of report of 11/30/88.
Previously Reported on 11/07/88.
Footnotes and Comments

* Indicates a value less than 5 times the detection limit.
Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the
specific matrix was not within acceptable limits indicating
an interferent present.

SAMPLE IDENTIFICATION

01 W-100688-GC-0414
02 W-100688-GC-0414 MS
03 W-100688-GC-0414 MSD
04 W-100688-GC-0514
05 W-100688-GC-0514 MS
06 W-100688-GC-0514 MSD
07 W-100688-GC-0614
08 W-100688-GC-0614 MS
09 W-100688-GC-0614 MSD
10 W-100688-GC-0615
11 W-100688-GC-0616
12 W-100688-GC-0617
13 W-100688-GC-0618
14 W-100688-GC-0619

TEST CODES and NAMES used on this report

AG E	Silver, ICPEs	K E	Potassium, ICPEs
AL E	Aluminum, ICPEs	MG E	Magnesium, ICPEs
AS G	Arsenic, graphite AA	MN E	Manganese, ICPEs
BA E	Barium, ICPEs	NA E	Sodium, ICPEs
BE E	Berillium, ICPEs	NI E	Nickel, ICPEs
CA E	Calcium, ICPEs	PB G	Lead, graphite AA
CD G	Cadmium, graphite AA	SB E	Antimony, ICPEs
CL IC	Chloride, IC	SE G	Selenium, graphite AA
CN DIS	Cyanide distillation	TL G	Thallium, graphite AA
CN TOT	Total cyanide	VE	Vanadium, ICPEs
CO E	Cobalt, ICPEs	ZN E	Zinc, ICPEs
CR E	Chromium, ICPEs		
CU E	Copper, ICPEs		
DG3020	Digestion, method 3020		
DG6010	Digestion, method 6010		
FE E	Iron, ICPEs		
HG C	Mercury, cold vapor		

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RAS - Austin REPORT
Results By Test

Work Order # 88-10-028

SAMPLE	Test: AG E	Test: AL E	Test: AS G	Test: BA E	Test: BE E
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	ug/ml
G203A 01 W-100688-GC-041	3.00 ug/L	993.0 ug/L	9.30 ug/L	514.0 ug/L	1.00 ug/L
G203A MS 02 W-100688-GC-041	115.0 % recovery	95.4 % recovery	83.5 % recovery	93.3 % recovery	101.2 % recovery
G203A MSD 03 W-100688-GC-041	115.4 % recovery	86.8 % recovery	81.5 % recovery	106.9 % recovery	101.2 % recovery

SAMPLE	Test: CA E	Test: CD G	Test: CL IC	Test: CN DIS	Test: CO E
Sample Id	ug/ml	ug/ml	mg/L	date complete	ug/ml
G203A 01 W-100688-GC-041	95100.0 ug/L	54.6NR ug/L			8.00J ug/L
G203A MS 02 W-100688-GC-041	NA % recovery	0 % recovery			78.8 % recovery
G203A MSD 03 W-100688-GC-041	NA % recovery	0 % recovery			78.8 % recovery
G203A 04 W-100688-GC-051				10/11/88	
G203A MS 05 W-100688-GC-051				10/11/88	
G203A MSD 06 W-100688-GC-051				10/11/88	
G203A 07 W-100688-GC-061			16000		
G203A MS 08 W-100688-GC-061			90 % recovery		
G203A MSD 09 W-100688-GC-061			90 % recovery		

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RAS - Austin
REPORT
Results By Test

Work Order # 88-10-028
Continued From Above

SAMPLE	Test: CA E	Test: CD G	Test: CL IC	Test: CN DIS	Test: CO E
Sample Id	ug/ml	ug/ml	mg/L	date complete	ug/ml
28995 N. Garland 10 W-100688-GC-061			8.1		
28955 N. Garland 11 W-100688-GC-061			14		
2894 Wade St. 12 W-100688-GC-061			120		
29010 Wade St. 13 W-100688-GC-061			1.3*		
29010 Wade St. 14 Duplicate W-100688-GC-061			1.6*		

SAMPLE	Test: CR E	Test: CU E	Test: DG3020	Test: DG6010	Test: FE E
Sample Id	ug/ml	ug/ml	date complete	date complete	ug/ml
G203A 01 W-100688-GC-041	6.38J ug/L	13.48J ug/L	10/11/88	10/17/88	23900.0 ug/L
G203A MS 02 W-100688-GC-041	96.8 % recovery	93.0 % recovery	10/11/88	10/17/88	90.0 % recovery
G203A MSD 03 W-100688-GC-041	97.4 % recovery	91.4 % recovery	10/11/88	10/17/88	0 % recovery

SAMPLE	Test: K E	Test: MG E	Test: MN E	Test: NA E	Test: NI E
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	ug/ml
G203A 01 W-100688-GC-041	60300.0 ug/L	57900.0 ug/L	52.3 ug/L	886000.0 ug/L	46.4 ug/L

SAMPLE	Test: K E	Test: MG E	Test: MN E	Test: NA E	Test: NI E
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	ug/ml
G203A MS 02 W-100688-GC-041	NA % recovery	NA % recovery	94.1 % recovery	NA % recovery	95.3 % recovery
G203A MSD 03 W-100688-GC-041	NA % recovery	NA % recovery	93.1 % recovery	NA % recovery	94.7 % recovery

SAMPLE	Test: PB G	Test: SB E	Test: SE G	Test: TL G	Test: V E
Sample Id	ug/ml	ug/ml	ug/ml	ug/ml	ug/ml
G203A 01 W-100688-GC-041	340.0 ug/L	81.6 ug/L	24.20 ug/L	1.26 ug/L	3.00 ug/L
G203 MS 02 W-100688-GC-041	85.0 % recovery	105.1 % recovery	23.0 % recovery	77.8 % recovery	98.0 % recovery
G203A MSD 03 W-100688-GC-041	0 % recovery	106.9 % recovery	23.0 % recovery	74.4 % recovery	98.2 % recovery

SAMPLE	Test: ZN E
Sample Id	ug/ml
G203A 01 W-100688-GC-041	15600.0 ug/L
G203A MS 02 W-100688-GC-041	260.0 % recovery
G203A MSD 03 W-100688-GC-041	0 % recovery

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RAS - Austin REPORT
Results by Sample

Work Order # 88-10-028

SAMPLE ID W-100688-GC-0414 G263A FRACTION 01A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/06/88 Category _____

VERIFIED RHHANALYST KCP
INSTRMT 403ANALYZED 10/18/88UNITS ug/L

ANALYTE	RESULT	DET LIMIT
Mercury	<u>4.4NR</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100688-GC-0414 MS G203A-MS FRACTION 02A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/06/88 Category _____

VERIFIED RHHANALYST KCP
INSTRMT 403ANALYZED 10/18/88UNITS % recov

ANALYTE	RESULT	DET LIMIT
Mercury	<u>0</u>	<u>0.2</u>

Received: 10/07/88

RAS - Austin

REPORT

Work Order # 88-10-028

Results by Sample

Continued From Above

SAMPLE ID W-100688-GC-0414 MSG203A MS FRACTION 02A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/06/88 Category _____

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100688-GC-0414 MSDG203A MSD FRACTION 03A TEST CODE HG C NAME Mercury, cold vapor
Date & Time Collected 10/06/88 Category _____

VERIFIED RHH

ANALYST KCP
INSTRMT 403

ANALYZED 10/18/88UNITS % recov

ANALYTE	RESULT	DET LIMIT
Mercury	<u>0</u>	<u>0.2</u>

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit.

N/A = not available

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RAS - Austin REPORT
Results by Sample

Work Order # 88-10-028

SAMPLE ID W-100688-GC-0514 G203A FRACTION 04A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/06/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS ug/L

ANALYTE RESULT DET LIMIT

Total Cyanide 10.00 10

NOTES AND DEFINITIONS FOR THIS REPORT.

DET LIMIT = DETECTION LIMIT

ND = not detected at detection limit

NA = not analyzed

* = less than 5 times the detection limit

N/A = not available

SAMPLE ID W-100688-GC-0514 MSG203A MS FRACTION 05A TEST CODE CN TOT NAME Total cyanide
Date & Time Collected 10/06/88 Category _____

VERIFIED _____ LM

ANALYST MJS
INSTRMT TECH 2

ANALYZED 10/12/88

UNITS % recov

ANALYTE RESULT DET LIMIT

Total Cyanide 98.9 10

CASE NARRATIVE

Laboratory: Radian - Sac

Case Number: CRA3A

Client: Conestoga-Rovers and Assoc.

Report Number: S810036

This data package compiles sample and standard analyses for the following water samples received by Radian on 10-6-88:

<u>Laboratory I.D.</u>	<u>Client I.D.</u>	<u>Formaster I.D.</u>
S810036-01	W-100688-GN-0115 28785 N.	688GN0115
S810036-02	W-100688-GN-0116 28355 N. Garland	688GN0116
S810036-03	W-100688-GN-0117 28954 N. Garland	688GN0117
S810036-04	W-100688-GN-0118 29019 Wade	688GN0118
S810036-05	W-100688-GN-0119 29010 Wade	688GN0119
S810036-06	TRIP BLANK	TRIP BLANK

Clarifications regarding these analyses are as follows:

1. In some cases, there will be a slight difference between the results found on the quantitation report and the results found on Form I. This difference is due to the fact that the Formaster program rounds the values before the calculation of the final results to two significant figures, whereas the GC/MS data system rounds the final results after all the calculations are made.
2. (VOA Analyses): Trichlorofluoromethane is included in the calibration standard and is quantitated with the priority pollutants. This compound is reported on Form IE as a "Tentatively Identified Compound" since it is not on the EPA-CLP target compound list.
3. The "X" qualifier which appears on Form I for some of the samples indicates that a change was made to the data in the original LIMS file.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

7
EPA SAMPLE NO.

Name: RADIAN - SAC

Contract: _____

688GN0115
28985 N. Garland

b Code: RADIAN

Case No.: CRA3A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81003601A

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: 1003601A

Level: (low/med) LOW

Date Received: 10/06/88

Moisture: not dec. _____

Date Analyzed: 10/11/88

Column: (pack/cap) PACK

Dilution Factor: 1.00

CAS NO.

COMPOUND

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

Q

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	U
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	4	DX U
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. ⁸

688GN0115

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA3A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81003601A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1003601A

Level: (low/med) LOW Date Received: 10/06/88

% Moisture: not dec. _____ Date Analyzed: 10/11/88

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-69-4	TRICHLOROFLUOROMETHANE	7.10	0.73	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

688GN0116

23855 N. Garland

Name: RADIAN - SAC Contract: _____b Code: RADIAN Case No.: CRA3A SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: S81003602ASample wt/vol: 25.0 (g/mL) ML Lab File ID: 1003602ALevel: (low/med) LOW Date Received: 10/06/88% Moisture: not dec. _____ Date Analyzed: 10/11/88Column: (pack/cap) PACK Dilution Factor: 1.00

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

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	U
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	3	EX
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1.	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

17
EPA SAMPLE NO.

688GN0116

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA3A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81003602A

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: 1003602A

Level: (low/med) LOW

Date Received: 10/06/88

% Moisture: not dec. _____

Date Analyzed: 10/11/88

Column (pack/cap) PACK

Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-69-4	TRICHLOROFLUOROMETHANE	7.10	2.1	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

688GN0117
28954 WAD

Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA3A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81003603A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1003603A

Level: (low/med) LOW Date Received: 10/06/88

% Moisture: not dec. _____ Date Analyzed: 10/11/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

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

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	XJ
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	4	EX U
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

26
EPA SAMPLE NO.

688GN0117

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA3A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81003603A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1003603A

Level: (low/med) LOW Date Received: 10/06/88

% Moisture: not dec. _____ Date Analyzed: 10/11/88

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 2 CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 629-14-1	ETHANE, 1,2-DIETHOXY-	9.55	3.6	J
2. 75-69-4	TRICHLOROFLUOROMETHANE	7.05	1.5	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

38
EPA SAMPLE NO.

688GN0118
29010 Wade

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN

Case No.: CRA3A

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81003604A

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: 1003604A

Level: (low/med) LOW

Date Received: 10/06/88

% Moisture: not dec. _____

Date Analyzed: 10/12/88

Column: (pack/cap) PACK

Dilution Factor: 1.00

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

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	U
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	5	U U
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

688GN0118

Lab Name: RADIAN - SAC Contract: _____Lab Code: RADIAN Case No.: CRA3A SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATERLab Sample ID: S81003604ASample wt/vol: 25.0 (g/mL) MLLab File ID: 1003604ALevel: (low/med) LOWDate Received: 10/06/88

% Moisture: not dec. _____

Date Analyzed: 10/12/88Column (pack/cap) PACKDilution Factor: 1.00Number TICs found: 1CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-69-4	TRICHLOROFLUOROMETHANE	7.05	1.1	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

47
EPA SAMPLE NO.

Lab Name: RADIAN - SAC Contract: 688GN0119
29010 Wade Dep
 Lab Code: RADIAN Case No.: CRA3A SAS No.: SDG No.:
 Matrix: (soil/water) WATER Lab Sample ID: S81003605A
 Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1003605A
 Level: (low/med) LOW Date Received: 10/06/88
 % Moisture: not dec. Date Analyzed: 10/12/88
 Column: (pack/cap) PACK Dilution Factor: 1.00

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

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	U
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	1	U
67-64-1-----	Acetone	3	U V
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-98-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

48
EPA SAMPLE

688GN0119

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN Case No.: CRA3A SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81003605A

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: 1003605A

Level: (low/med) LOW

Date Received: 10/06/88

% Moisture: not dec. _____

Date Analyzed: 10/12/88

Column (pack/cap) PACK

Dilution Factor: 1.00

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-69-4	TRICHLOROFLUOROMETHANE	7.05	1.7	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

6

Lab Name: RADIAN - SAC

Contract: _____

388GN120
29350 Callahan

Lab Code: RADIAN Case No.: CRA1C SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81104501A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1104501A

Level: (low/med) LOW Date Received: 11/04/88

% Moisture: not dec. _____ Date Analyzed: 11/11/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

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

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	U
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	0.3	BU
67-64-1-----	Acetone	2	BU
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. ⁷

388GN120

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1C SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81104501A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1104501A

Level: (low/med) LOW Date Received: 11/04/88

% Moisture: not dec. _____ Date Analyzed: 11/11/88

Column (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: RADIAN - SAC

Contract: _____

 388GN121
25829 Bonner
Lab Code: RADIAN Case No.: CRA1C SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: S81104504ASample wt/vol: 25.0 (g/mL) ML Lab File ID: 1104504ALevel: (low/med) LOW Date Received: 11/04/88% Moisture: not dec. _____ Date Analyzed: 11/11/88Column: (pack/cap) PACK Dilution Factor: 1.00

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

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	U
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	0.5	U V
67-64-1-----	Acetone	1	U V
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

388GN121

Lab Name: RADIAN - SAC Contract: _____Lab Code: RADIAN Case No.: CRA1C SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: S81104504ASample wt/vol: 25.0 (g/mL) ML Lab File ID: 1104504ALevel: (low/med) LOW Date Received: 11/04/88% Moisture: not dec. _____ Date Analyzed: 11/11/88Column (pack/cap) PACK Dilution Factor: 1.00Number TICs found: 1CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-45-6	METHANE, CHLORODIFLUORO-	1.45	1.3	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: RADIAN - SAC Contract: 388GN122
26111 Bonnar (54)

Lab Code: RADIAN Case No.: CRA1C SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81104505A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1104505A

Level: (low/med) LOW Date Received: 11/04/88

% Moisture: not dec. _____ Date Analyzed: 11/11/88

Column: (pack/cap) PACK Dilution Factor: 1.00

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3	-----Chloromethane	2	U
74-83-9	-----Bromomethane	2	U
75-01-4	-----Vinyl Chloride	2	U
75-00-3	-----Chloroethane	2	U
75-09-2	-----Methylene Chloride	1	U U
67-64-1	-----Acetone	4	U U
75-15-0	-----Carbon Disulfide	1	U
75-35-4	-----1,1-Dichloroethene	1	U
75-34-3	-----1,1-Dichloroethane	1	U
540-59-0	-----1,2-Dichloroethene (total)	1	U
67-66-3	-----Chloroform	1	U
107-06-2	-----1,2-Dichloroethane	1	U
78-93-3	-----2-Butanone	2	U
71-55-6	-----1,1,1-Trichloroethane	1	U
56-23-5	-----Carbon Tetrachloride	1	U
108-05-4	-----Vinyl Acetate	2	U
75-27-4	-----Bromodichloromethane	1	U
78-87-5	-----1,2-Dichloropropane	1	U
10061-01-5	-----cis-1,3-Dichloropropene	1	U
79-01-6	-----Trichloroethene	1	U
124-48-1	-----Dibromochloromethane	1	U
79-00-5	-----1,1,2-Trichloroethane	1	U
71-43-2	-----Benzene	1	U
10061-02-6	-----Trans-1,3-Dichloropropene	1	U
75-25-2	-----Bromoform	1	U
108-10-1	-----4-Methyl-2-Pentanone	2	U
591-78-6	-----2-Hexanone	2	U
127-18-4	-----Tetrachloroethene	1	U
79-34-5	-----1,1,2,2-Tetrachloroethane	1	U
108-88-3	-----Toluene	1	U
108-90-7	-----Chlorobenzene	1	U
100-41-4	-----Ethylbenzene	1	U
100-42-5	-----Styrene	1	U
1330-20-7	-----Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

388GN122

Lab Name: RADIAN - SAC Contract: _____Lab Code: RADIAN Case No.: CRA1C SAS No.: _____ SDG No.: _____Matrix: (soil/water) WATER Lab Sample ID: S81104505ASample wt/vol: 25.0 (g/mL) ML Lab File ID: 1104505ALevel: (low/med) LOW Date Received: 11/04/88% Moisture: not dec. _____ Date Analyzed: 11/11/88Column (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/LNumber TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-69-4	TRICHLOROFLUOROMETHANE	7.50	1.9	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 37

Lab Name: RADIAN - SAC Contract: _____

Lab Code: RADIAN Case No.: CRA1C SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: S81104506A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: 1104506A

Level: (low/med) LOW Date Received: 11/04/88

% Moisture: not dec. _____ Date Analyzed: 11/11/88

Column: (pack/cap) PACK Dilution Factor: 1.00

388GN123
26111 Bonner (54) Dupl: *live*

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

CAS NO.	COMPOUND		
74-87-3	Chloromethane	2	U
74-83-9	Bromomethane	2	U
75-01-4	Vinyl Chloride	2	U
75-00-3	Chloroethane	2	U
75-09-2	Methylene Chloride	0.8	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-34-3	1,1-Dichloroethane	1	U
540-59-0	1,2-Dichloroethene (total)	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	2	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
108-05-4	Vinyl Acetate	2	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	2	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
1330-20-7	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

388GN123

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN Case No.: CRA1C

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATERLab Sample ID: S81104506ASample wt/vol: 25.0 (g/mL) MLLab File ID: 1104506ALevel: (low/med) LOWDate Received: 11/04/88

% Moisture: not dec. _____

Date Analyzed: 11/11/88Column (pack/cap) PACKDilution Factor: 1.00Number TICs found: 0CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 48

Lab Name: RADIAN - SAC

Contract: _____

388GN124
29325 Callahan

Lab Code: RADIAN Case No.: CRA1C

SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81104507A

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: 1104507R

Level: (low/med) LOW

Date Received: 11/04/88

% Moisture: not dec. _____

Date Analyzed: 11/11/88

Column: (pack/cap) PACK

Dilution Factor: 1.00

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

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	2	U
74-83-9-----	Bromomethane	2	U
75-01-4-----	Vinyl Chloride	2	U
75-00-3-----	Chloroethane	2	U
75-09-2-----	Methylene Chloride	0.5	U ✓
67-64-1-----	Acetone	1	U ✓
75-15-0-----	Carbon Disulfide	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
67-66-3-----	Chloroform	1	U
107-06-2-----	1,2-Dichloroethane	1	U
78-93-3-----	2-Butanone	2	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
108-05-4-----	Vinyl Acetate	2	U
75-27-4-----	Bromodichloromethane	1	U
78-87-5-----	1,2-Dichloropropane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
79-01-6-----	Trichloroethene	1	U
124-48-1-----	Dibromochloromethane	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
71-43-2-----	Benzene	1	U
10061-02-6-----	Trans-1,3-Dichloropropene	1	U
75-25-2-----	Bromoform	1	U
108-10-1-----	4-Methyl-2-Pentanone	2	U
591-78-6-----	2-Hexanone	2	U
127-18-4-----	Tetrachloroethene	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
108-88-3-----	Toluene	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
100-42-5-----	Styrene	1	U
1330-20-7-----	Total Xylenes	1	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. ⁴⁷

388GN124

Lab Name: RADIAN - SAC

Contract: _____

Lab Code: RADIAN

Case No.: CRA1C

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: S81104507A

Sample wt/vol: 25.0 (g/mL) ML

Lab File ID: 1104507R

Level: (low/med) LOW

Date Received: 11/04/88

% Moisture: not dec. _____

Date Analyzed: 11/11/88

Column (pack/cap) PACK

Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

Age 2
Received: 11/04/88

245' - Austin
REPORT
Results By Test

Work Order # 88-11-018

SAMPLE	Test: CL 10
Sample Id	Result
29350 Callahan 01 N-110388-GN-062	5.0
25825 Bonner 02 N-110388-GN-062	71
26111 Bonner(54) 03 N-110388-GN-062	55
26111 Bonner(54) ap 04 N-110388-GN-062	68
29325 Callahan 05 N-110388-GN-062	7.0