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Results of 2nd Half 1998 IRM Groundwater Monitoring

SKINNER LANDFILL
WEST CHESTER, OHIO

Prepared for:

Skinner Landfill PRP Group

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1.0 INTRODUCTION

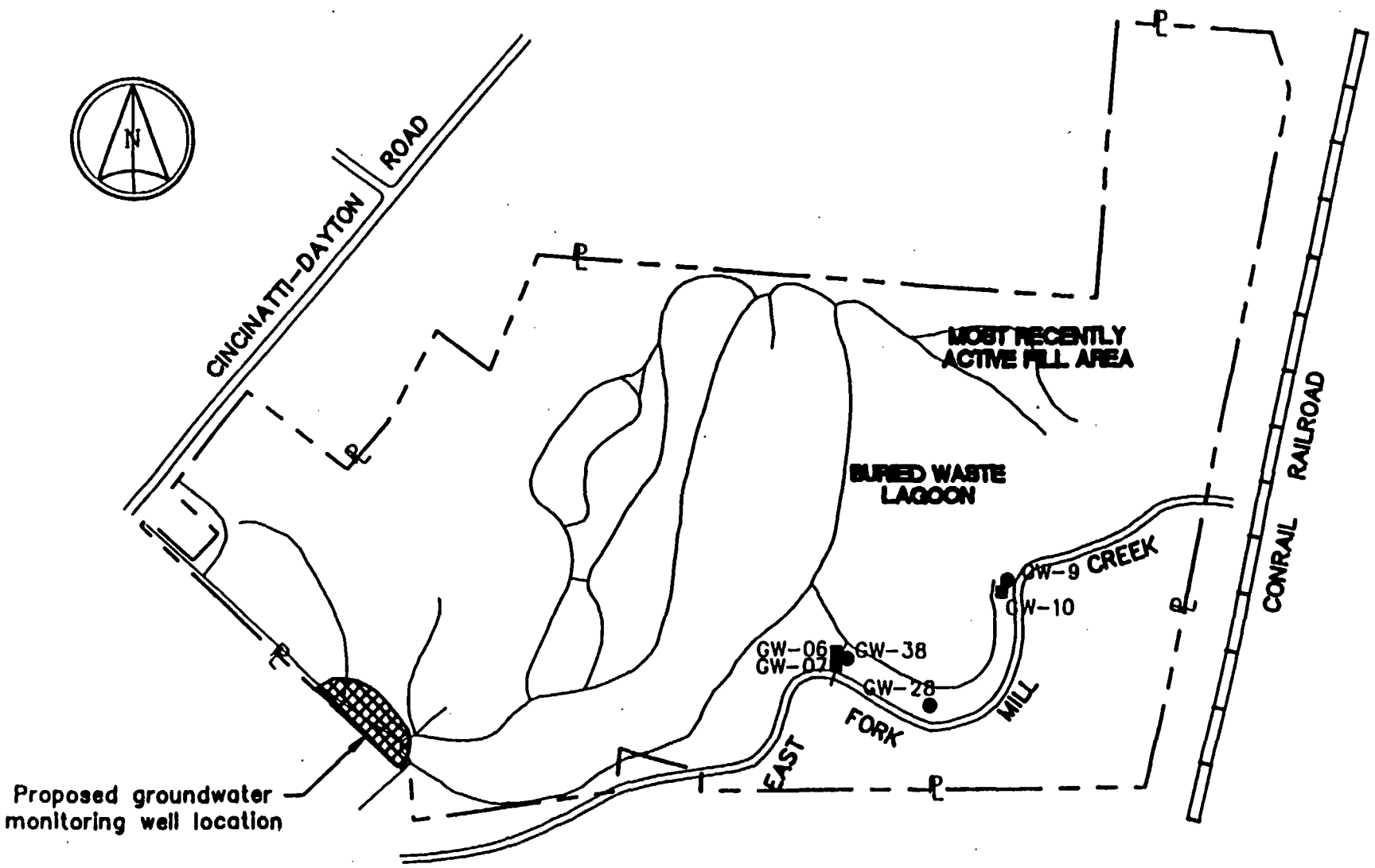
This report presents and discusses the analytical results of the 2nd Half 1998 round of IRM groundwater sampling at the Skinner Landfill site. This groundwater sampling and analysis was performed in accordance with the December 9, 1992 Administrative Consent Order, the June 4, 1993 Quality Assurance Project Plan (QAPjP), and the modifications to these documents outlined in a letter to Dr. Larry I. Bone, Chairperson of the Skinner PRP Group Technical Committee from Mr. Jamey Bell, USEPA Remedial Project Manager, dated October 10, 1995.

2.0 GROUNDWATER SAMPLING AND ANALYTICAL RESULTS

2.1 Groundwater Sampling and Analysis

Groundwater samples were collected on October 19 and 20, 1998 by Earth Tech, Inc. (formerly Rust Environment & Infrastructure, Inc.) personnel. The locations of the nine IRM monitoring wells are shown on Figure 1. Table 1 presents some basic information about these wells (*i.e.*, depth, screened interval, and nature of formation being monitored). Field notes documenting sample collection, field measurements and field calibrations are presented in Appendix A. Laboratory analysis for volatile organics and inorganics was performed by Severn Trent Envirotest (STL). All samples were analyzed following USEPA Contract Laboratory Program (CLP) protocols. The volatile organics were analyzed following the USEPA low level CLP procedure, OLC01.0, and the inorganics were analyzed following the CLP ILM03.0 Statement of Work (SOW).

The laboratory data have been validated by Earth Tech chemists, and the data validation summaries are presented by parameter group in Appendices B and C. Analytical results are presented in Tables 2 and 3. With the exception of data modified by the data validation process, the tables show the results as reported by the laboratory using standard CLP data qualifiers. The most frequently used qualifiers are as follows: U indicates not detected at the listed reporting limit; J (organics) and B (inorganics) indicate an estimated value above the method detection limit (MDL) or the instrument detection limit (IDL) but below the CLP contract required quantitation or detection limit. Data modified by the data validation process are shown in shaded boxes, and detections are shown in bold with bold outlining on the table grid.



LEGEND:

GW-10 ■ Overburden Monitoring Well

GW-9 ● Bedrock Monitoring Well

EARTH TECH

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MONITORING WELL LOCATION MAP

SKINNER LANDFILL

WEST CHESTER, OHIO

PROJECT NO. 03215-02691	DATE 6APR93	DWG. NO. 2A9268_2	SCALE 1"=400'	FIGURE NO. 1

Table 1
Well Information
Skinner Landfill

Well ID	Total Depth	Screened Interval	Unit Screened
PW-01	18.5 '	6 - 18.5 '	Silty Clay with Gravel
PW-02	65 '	51.5 - 65 '	Fine to Medium Gravel
PW-03	86.5 '	79 - 86.5 '	Interbedded Shale and Limestone
GW-06	41 '	28.5 - 41'	Silty Clay and Clayey Silt
GW-07R	16 '	6 - 16'	Silty Clay with Gravel
GW-09	27 '	19 - 27'	Interbedded Shale and Limestone
GW-10	14 '	3 - 14'	Sandy Silt
GW-28	28 '	19.3 - 28 '	Interbedded Shale and Limestone
GW-38	60 '	39.4 - 60'	Interbedded Shale and Limestone

2.2 Volatile Organics Results

Volatile organic analytical results are summarized in Table 2. Low concentrations of three volatile organic compounds were detected in the groundwater sample collected from monitoring well GW-10. All of the reported concentrations were below the applicable USEPA drinking water standards.

Please note that all of the acetone, 2-butanone and 1,2-dibromo-3-chloropropane results have been rejected and are considered unusable. Acetone, 2-butanone, and 1,2-dibromo-3-chloropropane are not site related contaminants, and rejection of the results for these three compounds does not impact use of the volatile organic analytical data in evaluating the groundwater quality at the site. The Volatile Organic Data Validation Summary (Appendix B) discusses this issue in more detail.

2.3 Inorganics Results

Inorganic analytical data are summarized in Table 3. Metal analyses were performed on samples that were field filtered through 0.45micron filters prior to preservation. The samples contained essentially no suspended sediment, and therefore represent dissolved matrix samples.

The thallium concentration measured in PW-01 (3 ug/l) was slightly higher than the USEPA National Primary Drinking Water Standard of 2 ug/l. This data is consistent with historical data from PW-01 dating back to the first half of 1998.

Manganese concentrations in groundwater from monitoring wells PW-01, PW-03, GW-06, GW-07R and GW-10 exceeded the USEPA National Secondary Drinking Water Standard (NSDWS) of 50 ug/l. Iron concentrations detected in groundwater from GW-07R, GW-09 and GW-38 exceeded the 300 ug/l NSDWS. The NSDWS are not enforceable by law, and the aluminum, iron and manganese standards are based primarily on aesthetic reasons (i.e., taste, staining of laundry and porcelain, *etc.*).

3.0 SUMMARY

Analytical data indicated that groundwater from each of the monitoring wells exhibited volatile organic concentrations that were below applicable USEPA Drinking Water Standards. Thalium was detected in one well at a concentration slightly higher than the NPDWS. The data also indicated that groundwater from six (5) of the monitoring wells exhibited manganese concentrations that exceeded the NSDWS, and that the iron concentrations in groundwater samples from 3 monitoring well locations exceeded the NSDWS. As noted above, the NSDWS are not enforceable by law, and the manganese and iron standards are based primarily on aesthetic reasons (taste, staining of laundry and porcelain, *etc.*).

Table 2 - Volatile Organics Results

Analytical Method: OLC01.0
Sample Media: water
Analytical Units: ug/L

Skinner Landfill
Summary of Groundwater Analysis Per IRM

ANALYTE / Well #	PW-01	PW-02	PW-03	GW-06	GW-07R	GW-09	GW-10	GW-28	GW-38
Date Sampled	10/19/98	10/19/98	10/19/98	10/20/98	10/20/98	10/20/98	10/20/98	10/20/98	10/20/98
Date Analyzed	10/27/98	10/28/98	10/28/98	10/27/98	10/27/98	10/27/98	10/28/98	10/27/98	10/27/98
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
chloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
bromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
vinyl chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
methylene chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
acetone	R	R	R	R	R	R	R	R	R
carbon disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	9.4	1 U	1 U
cis-1,2-dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	2.1	1 U	1 U
trans-1,2-dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-butanone	R	R	R	R	R	R	R	R	R
bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
carbon tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U
dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
benzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-dibromoethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-hexanone	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
toluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m. p.-xylene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o.-xylene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-dibromo-3-chloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-dichlorobenzene	R	R	R	R	R	R	R	R	R

Notes:
1) All results expressed in micrograms per liter (ug/L).
2) Standard Organic Data Qualifiers have been used.
3) Sample PW-09 Dup is a field duplicate of sample PW-09.

Table 3 - Inorganics Results

Analytical Method: ILM03.0
Sample Media: water
Analytical Units: ug/L

Skinner Landfill
Summary of Groundwater Analysis Per IRM

ANALYTE / Well # / Date Sampled	PW-01 10/19/98	PW-02 10/19/98	PW-03 10/19/98	GW-06 10/20/98	GW-07R 10/20/98	GW-09 10/20/98	GW-10 10/20/98	GW-28 10/20/98	GW-38 10/20/98
aluminum	59.2 B	73.3 B	105 B	164 B	116 B	64.1 B	141 B	177 B	68.9 B
antimony	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	3.2 U	1.6 U	1.6 U
arsenic	1.5 U	3.2 B	1.5 U	1.5 U	1.5 U	1.5 U	3.0 U	1.5 U	1.5 U
barium	108 B	620	1,220	452	229	619	123 B	127 B	749
beryllium	0.2 U	0.3 B	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
cadmium	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.6 U	0.3 U	0.3 U
calcium	156,000	56,300	167,000	67,800	182,000	84,700	273,000	36,600	63,100
chromium	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U
cobalt	1 B	0.2 U	0.4 B	1.4 B	1.2 B	0.2 B	4.6 B	1.8 B	0.3 B
copper	1.6 B	2.3 B	1.9 B	2 B	1.5 B	1.5 B	5 B	0.5 B	0.5 B
iron	37 B	249	154	155	828	672	78.3 B	47 B	967
lead	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	3.9 B	1.5 U	1.5 U
magnesium	28,100	21,300	54,100	22,300	25,600	37,200	89,100	14,700	31,900
manganese	1,470	27.4	132	185	750	38.8	690	41.1	35.9
mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
nickel	4 B	1.1 B	1.1 B	2.2 B	2.3 B	2 B	13.5 B	17.4 B	10.2 B
potassium	3,910	17,400	47,400	20,400	5,290	7,410	51,100	27,000	12,500
selenium	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
silver	2.8 B	1.3 B	1.3 U	1.3 U	3.2 B	1.3 U	6.8 B	1.3 U	1.3 U
sodium	48,200	368,000	1,040,000	92,200	27,100	42,400	109,000	446,000	131,000
thallium	3 B	1.5 U	1.6 B	1.5 U	1.5 U	1.5 U	3 U	1.5 U	1.5 U
vanadium	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.8 U	0.4 U	0.4 U
zinc	38.2	58.1	51.1	41.3	135	35.2	86.4	53	59.8
cyanide	10 U	10 U	10 U	10 U	10 U	10 U	13	10 U	10 U

Notes:
1) All results expressed in micrograms per liter (ug/L).
2) Standard Inorganic Data Qualifiers have been used.
3) Sample PW-09 Dup is a field duplicate of sample PW-09.

APPENDIX A

GROUNDWATER SAMPLING FIELD NOTES

10/19/98

Arrive on site @ 9:00 am

Karen Fields & Brandee Pederson

915 Collect Water Levels

P-02 - 15.22 GW-38 15.62

P-01 - 13.12 GW-06 13.10

P-03 - 16.04 GW-7R 8.57

Volume Calcs

P-03

88.57
- 16.04
72.53
x .17
12.33

P-01

20.02
- 13.12
6.9
x .17
1.17

P-02

65.14
- 15.22
49.92
x .17
8.486

GW-38

48.05
- 15.62
32.43
x .17
5.51

GW-06

34.76
- 13.10
21.66
x .17
3.68

GW-7R

15.98
- 8.57
7.4
x .17
1.2597

G.W-28 - 16.24
GW-9 - 24.56
GW-10 - 2.96

GW-28	GW-9	GW-10
29.99	29.40	14.56
-16.24	-24.56	-2.96
13.75	4.84	11.6
x .17	x .17	x .17
2.3375	0.8228	1.972

1 VOL (gal)

P-08 - 12.33
P-01 - 1.17
P-02 - 8.49
GW-38 - 5.51
GW-06 - 3.68
GW-7R - 1.26
GW-28 - 2.34
GW-9 - 0.82
GW-10 - 1.97

Calibrate pH meter
Cal 4.0 → 4.02
Cal 10.0 → 10.07
Cal 7.0 → 7.27
Start bailing 10:30 am
PW-03

Vol	pH	Cond x1000	temp	Time	other
12.3	6.76	4.80	57.4	10:58	clear
15.2	7.62	5.53	56.7	11:15	cloudy

11:20 Break for lunch. Pick up empty bottles, labels & ice
1:00 Return to site
1:10 Start bailing PW-01

Vol gal	pH	Cond x1000	Temp	Time	
1.2	7.66	1.06	62.1	1:16	Cloudy
3	7.32	1.06	62.2	1:18	Cloudy
4.5	7.45	1.05	62.3	1:21	semi Cloudy

Sampled at 13:30

PW-02 - Start bailing at 13:40

Vol. gal	pH	Cond x1000	Temp	Time	
8.5	11.80	1.61	61.6	14:00	Cloudy
17.0	9.99	1.94	59.9	14:20	Clear
25.5	9.23	2.06	60.1	14:40	Clear
34.0	9.17	2.06	58.9	15:00	Clear

Sample @ 15:05 ms/msD & PW02

Sample PW-03 @ 15:25

Arrive @ well GW-38 @ 13:50
Start bailing. - lvl. = 5.51

Vol.	pH	Cond	Temp	Time	Observ.
1	9.32	10.34	57.8	16:05	Clear
2	9.58	10.38	56.2	16:11	Slightly turbid
3	8.21	10.77	55.9	16:25	"
4	8.15	10.36	56.3	16:32	"

Sample @ 16:35

Start bailing GW-06 16:45

Vol	pH	Cond	Temp	Time	Observ
1	8.79	8.68	57.1	16:55	Cloudy
2	8.46	8.88	56.5	17:03	"

Dry at 10.5 gallons
left to recharge

5:45 Exit site Return to office
put sample in refrigerator

(well GW-38 needs 3/4" rebuilt)

TUESDAY

09:00 Arrive at site Prepare Field Blank Sample

09:18 Collect Field Blank Sample

09:35 Collect Sample GW-06

Calibrate pH meter
Cal 4.0 → 3.99
Cal 10.0 → 10.01
Cal 7.0 → 7.00

pH	Cond	Temp	Time	Observ
7.12	9.35	52.9	09:35	Clear

10:00 Start bailing GW-7R
1 well vol = 1.25

VOL	pH	Cond	Temp	Time	Observ
1	7.06	10.28	55.8	10:05	Cloudy
2	6.93	10.38	57.9	10:07	"
3	6.99	10.02	58.1	10:10	"

10:45 Start bailing GW-28

VOL	pH	Cond x100	Temp	Time	Observ
2.5 gal	7.67	2.09	53.5	10:50	Cloudy
5.0 gal	7.68	2.13	54.4	10:55	"
7.5 gal	7.73	2.19	54.6	11:01	"

Sample GW-28 at 11:10

11:20 Exit site for lunch

12:15 Back at site

12:30 Start bailing GW-09

VOL	pH	Cond x100	Temp	Time	Observ
1 gal	7.66	9.49	59.8	12:28	Cloudy
2 gal	7.48	9.97	60.3	12:30	Slight turbidity
3 gal	7.37	10.11	59.7	12:32	"

Sample GW-09 at 12:40

Collect field duplicate at GW-09 at 12:45

13:00 Start bailing GW-10

VOL	pH	Cond x000	Temp	Time	Observ
2 gal	7.20	2.45	67.8	13:00	slightly turbid
4 gal	7.09	2.39	64.5	13:01	"
6 gal	7.09	2.40	63.8	13:04	"
8 gal	7.07	2.40	63.4	13:07	"

Sample GW-60 at 13:10

13:20 exit site + go back to office to prepare samples for shipping

APPENDIX B

VOLATILE DATA VALIDATION SUMMARY

Volatile Organic Data Validation Summary
Skinner Landfill Site
West Chester, Ohio
Analytical Laboratory: Severn Trent Envirotest
Sample Delivery Group 194151

Analytical results for nine (9) groundwater samples with matrix QC, one (1) field duplicate, one (1) field blank and one (1) trip blank from the Skinner Landfill site were reviewed to evaluate the data quality. Data were assessed in accordance with the United States Environmental Protection Agency (USEPA) **National Functional Guidelines for Organic Data Review** (Draft 12/90, Revised 6/91) and the USEPA **Superfund Analytical Methods for Low Concentration Water for Organics Analysis** (6/91). This validation pertains to the following samples collected by Earth Tech, Inc. (formerly Rust Environment & Infrastructure) personnel on October 19 and 20, 1998:

PW-01	**GW-06**	**GW-28**
PW-02	**GW-07R**	**GW-38**
PW-02MS	**GW-09**	**Field Blank**
PW-02MSD	**GW-09 DUP**	**Trip Blank**
PW-03	**GW-10**	

The following items/criteria applicable to the samples listed above were reviewed:

- Deliverable Requirements
- Case Narrative
- Holding Times
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control Sample (LCS) Data
- Blank Summary and Data
- GC/MS Instrument Performance Check
- Target Compound Identification/Quantitation
- EPA/NIH Mass Spectral Library Search for TICs
- Quantitation Reports and Mass Spectral Data
- Initial and Continuing Calibration Data
- Internal Standard Areas and Retention Times
- Field Duplicate Data

The above items were in compliance with USEPA OLC01.0 laboratory quality control (QC) criteria with the exception of the items discussed in the following text. The data have been validated according to the above procedures and qualified as described on the attached definitions list.

Deliverable Requirements

Please note that sample GW-07R was collected from well GW-07R, a replacement well for well GW-07 that contains an unremovable obstruction and can not be sampled.

Surrogate Recoveries

All bromofluorobenzene (BFB) surrogate recoveries were within the contract required QC limits.

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

Sample PW-02 was selected for MS/MSD analysis and all applicable matrix QC criteria have been met for this analysis.

Blank Summary and Data

The table below presents the laboratory method blank, field blank and trip blank results and the associated samples. In accordance with EPA data validation criteria, sample results less than five times the associated laboratory concentration are rejected. Please note that rejection of this data has no effect on the usability or validity of the data reported for target compounds in these samples.

Blank ID	Compound	Result	Associated Samples
VBLK337	unknown @ 3.28	7.8	PW-01, GW-06, GW-7R, GW-09, GW-09DUP, GW-28, GW-38, FB-01, TRIP BLANK
VBLK378	unknown @ 3.49 1-propanol @ 10.98	6.1 0.5	PW-02, PW-03, GW-10, PW-02MS/MSD
FB-01(field blank)	methylene chloride acetone chloroform bromochloromethane unknown @ 3.26 unknown @ 3.31	2.4 19 3.4 1.6 0.7 1.1	All Samples
Trip Blank	methylene chloride unknown @ 3.29	2.2 5.5	All Samples

Initial and Continuing Calibration Data

Although the Statement of Work (SOW) specifies a minimum average relative response factor (RRF) of 0.01 for all volatile compounds, the criteria employed for technical review

purposes are different from those used in the method. For data review purposes, all volatile compounds must have an RRF of 0.05 or greater. The RRF for acetone (RRF=0.028), 2-butanone (RRF=0.028) and 1,2-dibromo-3-chloropropane (0.038) in the initial calibration were less than the technical criteria specified. In accordance with EPA data validation guidelines, the acetone, 2-butanone and 1,2-dibromo-3-chloropropane sample results have been rejected and are considered unusable.

The table below presents the continuing calibration compound RRFs that exhibited percent differences (%D) from the initial calibration average relative response factors in excess of the 25% QC Limit and the associated samples. Sample results for compounds that are associated with out of compliance continuing calibration data have been flagged "V" and are considered estimated.

Standard	Compound	%D	Associated Samples
CC: 10-27-98 @ 10:52	chloromethane chloroethane trans-1,3-dichloropropene 1,2-dibromo-3-chloropropane	26.4 27.3 28.3 48.7	PW-01, GW-06, GW-7R, GW-09, GW-09DUP, GW-28, GW-38, FB-01, TRIP BLANK
CC: 10-28-98 @ 10:03	1,2-dibromo-3-chloropropane	44.1	PW-02, PW-03, GW-10, PW-02MS/MSD

Field Duplicate Data

Sample PW-09 DUP is a field duplicate of sample PW-09. No volatile organic target compounds were detected in either sample PW-09 or its field duplicate. Therefore, the field duplicate data is indicative of acceptable sampling and analytical precision.

Summary

In summary, based on 400 sample data points, 22 of which were qualified as estimated, and 29 qualified as unusable, and since estimated data are considered valid and usable, the usability of this data package is 92.8%.

C Brett Mongillo

Reviewed By
C. Brett Mongillo
Manager Chemistry Services

1-27-99

Date

Volatile Organic Analytical Data

Skinner Landfill
West Chester, Ohio

Sampling Dates: October 19 and 20, 1998

Sample ID / Compound	PW-01	PW-02	PW-03	GW-06	GW-07R	GW-09	PW-09 Dup	GW-10	GW-28	GW-38	Field Blank	Trip Blank
Chloromethane	1 UV	1 U	1 U	1 UV	1 UV	1 UV	1 UV	1 U	1 UV	1 UV	1 UV	1 UV
Bromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 UV	1 U	1 U	1 UV	1 UV	1 UV	1 UV	1 U	1 UV	1 UV	1 UV	1 UV
Methylene Chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2.4 V	2.2
Acetone	R	R	R	R	R	R	R	R	R	R	19 V	R
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	9.4	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.1	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.4	1 U
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	R	R	R	R	R	R	R	R	R	R	R	R
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.6	1 U
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1 UV	1 U	1 U	1 UV	1 UV	1 U	1 U	1 U	1 UV	1 UV	1 UV	1 U
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-Pentanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylene (total)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	R	R	R	R	R	R	R	R	R	R	R	R

Notes:

1) All results expressed in micrograms per liter (ug/L).
2) Standard Organic Data Qualifiers have been used.
3) Sample PW-09 Dup is a field duplicate of sample PW-09.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID: PW-02
STE Lab No.: 194151-01
Client Name: Rust/Earth Tech
Project Name: 202180.10200
% Solid:
Matrix: Water
Sample Wt/Vol.: 25ml
Level: Low

Date Collected: 10/19/98
Date Received: 10/21/98
Date Extracted:
Date Analyzed: 10/28/98
Report Date: 12/30/98
Column: DB-624
Lab File ID: W9675.D
Dilution Factor: 1

CAS No.	Compound	Detection Limit ug/l	Conc ug/l
74-87-3	Chloromethane	1.0	U
74-83-9	Bromomethane	1.0	U
75-01-4	Vinyl Chloride	1.0	U
75-00-3	Chloroethane	1.0	U
75-09-2	Methylene Chloride	2.0	U
67-64-1	Acetone	~~5.0~~ R	~~U~~ R
75-15-0	Carbon Disulfide	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-4	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
67-66-3	Chloroform	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
78-93-3	2-Butanone	~~5.0~~ R	~~U~~ R
74-97-5	Bromochloromethane	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
75-27-4	Bromodichloromethane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
79-01-6	Trichloroethene	1.0	U
124-48-1	Dibromochloromethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
71-43-2	Benzene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-25-2	Bromoform	1.0	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-88-3	Toluene	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
100-42-5	Styrene	1.0	U
1330-20-7	Xylenes, Total	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	~~1.0~~ R	~~U~~ R

FORM I - VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID: PW-02
STE Lab No.: 194151-01
Client Name: Rust/Earth Tech
Project Name: 202180.10200
% Solid:
Matrix: water
Sample Wt/Vol.: 25 ml
Level: low
Soil Extract Volume: ul

Date Collected: 10/19/98
Date Received: 10/21/98
Date Extracted:
Date Analyzed: 10/28/98
Report Date: 12/30/98
Column: DB-624
Lab File ID: W9675.D
Dilution Factor: 1
Soil Aliquot Volume: ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H6O isomer	3.42	~~1.2 J~~ R
71-23-8	1-Propanol	10.98	~~0.8 J~~ R

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FORM I - VOA

Volatile Organics Analysis Data Sheet
Form I VOA
91.4

Client ID:	PW-03	Date Collected:	19-OCT-98
STL Sample Number:	194151-02	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	28-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9676.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1		U
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1		U
75-09-2	Methylene chloride	2		U
67-64-1	Acetone	~~5~~ R		U
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1		U
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~ R		U
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		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	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~ R		U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID: PW-03
STE Lab No.: 194151-02
Client Name: Rust/Earth Tech
Project Name: 202180.10200
% Solid:
Matrix: water
Sample Wt/Vol.: 25 ml
Level: low
Soil Extract Volume: ul

Date Collected: 10/19/98
Date Received: 10/21/98
Date Extracted:
Date Analyzed: 10/28/98
Report Date: 12/30/98
Column: DB-624
Lab File ID: W9676.D
Dilution Factor: 1
Soil Aliquot Volume: ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H6O isomer	3.41	~~1.1 J~~ R
	unknown	8.91	0.8 J
	Unknown CnH2n	15.80	0.6 J
	C8H10 isomer	22.79	0.6 J

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FORM I - VOA

Volatile Organics Analysis Data Sheet
Form I VOA
91.4

Client ID:	PW-01	Date Collected:	19-OCT-98
STL Sample Number:	194151-03	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	27-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9661.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1 V		~~U~~ V
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1 V		U V
75-09-2	Methylene chloride	2		U
67-64-1	Acetone	~~5~~		~~U~~ R
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1		U
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~		~~U~~ R
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		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 V
75-25-2	Bromoform	1		U
108-10-1	4-Methyl-2-pentanone	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~		~~U~~ R

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID:	PW-01	Date Collected:	10/19/98
STE Lab No.:	194151-03	Date Received:	10/21/98
Client Name:	Rust/Earth Tech	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	10/27/98
% Solid:		Report Date:	1/15/99
Matrix:	water	Column:	DB-624
Sample Wt/Vol.:	25 ml	Lab File ID:	W9661.D
Level:	low	Dilution Factor:	1
Soil Extract Volume:	ul	Soil Aliquot Volume:	ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H6O isomer	3.27	~~10.0 J~~ R

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FORM I - VOA

Volatile Organics Analysis Data Sheet
Form I VOA
91.4

Client ID:	GW-38	Date Collected:	20-OCT-98
STL Sample Number:	194151-04	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	27-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9662.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1		U ✓
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1		U ✓
75-09-2	Methylene chloride	2		U
67-64-1	Acetone	~~5~~		~~U~~ R
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1		U
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~		~~U~~ R
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		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	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~		~~U~~ R

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1-27-99

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID: GW-38
STE Lab No.: 194151-04
Client Name: Rust/Earth Tech
Project Name: 202180.10200
% Solid:
Matrix: water
Sample Wt/Vol.: 25 ml
Level: low
Soil Extract Volume: ul

Date Collected: 10/20/98
Date Received: 10/21/98
Date Extracted:
Date Analyzed: 10/27/98
Report Date: 1/15/99
Column: DB-624
Lab File ID: W9662.D
Dilution Factor: 1
Soil Aliquot Volume: ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H6O isomer	3.28	~~2.2 J~~ R
	C2H6O isomer	3.31	~~2.3 J~~ R

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FORM I - VOA

VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID: GW-10
STE Lab No.: 194151-05
Client Name: Rust/Earth Tech
Project Name: 202180.10200
% Solid:
Matrix: Water
Sample Wt/Vol.: 25ml
Level: Low

Date Collected: 10/20/98
Date Received: 10/21/98
Date Extracted:
Date Analyzed: 10/28/98
Report Date: 12/30/98
Column: DB-624
Lab File ID: W9677.D
Dilution Factor: 1

CAS No.	Compound	Detection Limit ug/l	Conc ug/l
74-87-3	Chloromethane	1.0	U
74-83-9	Bromomethane	1.0	U
75-01-4	Vinyl Chloride	1.0	U
75-00-3	Chloroethane	1.0	U
75-09-2	Methylene Chloride	2.0	U
67-64-1	Acetone	~~5.0~~	~~U~~ R
75-15-0	Carbon Disulfide	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	9.4
156-59-4	cis-1,2-Dichloroethene	1.0	2.1
156-60-5	trans-1,2-Dichloroethene	1.0	U
67-66-3	Chloroform	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
78-93-3	2-Butanone	~~5.0~~	~~U~~ R
74-97-5	Bromochloromethane	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U
75-27-4	Bromodichloromethane	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
79-01-6	Trichloroethene	1.0	1.0
124-48-1	Dibromochloromethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
71-43-2	Benzene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-25-2	Bromoform	1.0	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
591-78-6	2-Hexanone	5.0	U
127-18-4	Tetrachloroethene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-88-3	Toluene	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	U
100-42-5	Styrene	1.0	U
1330-20-7	Xylenes, Total	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	~~1.0~~	~~U~~ R

FORM I - VOA

CBM 1-27-99

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID:	GW-10	Date Collected:	10/20/98
STE Lab No.:	194151-05	Date Received:	10/21/98
Client Name:	Rust/Earth Tech	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	10/28/98
% Solid:		Report Date:	12/30/98
Matrix:	water	Column:	DB-624
Sample Wt/Vol.:	25 ml	Lab File ID:	W9677.D
Level:	low	Dilution Factor:	1
Soil Extract Volume:	ul	Soil Aliquot Volume:	ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l	
	C2H60 isomer	3.47	~~7.5~~	~~J~~ R
60-29-7	Ether	7.02	5.5	J
	unknown	7.18	0.6	J
	unknown	8.91	7.8	J
	unknown CnH2n+2O	10.83	1.1	J

CBm
1-27-99

FORM I - VOA

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Volatile Organics Analysis Data Sheet
Form I VOA
91.4

Client ID:	GW-09	Date Collected:	20-OCT-98
STL Sample Number:	194151-06	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	27-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9664.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1		U ✓
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1		U ✓
75-09-2	Methylene chloride	2		U
67-64-1	Acetone	~~5~~		~~U~~ R
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1		U
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~		~~U~~ R
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		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	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~		~~U~~ R

CBM
1-27-99

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID: GW-09
STE Lab No.: 194151-06
Client Name: Rust/Earth Tech
Project Name: 202180.10200
% Solid:
Matrix: water
Sample Wt/Vol.: 25 ml
Level: low
Soil Extract Volume: ul

Date Collected: 10/20/98
Date Received: 10/21/98
Date Extracted:
Date Analyzed: 10/27/98
Report Date: 1/15/99
Column: DB-624
Lab File ID: W9664.D
Dilution Factor: 1
Soil Aliquot Volume: ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H60 isomer	3.26	~~7.8 J~~ R

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FORM I - VOA

Volatile Organics Analysis Data Sheet
Form I VOA
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Client ID:	GW-09 DUP	Date Collected:	20-OCT-98
STL Sample Number:	194151-07	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	27-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9665.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1		U V
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1		U V
75-09-2	Methylene chloride	2		U
67-64-1	Acetone	~~5~~		~~U~~ R
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1		U
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~		~~U~~ R
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		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 V
75-25-2	Bromoform	1		U
108-10-1	4-Methyl-2-pentanone	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~		~~U~~ R

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID:	GW-09 DUP	Date Collected:	10/20/98
STL Lab No.:	194151-07	Date Received:	10/21/98
Client Name:	Rust/Earth Tech.	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	10/27/98
% Solid:		Report Date:	1/15/99
Matrix:	water	Column:	DB-624
Sample Wt/Vol.:	25 ml	Lab File ID:	W9665.D
Level:	Low	Dilution Factor:	1
Soil Extract Volume:	ul	Soil Aliquot Volume:	ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H6O isomer	3.26	~~2.2 J~~ R
	C2H6O isomer	3.29	~~2.7 J~~ R

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1-27-99

FORM I - VOA

Volatile Organics Analysis Data Sheet
Form I VOA
91.4

Client ID:	GW-28	Date Collected:	20-OCT-98
STL Sample Number:	194151-08	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	27-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9666.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1		U ✓
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1		U ✓
75-09-2	Methylene chloride	2		U
67-64-1	Acetone	~~5~~		~~U~~ R
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1		U
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~		~~U~~ R
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		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	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~ R		~~U~~ R

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1-27-99

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID: GW-28
STL Lab No.: 194151-08
Client Name: Rust/Earth Tech.
Project Name: 202180.10200
% Solid:
Matrix: water
Sample Wt/Vol.: 25 ml
Level: Low
Soil Extract Volume: ul

Date Collected: 10/20/98
Date Received: 10/21/98
Date Extracted:
Date Analyzed: 10/27/98
Report Date: 1/15/99
Column: DB-624
Lab File ID: W9666.D
Dilution Factor: 1
Soil Aliquot Volume: ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H6O isomer	3.29	~~5.0 J~~ R
71-23-8	1-Propanol	10.62	1.3 J

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1-27-99

FORM I - VOA

Volatile Organics Analysis Data Sheet
Form I VOA
91.4

Client ID:	GW-06	Date Collected:	20-OCT-98
STL Sample Number:	194151-09	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	27-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9667.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1		U ✓
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1		U ✓
75-09-2	Methylene chloride	2		U
67-64-1	Acetone	~~5~~		~~U~~ R
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1		U
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~		~~U~~ R
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		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	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~		~~U~~ R

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1-27-99

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID:	GW-06	Date Collected:	10/20/98
STL Lab No.:	194151-09	Date Received:	10/21/98
Client Name:	Rust/Earth Tech.	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	10/27/98
% Solid:		Report Date:	1/15/99
Matrix:	water	Column:	DB-624
Sample Wt/Vol.:	25 ml	Lab File ID:	W9667.D
Level:	Low	Dilution Factor:	1
Soil Extract Volume:	ul	Soil Aliquot Volume:	ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H6O isomer	3.29	~~5.9~~ ~~J~~ R

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1-27-99

FORM I - VOA

Volatile Organics Analysis Data Sheet
Form I VOA
91.4

Client ID:	GW-7R	Date Collected:	20-OCT-98
STL Sample Number:	194151-10	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	27-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9668.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1		U V
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1		U V
75-09-2	Methylene chloride	2		U
67-64-1	Acetone	~~5~~		~~U~~ R
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1		U
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~		U R
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		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 V
75-25-2	Bromoform	1		U
108-10-1	4-Methyl-2-pentanone	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~		~~U~~ R

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1-27-99

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID:	GW-7R	Date Collected:	10/20/98
STL Lab No.:	194151-10	Date Received:	10/21/98
Client Name:	Rust/Earth Tech.	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	10/27/98
% Solid:		Report Date:	1/15/99
Matrix:	water	Column:	DB-624
Sample Wt/Vol.:	25 ml	Lab File ID:	W9668.D
Level:	Low	Dilution Factor:	1
Soil Extract Volume:	ul	Soil Aliquot Volume:	ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H6O isomer	3.30	~~6.3~~ R

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1-27-99

FORM I - VOA

Volatile Organics Analysis Data Sheet
Form I VOA
91.4

Client ID:	FB-01	Date Collected:	20-OCT-98
STL Sample Number:	194151-11	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	27-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9669.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1		U ✓
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1		U ✓
75-09-2	Methylene chloride	2	2.4	
67-64-1	Acetone	5	19	✓
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1	3.4	
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~		~~U~~ R
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		U
75-27-4	Bromodichloromethane	1	1.6	
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	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~		~~U~~ R

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1-27-99

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Fax: (914) 562-0841

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID:	FB-01	Date Collected:	10/20/98
STL Lab No.:	194151-11	Date Received:	10/21/98
Client Name:	Rust/Earth Tech.	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	10/27/98
% Solid:		Report Date:	1/15/99
Matrix:	water	Column:	DB-624
Sample Wt/Vol.:	25 ml	Lab File ID:	W9669.D
Level:	Low	Dilution Factor:	1
Soil Extract Volume:	ul	Soil Aliquot Volume:	ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l	
	C2H6O isomer	3.26	0.7	J
	C2H6O isomer	3.31	1.1	J

FORM I - VOA

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Volatile Organics Analysis Data Sheet
Form I VOA
91.4

Client ID:	TRIP BLANK	Date Collected:	20-OCT-98
STL Sample Number:	194151-12	Date Received:	21-OCT-98
Client Name:	RUST/EARTH TECH	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	27-OCT-98
% Solid:	NA	Report Date:	15-JAN-99
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	25ml	Lab File Id:	W9670.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	1		U V
74-83-9	Bromomethane	1		U
75-01-4	Vinyl chloride	1		U
75-00-3	Chloroethane	1		U V
75-09-2	Methylene chloride	2	2.2	
67-64-1	Acetone	~~5~~		~~U~~ R
75-15-0	Carbon Disulfide	1		U
75-35-4	1,1-Dichloroethene	1		U
75-35-3	1,1-Dichloroethane	1		U
156-59-4	cis-1,2-Dichloroethene	1		U
156-60-5	trans-1,2-Dichloroethene	1		U
67-66-3	Chloroform	1		U
107-06-2	1,2-Dichloroethane	1		U
78-93-3	2-Butanone	~~5~~		~~U~~ R
74-97-5	Bromochloromethane	1		U
71-55-6	1,1,1-Trichloroethane	1		U
56-23-5	Carbon tetrachloride	1		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	5		U
591-78-6	2-Hexanone	5		U
127-18-4	Tetrachloroethene	1		U
79-34-5	1,1,2,2-tetrachloroethane	1		U
106-93-4	1,2-Dibromoethane	1		U
108-88-3	Toluene	1		U
108-90-7	Chlorobenzene	1		U
100-41-4	Ethyl Benzene	1		U
100-42-5	Styrene	1		U
108-38-3/106-42-3	m,p-Xylene	1		U
95-47-6	o-Xylene	1		U
541-73-1	1,3-Dichlorobenzene	1		U
106-46-7	1,4-Dichlorobenzene	1		U
95-50-1	1,2-Dichlorobenzene	1		U
96-12-8	1,2-Dibromo-3-chloropropane	~~1~~		~~U~~ R

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Client ID:	Trip Blank	Date Collected:	10/20/98
STL Lab No.:	194151-12	Date Received:	10/21/98
Client Name:	Rust/Earth Tech.	Date Extracted:	
Project Name:	202180.10200	Date Analyzed:	10/27/98
% Solid:		Report Date:	1/15/99
Matrix:	water	Column:	DB-624
Sample Wt/Vol.:	25 ml	Lab File ID:	W9670.D
Level:	Low	Dilution Factor:	1
Soil Extract Volume:	ul	Soil Aliquot Volume:	ul

CAS No.	Compound	RT or Scan Number	Estimated Conc ug/l
	C2H6O isomer	3.29	5.5

FORM I - VOA

APPENDIX C

INORGANIC DATA VALIDATION SUMMARY

Inorganic Data Validation Summary
Skinner Landfill Site
West Chester, Ohio
Analytical Laboratory: Severn Trent Envirotest
Sample Delivery Group 194151

Analytical results for nine (9) groundwater samples with matrix QC, one (1) field duplicate, one (1) field blank and one (1) trip blank from the Skinner Landfill site were reviewed to evaluate the data quality. Data were assessed in accordance with the United States Environmental Protection Agency (USEPA) **Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis** (February 1994 Revision) and the USEPA Region II **Checklist for Evaluation of Metals Data for the Contract Laboratory Program, Appendix A.1**. This validation pertains to the following samples collected by Earth Tech, Inc. (formerly Rust Environment & Infrastructure) personnel on October 19 and 20, 1998:

PW-01	**GW-06**	**GW-28**
PW-02	**GW-07R**	**GW-38**
PW-02MS	**GW-09**	**Field Blank**
PW-02MSD	**GW-09 DUP**	**Trip Blank**
PW-03	**GW-10**	

The following items/criteria applicable to the samples listed above were reviewed:

- Deliverable Requirements
- Case Narrative
- Holding Times and Sample Preparation
- Initial and Continuing Calibration Data
- CRDL Standards for AA and ICP
- Instrument and Preparation Blank Summary and Data
- ICP Interference Check Sample
- Spiked Sample Recovery Data
- Laboratory Duplicate Data
- Laboratory Control Samples (LCS)
- ICP Serial Dilution Data
- Graphite Furnace Atomic Absorption (GFAA) QC Analysis
- Method of Standard Addition (MSA) Results
- Verification of Instrument Parameters
- Field Duplicate Data

The above items were in compliance with USEPA QC criteria with the exception of the items discussed in the following text. The data have been validated according to the above procedures and qualified as described on the attached definitions list.

Deliverable Requirements

Please note that sample GW-07R was collected from well GW-07R, a replacement well for well GW-07 that contains an unremovable obstruction, and can not be sampled.

Continuing Calibration

The continuing calibration standards associated with samples GW-06, GW-07R, GW-09, GW-09DUP, GW-10, GW-28 and FB-01 exhibited a percent recovery for barium in excess of the 110% QC limit. In accordance with EPA validation guidelines, all positive barium results for these have been flagged with a "V" and are considered estimated due to variance from quality control criteria.

ICP Interference Check Standard

The initial ICP interference check standard (ICS) exhibited a percent recovery for silver (138.3%) outside the 80% to 120% QC limits established in the Statement of Work (SOW). However since no sample exhibited concentrations of interfering elements (aluminum, calcium, iron and magnesium) at the level of the ICS, no qualification to the sample data is made.

Spiked Sample Recovery Data

Sample PW-02 was selected for duplicate and spike analysis and all applicable matrix QC criteria have been met for this analysis with two exceptions; the mercury (57.8%) and the selenium (393.9%) recoveries were outside of the QC limits of 75-125% established in the Statement of Work (SOW). In accordance with EPA data validation guidelines, the associated mercury and positive selenium results have each been flagged with a "V" and are considered estimated due to variance from quality control criteria.

ICP Serial Dilution Data

The ICP serial dilution analysis of sample PW-02 exhibited a percent difference (%D) between the initial sample result and the serial dilution result for both potassium (24.5%) and sodium (14.8%) exceeded ten (10) percent. In accordance with EPA data validation guidelines, the associated potassium and sodium results greater than 50 times the instrument detection limit have been flagged with a "V" and are considered estimated due to variance from quality control criteria.

Field Duplicate Analysis

Table 1 summarizes the relative percent difference (RPD) between sample PW-09 and the field duplicate sample PW-09 DUP. Earth Tech uses the USEPA Region II Checklist for Evaluation of Metals Data for the Contract Laboratory Program, Appendix A.1 for evaluating field duplicates since the USEPA Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis does not establish QC criteria for field blanks. This document states that field duplicate data is acceptable if duplicate results greater than five times the CRDL exhibit less than 50% RPD and duplicate results less than five times the CRDL exhibit a difference of less than the CRDL. The data presented in Table 1 indicate that all field duplicate data are acceptable.

Summary

In summary, based on 240 sample data points, 36 of which were qualified as estimated, and none qualified as unusable, and since estimated data are considered valid and usable, the usability of this data package is 100%.

C. Brett Mongillo — 1-27-99

Reviewed By — Date
C. Brett Mongillo
Manager Chemistry Services

Table 1
RPD Calculations - Field Duplicate Analysis

Sample ID	PW-09	PW-09 DUP	RPD
Analyte			
Aluminum	64.1 B	72.8 B	12.7%
Antimony	1.6 U	1.6 U	
Arsenic	1.5 U	1.5 U	
Barium	619	737	17.4%
Beryllium	0.2 U	0.2 U	
Cadmium	0.3 U	0.3 U	
Calcium	84,700	86,600	2.2%
Chromium	0.5 U	0.50 U	
Cobalt	0.2 B	0.3 B	200.0%
Copper	1.5 B	0.5 B	100.0%
Iron	672	896	28.6%
Lead	1.5 U	1.5 U	
Magnesium	37,200	38,200	2.7%
Manganese	38.8	34.7	11.2%
Mercury	0.2 U	0.2 U	
Nickel	2 B	1.1 B	58.1%
Potassium	7,410	6,880	7.4%
Selenium	3.3 U	3.3 U	
Silver	1.3 U	1.3 U	
Sodium	42,400	45,600	7.3%
Thallium	1.5 U	1.5 U	
Vanadium	0.4 U	0.4 U	
Zinc	35.2	46.5	27.7%
Cyanide	10 U	10 U	

Inorganic Analytical Data

Skinner Landfill
West Chester, Ohio

Sampling Dates: October 19 and 20, 1998

Sample ID / Analyte	PW-01	PW-02	PW-03	GW-06	GW-07R	GW-09	PW-09 DUP	GW-10	GW-28	GW-38	Field Blank
Aluminum	59.2 B	73.3 B	105 B	164 B	116 B	64.1 B	72.8 B	141 B	177 B	68.9 B	75.2 B
Antimony	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	3.2 U	1.6 U	1.6 U	1.6 U
Arsenic	1.5 U	3.2 B	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	3.0 U	1.5 U	1.5 U	1.5 U
Barium	108 B	620	1,220	452 V	229 V	619 V	737 V	123 BV	127 BV	749	48.5 BV
Beryllium	0.2 U	0.3 B	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U
Cadmium	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.6 U	0.3 U	0.3 U	0.3 U
Calcium	156,000	56,300	167,000	67,800	182,000	84,700	86,600	273,000	36,600	63,100	4,140 B
Chromium	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.50 U	1 U	0.5 U	0.5 U	0.7 B
Cobalt	1 B	0.2 U	0.4 B	1.4 B	1.2 B	0.2 B	0.3 B	4.6 B	1.8 B	0.3 B	0.2 U
Copper	1.6 B	2.3 B	1.9 B	2 B	1.5 B	1.5 B	0.5 B	5 B	0.5 B	0.5 B	1 B
Iron	37 B	249	154	155	828	672	896	78.3 B	47 B	967	19.4 B
Lead	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	3.9 B	1.5 U	1.5 U	1.5 U
Magnesium	28,100	21,300	54,100	22,300	25,600	37,200	38,200	89,100	14,700	31,900	296 B
Manganese	1,470	27.4 UV	132	185	750	38.8	34.7	690	41.1	35.9	3.2 B
Mercury	0.2 UV	0.2 B	0.2 UV	0.2 UV	0.2 UV	0.2 UV	0.2 UV	0.2 UV	0.2 UV	0.2 UV	0.2 UV
Nickel	4 B	1.1 V	1.1 B	2.2 B	2.3 B	2 B	1.1 B	13.5 B	17.4 B	10.2 B	0.6 U
Potassium	3,910 BV	17,400 U	47,400 V	20,400 V	5,290 V	7,410 V	6,880 V	51,100 V	27,000 V	12,500 V	180 B
Selenium	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U
Silver	2.8 B	1.3 V	1.3 U	1.3 U	3.2 B	1.3 U	1.3 U	6.8 B	1.3 U	1.3 U	1.3 U
Sodium	48,200 V	368,000 U	1,040,000 V	92,200 V	27,100 V	42,400 V	45,600 V	109,000 V	446,000 V	131,000 V	4360 BV
Thallium	3 B	1.5 U	1.6 B	1.5 U	1.5 U	1.5 U	1.5 U	3 U	1.5 U	1.5 U	1.5 U
Vanadium	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.8 U	0.4 U	0.4 U	0.4 U
Zinc	38.2	58.1	51.1	41.3	135	35.2	46.5	86.4	53	59.8	92.8
Cyanide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	13	10 U	10 U	10 U

Notes:

1) All results expressed in micrograms per liter (ug/L).
2) Standard Inorganic Data Qualifiers have been used.
3) Sample PW-09 Dup is a field duplicate of sample PW-09.

Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 202180.10200

STL Sample Number: 194151-01

Client I.D.: PW-02

Date Collected: 19-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	73.3 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	3.2 B	UG/L	200.7	08-DEC-98
Barium	620	UG/L	200.7	08-DEC-98
Beryllium	0.3 B	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	56300	UG/L	200.7	08-DEC-98
Chromium	0.5 U	UG/L	200.7	08-DEC-98
Cobalt	0.2 U	UG/L	200.7	08-DEC-98
Copper	2.3 B	UG/L	200.7	08-DEC-98
Iron	249	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	21300	UG/L	200.7	08-DEC-98
Manganese	27.4	UG/L	200.7	08-DEC-98
Mercury	0.2 U N ✓	UG/L	245.1	26-OCT-98
Nickel	1.1 B	UG/L	200.7	08-DEC-98
Potassium	17400 E ✓	UG/L	200.7	08-DEC-98
Selenium	3.3 U N	UG/L	270.2	11-NOV-98
Silver	1.3 U	UG/L	200.7	08-DEC-98
Sodium	368000 E ✓	UG/L	200.7	08-DEC-98
Thallium	1.5 U	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	58.1	UG/L	200.7	08-DEC-98

Remarks:

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Inorganics Analysis Data Sheet

Client ID :	PW-02	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112379
Project Name :	202180.10200	Date Collected :	10/19/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	10/27/98

STL Envirotest

53 Southampton Road
Westfield, MA 01085
Tel: (413) 572-4000
Fax: (413) 572-3707

MADEP MA014
NCDEHNR 408
CTDPH-0484
USACE
NY DOH 10843
NH DES 2539

Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 202180.10200

STL Sample Number: 194151-02

Client I.D.: PW-03

Date Collected: 19-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	105 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	1.5 U	UG/L	200.7	08-DEC-98
Barium	1220	UG/L	200.7	08-DEC-98
Beryllium	0.2 U	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	167000	UG/L	200.7	08-DEC-98
Chromium	0.5 U	UG/L	200.7	08-DEC-98
Cobalt	0.4 B	UG/L	200.7	08-DEC-98
Copper	1.9 B	UG/L	200.7	08-DEC-98
Iron	154	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	54100	UG/L	200.7	08-DEC-98
Manganese	132	UG/L	200.7	08-DEC-98
Mercury	0.2 U N ✓	UG/L	245.1	26-OCT-98
Nickel	1.1 B	UG/L	200.7	08-DEC-98
Potassium	47400 E ✓	UG/L	200.7	08-DEC-98
Selenium	3.3 U N	UG/L	270.2	11-NOV-98
Silver	1.3 U	UG/L	200.7	08-DEC-98
Sodium	1040000 E ✓	UG/L	200.7	08-DEC-98
Thallium	1.6 B	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	51.1	UG/L	200.7	08-DEC-98

Remarks:

CBM - 1-27-99

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Client ID :	PW-03	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112380
Project Name :	202180.10200	Date Collected :	10/19/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	10/27/98

STL Envirotest

53 Southampton Road
Westfield, MA 01085
Tel: (413) 572-4000
Fax: (413) 572-3707

MADEP MA014
NCDEHNR 408
CTDPH-0484
USACE
NY DOH 10943
NH DES 2539

Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH
Project Name: 202180.10200
STL Sample Number: 194151-03
Client I.D.: PW-01
Date Collected: 19-OCT-98
Matrix: 2 GW/WW
Date Received: 21-OCT-98
Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	59.2 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	1.5 U	UG/L	200.7	08-DEC-98
Barium	108 B	UG/L	200.7	08-DEC-98
Beryllium	0.2 U	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	156000	UG/L	200.7	08-DEC-98
Chromium	0.5 U	UG/L	200.7	08-DEC-98
Cobalt	1.0 B	UG/L	200.7	08-DEC-98
Copper	1.6 B	UG/L	200.7	08-DEC-98
Iron	36.6 B	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	28100	UG/L	200.7	08-DEC-98
Manganese	1470	UG/L	200.7	08-DEC-98
Mercury	0.2 U N ✓	UG/L	245.1	26-OCT-98
Nickel	4.0 B	UG/L	200.7	08-DEC-98
Potassium	3910 B E ✓	UG/L	200.7	08-DEC-98
Selenium	3.3 U N	UG/L	270.2	11-NOV-98
Silver	2.8 B	UG/L	200.7	08-DEC-98
Sodium	48200 E ✓	UG/L	200.7	08-DEC-98
Thallium	3.0 B	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	38.2	UG/L	200.7	08-DEC-98

Remarks:

CBM
1-27-99

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Fax: (914) 562-0841

Client ID :	PW-01	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112381
Project Name :	202180.10200	Date Collected :	10/19/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	10/27/98

STL Envirotest

53 Southampton Ro
Westfield, MA 0108
Tel: (413) 572-400
Fax: (413) 572-370

MADEP MA014
NCDEHNR 408
CTDPH-0494
USACE
NY DOH 10843
NH DES 2539

Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 202180.10200

STL Sample Number: 194151-13

Client I.D.: GW-38

Date Collected: 19-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	68.9 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	1.5 U	UG/L	200.7	08-DEC-98
Barium	749	UG/L	200.7	08-DEC-98
Beryllium	0.2 U	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	63100	UG/L	200.7	08-DEC-98
Chromium	0.5 U	UG/L	200.7	08-DEC-98
Cobalt	0.3 B	UG/L	200.7	08-DEC-98
Copper	0.5 B	UG/L	200.7	08-DEC-98
Iron	967	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	31900	UG/L	200.7	08-DEC-98
Manganese	35.9	UG/L	200.7	08-DEC-98
Mercury	0.2 U N ✓	UG/L	245.1	26-OCT-98
Nickel	10.2 B	UG/L	200.7	08-DEC-98
Potassium	12500 E ✓	UG/L	200.7	08-DEC-98
Selenium	3.3 U N	UG/L	270.2	11-NOV-98
Silver	1.3 U	UG/L	200.7	08-DEC-98
Sodium	131000 E ✓	UG/L	200.7	08-DEC-98
Thallium	1.5 U	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	59.8	UG/L	200.7	08-DEC-98

Remarks:

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1-27-99

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Client ID :	GW-38	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112382
Project Name :	202180.10200	Date Collected :	10/19/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	10/27/98

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 202180.10200

STL Sample Number: 194151-14

Client I.D.: GW-06

Date Collected: 20-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	164 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	1.5 U	UG/L	200.7	08-DEC-98
Barium	452	UG/L	200.7	08-DEC-98
Beryllium	0.2 U	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	67800	UG/L	200.7	08-DEC-98
Chromium	0.5 U	UG/L	200.7	08-DEC-98
Cobalt	1.4 B	UG/L	200.7	08-DEC-98
Copper	2.0 B	UG/L	200.7	08-DEC-98
Iron	155	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	22300	UG/L	200.7	08-DEC-98
Manganese	185	UG/L	200.7	08-DEC-98
Mercury	0.2 U N	UG/L	245.1	26-OCT-98
Nickel	2.2 B	UG/L	200.7	08-DEC-98
Potassium	20400 E	UG/L	200.7	08-DEC-98
Selenium	3.3 U N	UG/L	270.2	11-NOV-98
Silver	1.3 U	UG/L	200.7	08-DEC-98
Sodium	92200 E	UG/L	200.7	08-DEC-98
Thallium	1.5 U	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	41.3	UG/L	200.7	08-DEC-98

Remarks:

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Client ID :	GW-06	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112383
Project Name :	202180.10200	Date Collected :	10/20/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	10/27/98

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 202180.10200

STL Sample Number: 194151-15

Client I.D.: GW-7R

Date Collected: 20-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	116 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	1.5 U	UG/L	200.7	08-DEC-98
Barium	229	UG/L	200.7	08-DEC-98
Beryllium	0.2 U	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	182000	UG/L	200.7	08-DEC-98
Chromium	0.5 U	UG/L	200.7	08-DEC-98
Cobalt	1.2 B	UG/L	200.7	08-DEC-98
Copper	1.5 B	UG/L	200.7	08-DEC-98
Iron	828	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	25600	UG/L	200.7	08-DEC-98
Manganese	750	UG/L	200.7	08-DEC-98
Mercury	0.2 U N	UG/L	245.1	26-OCT-98
Nickel	2.3 B	UG/L	200.7	08-DEC-98
Potassium	5290 E	UG/L	200.7	08-DEC-98
Selenium	3.3 U N	UG/L	270.2	11-NOV-98
Silver	3.2 B	UG/L	200.7	08-DEC-98
Sodium	27100 E	UG/L	200.7	08-DEC-98
Thallium	1.5 U	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	135	UG/L	200.7	08-DEC-98

Remarks:

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Inorganics Analysis Data Sheet

Client ID :	GW-7R	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112384
Project Name :	202180.10200	Date Collected :	10/20/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	11/03/98

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 202180.10200

STL Sample Number: 194151-16

Client I.D.: GW-28

Date Collected: 20-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	177 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	1.5 U	UG/L	200.7	08-DEC-98
Barium	127 B	UG/L	200.7	08-DEC-98
Beryllium	0.2 U	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	36600	UG/L	200.7	08-DEC-98
Chromium	0.5 U	UG/L	200.7	08-DEC-98
Cobalt	1.8 B	UG/L	200.7	08-DEC-98
Copper	0.5 B	UG/L	200.7	08-DEC-98
Iron	47.4 B	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	14700	UG/L	200.7	08-DEC-98
Manganese	41.1	UG/L	200.7	08-DEC-98
Mercury	0.2 U N	UG/L	245.1	26-OCT-98
Nickel	17.4 B	UG/L	200.7	08-DEC-98
Potassium	27000 E	UG/L	200.7	08-DEC-98
Selenium	3.3 U N	UG/L	270.2	11-NOV-98
Silver	1.3 U	UG/L	200.7	08-DEC-98
Sodium	446000 E	UG/L	200.7	08-DEC-98
Thallium	1.5 U	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	53.0	UG/L	200.7	08-DEC-98

Remarks:

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Client ID :	GW-28	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112385
Project Name :	202180.10200	Date Collected :	10/20/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	11/03/98

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 202180.10200

STL Sample Number: 194151-17

Client I.D.: GW-09

Date Collected: 20-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	64.1 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	1.5 U	UG/L	200.7	08-DEC-98
Barium	619 ✓	UG/L	200.7	08-DEC-98
Beryllium	0.2 U	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	84700	UG/L	200.7	08-DEC-98
Chromium	0.5 U	UG/L	200.7	08-DEC-98
Cobalt	0.2 B	UG/L	200.7	08-DEC-98
Copper	1.5 B	UG/L	200.7	08-DEC-98
Iron	672	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	37200	UG/L	200.7	08-DEC-98
Manganese	38.8	UG/L	200.7	08-DEC-98
Mercury	0.2 U N ✓	UG/L	245.1	26-OCT-98
Nickel	2.0 B	UG/L	200.7	08-DEC-98
Potassium	7410 E ✓	UG/L	200.7	08-DEC-98
Selenium	3.3 U N	UG/L	270.2	11-NOV-98
Silver	1.3 U	UG/L	200.7	08-DEC-98
Sodium	42400 E ✓	UG/L	200.7	08-DEC-98
Thallium	1.5 U	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	35.2	UG/L	200.7	08-DEC-98

Remarks:

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Client ID :	GW-09	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112386
Project Name :	202180.10200	Date Collected :	10/20/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	11/03/98

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 202180.10200

STL Sample Number: 194151-18

Client I.D.: GW-09 DUP

Date Collected: 20-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	72.8 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	1.5 U	UG/L	200.7	08-DEC-98
Barium	737	UG/L	200.7	08-DEC-98
Beryllium	0.2 U	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	86600	UG/L	200.7	08-DEC-98
Chromium	0.5 U	UG/L	200.7	08-DEC-98
Cobalt	0.3 B	UG/L	200.7	08-DEC-98
Copper	0.5 B	UG/L	200.7	08-DEC-98
Iron	896	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	38200	UG/L	200.7	08-DEC-98
Manganese	34.7	UG/L	200.7	08-DEC-98
Mercury	0.2 U N	UG/L	245.1	26-OCT-98
Nickel	1.1 B	UG/L	200.7	08-DEC-98
Potassium	6880 E	UG/L	200.7	08-DEC-98
Selenium	3.3 U N	UG/L	270.2	11-NOV-98
Silver	1.3 U	UG/L	200.7	08-DEC-98
Sodium	45600 E	UG/L	200.7	08-DEC-98
Thallium	1.5 U	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	46.5	UG/L	200.7	08-DEC-98

Remarks:

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Client ID :	GW-09 DUP	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112387
Project Name :	202180.10200	Date Collected :	10/20/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	11/03/98

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 02180.10200

STL Sample Number: 194151-19

Client I.D.: GW-10

Date Collected: 20-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	141 B	UG/L	200.7	08-DEC-98
Antimony	3.2 U	UG/L	200.7	08-DEC-98
Arsenic	3.0 U	UG/L	200.7	08-DEC-98
Barium	123 B	UG/L	200.7	08-DEC-98
Beryllium	0.4 U	UG/L	200.7	08-DEC-98
Cadmium	0.6 U	UG/L	200.7	08-DEC-98
Calcium	273000	UG/L	200.7	08-DEC-98
Chromium	1.0 U	UG/L	200.7	08-DEC-98
Cobalt	4.6 B	UG/L	200.7	08-DEC-98
Copper	5.0 B	UG/L	200.7	08-DEC-98
Iron	78.3 B	UG/L	200.7	08-DEC-98
Lead	3.9 B	UG/L	200.7	08-DEC-98
Magnesium	89100	UG/L	200.7	08-DEC-98
Manganese	690	UG/L	200.7	08-DEC-98
Mercury	0.2 U N	UG/L	245.1	26-OCT-98
Nickel	13.5 B	UG/L	200.7	08-DEC-98
Potassium	51100 E	UG/L	200.7	08-DEC-98
Selenium	3.3 U W N	UG/L	270.2	11-NOV-98
Silver	6.8 B	UG/L	200.7	08-DEC-98
Sodium	109000 E	UG/L	200.7	08-DEC-98
Thallium	3.0 U	UG/L	200.7	08-DEC-98
Vanadium	0.8 U	UG/L	200.7	08-DEC-98
Zinc	86.4	UG/L	200.7	08-DEC-98

Remarks:

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Inorganics Analysis Data Sheet

Client ID :	GW-10	Report No :	13554
Client Name :	Rust/Earth Tech.	STL Sample Number :	112388
Project Name :	202180.10200	Date Collected :	10/20/98
Matrix Name :	Groundwater	Date Received :	10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.013	mg/L	LAC204001A	11/03/98

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: RUST/EARTH TECH

Project Name: 202180.10200

STL Sample Number: 194151-20

Client I.D.: FB-01

Date Collected: 20-OCT-98

Matrix: 2 GW/WW

Date Received: 21-OCT-98

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	75.2 B	UG/L	200.7	08-DEC-98
Antimony	1.6 U	UG/L	200.7	08-DEC-98
Arsenic	1.5 U	UG/L	200.7	08-DEC-98
Barium	48.5 B	UG/L	200.7	08-DEC-98
Beryllium	0.2 U	UG/L	200.7	08-DEC-98
Cadmium	0.3 U	UG/L	200.7	08-DEC-98
Calcium	4140 B	UG/L	200.7	08-DEC-98
Chromium	0.7 B	UG/L	200.7	08-DEC-98
Cobalt	0.2 U	UG/L	200.7	08-DEC-98
Copper	1.0 B	UG/L	200.7	08-DEC-98
Iron	19.4 B	UG/L	200.7	08-DEC-98
Lead	1.5 U	UG/L	200.7	08-DEC-98
Magnesium	296 B	UG/L	200.7	08-DEC-98
Manganese	3.2 B	UG/L	200.7	08-DEC-98
Mercury	0.2 U N	UG/L	245.1	26-OCT-98
Nickel	0.6 U	UG/L	200.7	08-DEC-98
Potassium	180 B E	UG/L	200.7	08-DEC-98
Selenium	3.3 U W N	UG/L	270.2	11-NOV-98
Silver	1.3 U	UG/L	200.7	08-DEC-98
Sodium	4360 B E	UG/L	200.7	08-DEC-98
Thallium	1.5 U	UG/L	200.7	08-DEC-98
Vanadium	0.4 U	UG/L	200.7	08-DEC-98
Zinc	92.8	UG/L	200.7	08-DEC-98

Remarks:

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Inorganics Analysis Data Sheet

Client ID :FB-01
Client Name :Rust/Earth Tech.
Project Name :202180.10200
Matrix Name : Groundwater

Report No : 13554
STL Sample Number : 112389
Date Collected : 10/20/98
Date Received : 10/21/98

CAS NO	Analyte	Result	Units	Method	Date Analyzed
	Cyanide, total	0.01U	mg/L	LAC204001A	11/03/98