UNIT 11E.(2) QUARTERLY GROUNDWATER MONITORING EVENT REPORT
SECOND QUARTER 1996

ENVIROCARE OF UTAH, INC.
Clive, Utah

Prepared by

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UNIT 11E.(2) QUARTERLY GROUNDWATER MONITORING EVENT REPORT SECOND QUARTER 1996

CHAPTER 1

INTRODUCTION

Envirocare of Utah, Inc. ("Envirocare") operates a waste disposal facility near Clive, Utah known as the 11e.(2) unit. This facility has been licensed and permitted to operate under the following laws and rules:

- A Materials License to receive, acquire, possess, and transfer byproduct, source, and special nuclear material pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 33, 34, 35, 39, 40, and 70.

- A Category 4-A license to transfer, receive, possess, and use specific radioactive materials pursuant to Section 19-3-104 of the Utah Code Annotated 1953 and the Utah Department of Environmental Quality Rules for the Control of Ionizing Radiation.

- A Ground Water Quality Discharge Permit for a Low-Activity Radioactive Waste (LARW) and 11e.(2) Waste Disposal Facility, effective April 5, 1996, pursuant to the Utah Water Quality Act, Title 19, Chapter 5, Utah Code Annotated 1953 as amended.

From May 7 through May 9, 1996, EarthFax Engineering, Inc. ("EarthFax") assisted Envirocare in the performance of quarterly monitoring and sampling of twelve monitoring wells located on the perimeter of the 11e.(2) unit. These wells are designated in Table S-1 of the

Materials License as Point of Compliance Monitoring Wells ("POC Wells") and are identified as GW-19A, GW-20, GW-24, GW-25, GW-26, GW-27, GW-28, GW-29, GW-57, GW-58, GW-60, and GW-63.

Envirocare contracted Mountain States Analytical, Inc. of Salt Lake City, Utah to perform conventional chemistries analysis, and Barringer Laboratories of Golden, Colorado to perform radiological analyses. This was the first sampling event at the 11e.(2) disposal cell for which Mountain States Analytical, Inc. performed conventional chemistries analysis.

This report, which summarizes the field activities performed during the sampling event and subsequent confirmation sampling events, is divided into five chapters including this introduction. Chapter 2 presents a discussion of field activities performed during these events, including field monitoring and sampling procedures, QA/QC samples submitted for laboratory analysis, and sample documentation and handling. Chapter 3 presents a discussion of data validation results. Chapter 4 presents a discussion of hydrologic considerations, and Chapter 5 presents conclusions and recommendations.

CHAPTER 2

FIELD ACTIVITIES

2.1 FIELD MONITORING AND SAMPLING PROCEDURES

The 11e.(2) second quarterly sampling event and subsequent confirmation sampling events were conducted using the Team Leader and Team Member concept as outlined in the Envirocare of Utah, Inc. groundwater monitoring Operating Procedures Manual. This concept defines the Team Leader as an employee of Envirocare of Utah, Inc. and the Team Member as an employee of a contracted consulting firm, with each member of the sampling team having specific work tasks assigned to them. The twelve 11e.(2) wells sampled during the event are generally located on the perimeter of the 11e.(2) unit, with three wells being located on the perimeter of each of the four sides of the unit boundaries. The 11e.(2) unit is located in the southwest corner of the Clive facility (see Figure 2-1).

Field monitoring and sampling procedures during Quarterly and confirmation sampling events were conducted according to the Envirocare of Utah, Inc. groundwater monitoring Operating Procedures Manual ("OPM") and the Groundwater Monitoring Quality Assurance Plan ("GWMQA"). Field monitoring at each well included completing the field monitoring and sampling log form specified in the GWMQA; measuring water levels; purging three well casing volumes from the well using a dedicated bladder pump system and attachments; and measuring pH, specific conductivity, and temperature. The field monitoring and sampling log forms contain pertinent information regarding field conditions at each sampling station as well actual purge volumes and flow rates. Field monitoring and sampling log forms completed during the sampling event are included in Attachment A of this report. Water level measurements are included in Table 2-1. Field analytical equipment such as the pH meter, the specific conductivity meter, and the thermometer were calibrated according to manufacturer's specifications at the beginning of each day of sampling, again during the day,

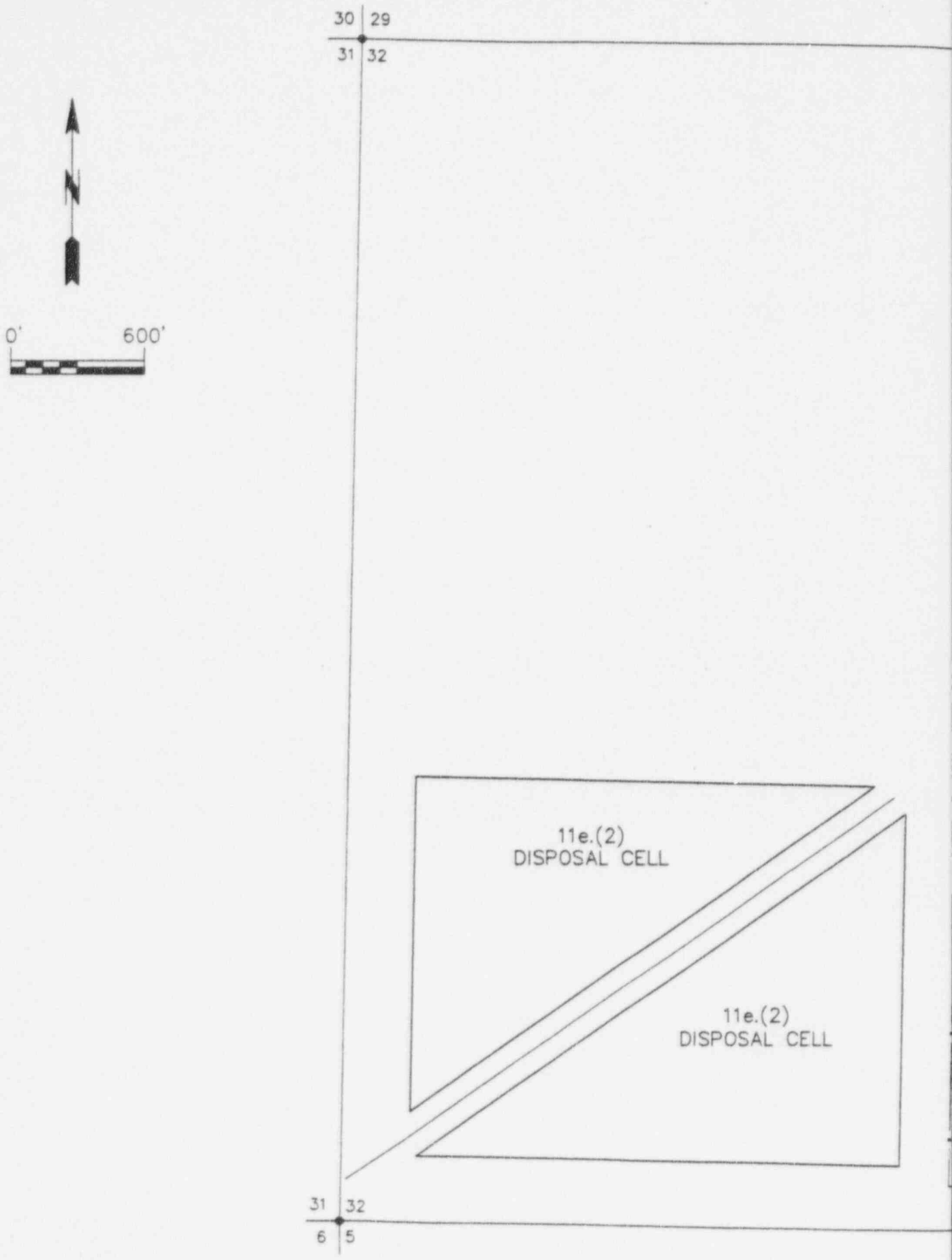
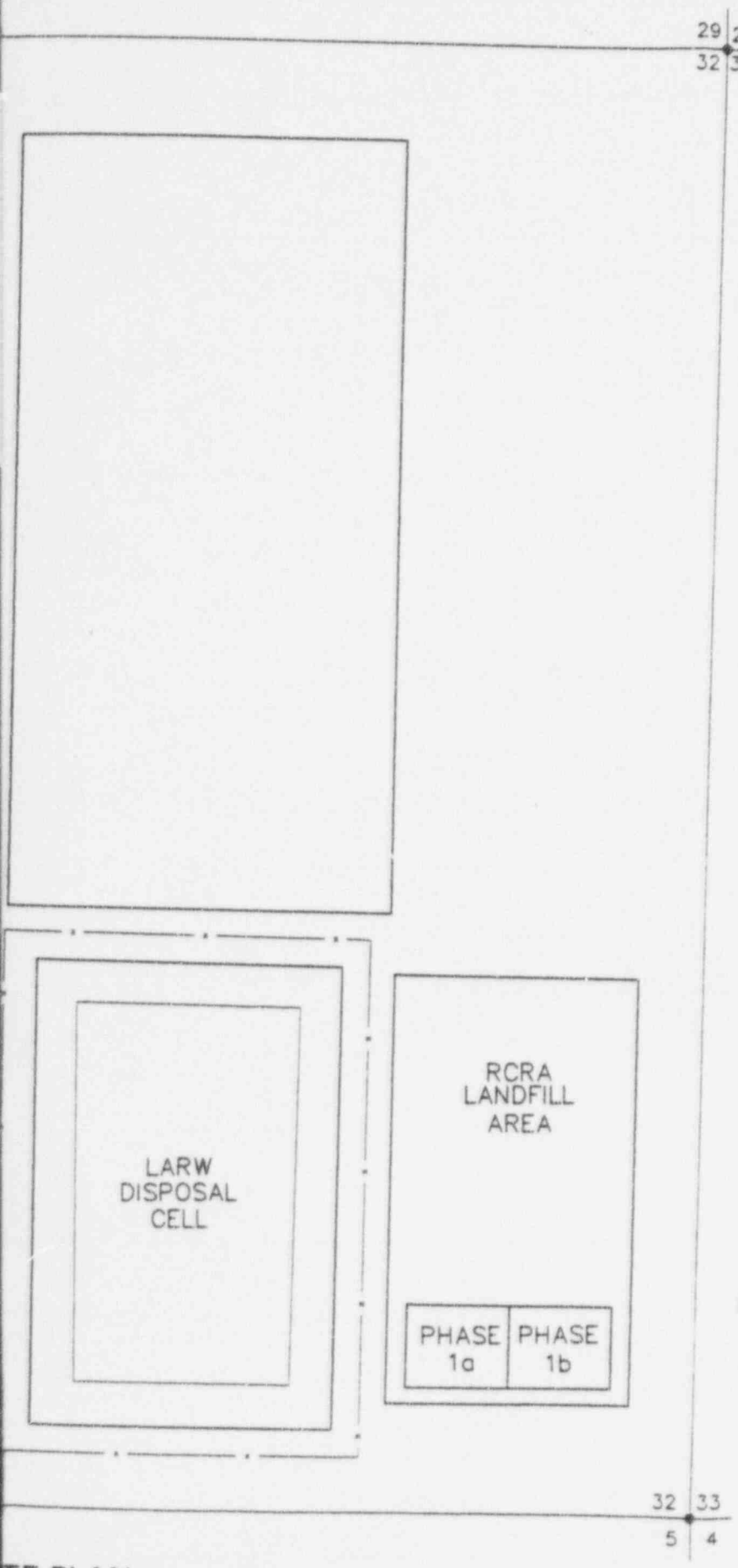

30
29
31
32
N
0'
600'
11e.(2)
DISPOSAL CELL
11e.(2)
DISPOSAL CELL
31
32
6
5

FIGURE 2-1. SI



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TE PLAN

EarthFax

TABLE 2-1

1996 Groundwater Measurements and Surface Elevations

Well ID#	Top of Casing Elevation	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
		Depth to Water (feet)	Groundwater Surface Elevation	Depth to Water (feet)	Groundwater Surface Elevation	Depth to Water (feet)	Groundwater Surface Elevation	Depth to Water (feet)	Groundwater Surface Elevation
GW-19-A	4270.83			20.83	4250.00				
GW-20	4276.67			25.19	4251.48				
GW-24	4276.74			25.39	4251.35				
GW-25	4276.22			25.18	4251.04				
GW-26	4274.62			24.99	4249.63				
GW-27	4272.44			23.33	4249.11				
GW-28	4271.38			21.24	4250.14				
GW-29	4276.67			25.68	4250.99				
GW-57	4271.93			22.28	4249.65				
GW-58	4271.17			20.74	4250.43				
GW-60	4274.64			23.50	4251.14				
GW-63	4272.00			20.77	4251.23				

and at the end of each day of sampling to ensure proper operation. Calibration checks for the pH meter and temperature probe during each day were conducted using a standard buffer solution of pH 7.0. Daily calibration notes were kept by the sampling team leader in a calibration log book maintained by Envirocare of Utah, Inc. personnel.

Once an appropriate volume of well water had been purged from each well and field monitoring equipment had verified that groundwater issuing from the bladder pump system was representative of formation groundwater at the screened interval of the well, sample containers were filled according to specifications outlined in the OPM. These specifications permit sampling only after pH, specific conductivity, and temperature measurements fall within specific ranges . These ranges include three consecutive readings to within 0.5°F or 0.1°C for temperature, to within 0.05 pH units for pH, and to within 1% for specific conductance. Eh readings were also taken. When sampling for volatile organic compounds, the flow rate of the well was reduced to less than 100 ml per minute to avoid volatilization of volatile compounds during sampling. The order of filling sample containers was in descending order as follows: volatiles, semi-volatiles, metals, fluoride, fluorine, and radiologic samples.

2.2 FIELD QA/QC SAMPLES

Field QA/QC samples taken during sampling events included one trip blank and one field duplicate according to the GWMQA plan. Table 2-2 lists each field duplicate sample submitted for analysis and the wells from which the samples were extracted during the second quarterly 1996 sampling event conducted at the 11e.(2) Disposal cell. Summaries of trip blank and field duplicate laboratory results are included in Attachment B. Trip blank and field duplicate laboratory reports are included in Attachment C for conventional chemistries analysis and in Attachment D for radiologic analyses.

TABLE 2-2

Field Duplicate Identification

Sample Event Date		Lab Set Numbers		Duplicate Sample Identification	Original Sample Identification
2nd Quarter	Confirmation	MSAI	Barringer		
May 9, 1996		12672[a] 11978	961949E	GW-70	GW-20
	August 9, 1996	13069		GW-70	GW-20
	August 13, 1996	13092		GW-71	GW-60
	August 13, 1996	13092		GW-72	GW-58
	August 15, 1996	13156	962819E	GW-75	GW-58
	October 7, 1996	13814		GW-86	GW-60
	October 7, 1996	13814		GW-87	GW-25

[a] Lab set 12672 was a re-evaluation of Arsenic and Selenium using atomic absorption methods (HAA) instead of graphite furnace methods (GFAA), as explained in Section 3-1

2.3 SAMPLE DOCUMENTATION AND HANDLING

In addition to following GWMQA and OPM guidelines, labeling, packaging, documentation, shipment, transfer, and relinquishment of samples were performed according to Contract Laboratory Procedure Guidelines.[1] Details of these activities are provided below.

Each sample was labeled using a pre-affixed adhesive label and an indelible ink pen. Information on the sample labels included a sample identification number, preservative(s) in the sample container, date on which the sample was taken, the time at which the sample was taken, and the sampler's signature.

Sample containers were prepared and shipped to the site prior to the date of the sampling events. Sample containers were filled with care to prevent spillage and possible dilution of the preservatives. Sample volumes, sample containers, preservatives, and field filters used for the sampling events are shown in Table 2-3. Holding times for initial and confirmation sampling events are shown in Table 2-4. Copies of bottle certifications are provided in Attachment E.

Sample containers were packaged in plastic ice chests with crushed ice to keep them preserved at 4° C. All 1 gallon amber glass sample containers were wrapped in bubble wrap to provide added protection against breakage. The 40 ml glass vials were wrapped in plastic ziplock bags and placed in between plastic sample containers.

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[1] "User's Guide to Contract Laboratory Program", U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, 401 M Street SW, Washington, D.C., 1988, Publication Number EPA/540/8-89/012. Applicable specifications are outlined on pages 36-41 and Appendix D.

TABLE 2-3

Containers, Volumes, and Preservatives Used in Sample Collection

	Analyses	Volume Submitted	Container Type	Field Filtered?	Preservative
Organic Samples					
	Volatiles	80 ml	(2) 40 ml clear glass vials	No	4°C, HCl
	Extractables	1 gallon	(1) amber glass bottle	No	4°C, $Na_2S_2O_3$
Inorganic Samples					
	General Metals	1 liter	(1) plastic bottle	Yes	4°C, HNO_3
	Cyanide	500 ml	(1) plastic bottle	No	4°C, NaOH
	Fluoride	500 ml	(1) plastic bottle	Yes	4°C
	Fluorine	500 ml	(1) plastic bottle	Yes	4°C
Radiologic Samples					
	$Radium_{226}$ $Radium_{228}$ $Thorium_{230}$ $Thorium_{232}$ Uranium	1 gallon	(1) plastic Cubitainer	Yes	4°C, HNO_3

TABLE 2-4

Holding Times
11e.(2) Second Quarter Sampling and Confirmation Sampling
May 1996

Lab Set Number	Wells Included	Date Sampled	Date Received	Type of Analysis	Holding Time	Date Analyzed	No. Days Elapsed
May 1996 Initial Sampling Event							
11947	GW-29,20, Blind Duplicate	5/7/96	5/7/96	Metals VOC Semi-VOC	6 Months 14 Days 7,40 Days	5/14-5/20 5/19 5/10, 5/15	13 12 3, 8
961949E			5/14/96	Radiologics, Fluorine	6 Months 28Days	5/17-5/28 5/18	3-14 4
11977	GW-60,63, 19A,58, 24	5/8/96	5/8/96	Metals VOC Semi-VOC	6 Months 14 Days 7, 40 Days	5/14-5/20 5/19-5/20 5/10, 5/15-5/20	6-12 11-12 2, 7-12
961949E			5/14/96	Radiologics, Fluorine	6 Months 28Days	5/17-5/28 5/18	3-14 4
11978	GW-25,26, 27,57, 28,Trip Blank	5/9/96	5/9/96	Metals VOC Semi-VOC	6 Months 14 Days 7,40 Days	5/14-5/20 5/20 5/10, 5/20	5-11 11 1, 11
961949E			5/14/96	Radiologics, Fluorine	6 Months 28Days	5/17-5/28 5/18	3-14 4
12672(a)	GW-25,27, 28,63, 58, 29,26,57, 60,19A,24,20, Blind Duplicate	5/7-5/9, 1996	5/7-5/9, 1996	Arsenic Selenium	6 Months 6 Months	7/18 7/23	70-72 75-77
August 1996 Confirmation Sampling Event							
13069	GW-28,57,20, Blind Duplicate	8/9/96	8/9/96	Cyanide	14 Days	8/12	3

(a) Re-evaluation of arsenic and selenium by the laboratory using samples submitted for initial May 1996 event (lab group numbers: 11947, 11977, 11978).

TABLE 2-4 (Continued)

Holding Times
11e.(2) Second Quarter Sampling and Confirmation Sampling
May 1996

Lab Set Number	Wells Included	Date Sampled	Date Received	Type of Analysis	Holding Time	Date Analyzed	No. Days Elapsed
13092	GW-24,25, 26,60,58, 27, (2) Blind Duplicates	8/13/96	8/13/96	Arsenic Selenium Lead	6 Months 6 Months 6 Months	8/20 8/20 8/19	7 7 6
13151	GW-19A,25 26,27,58, 28	8/14/96	8/14/96	Metals VOC Semi-VOC	6 Months 14 Days 7,40 Days	8/19-8/30 8/19 8/20, 8/23	5-16 5 6, 9
962788E			8/15/96	Radiologics, Fluorine	6 Months 28Days	8/16-8/29 8/21	1-14 6
13156	GW-58,24	8/15/96	8/15/96	Metals VOC Semi-VOC	6 Months 14 Days 7,40 Days	8/19-8/30 8/19 8/20, 8/23	4-15 4 5, 8
962819E	60,63,29, 20, Trip Blank, Blind Duplicate		8/16/96	Radiologics, Fluorine	6 Months 28Days	8/26-9/10 8/21	10-25 5
October 1996 Confirmation Sampling Event							
13814	GW-25,28,57,60, (2) Blind Duplicates	10/7/96	10/7/96	Cyanide Selenium	14 Days 6 Months	10/8 10/15,10/25	1 8,18
963479E	GW-60, 25 Blind Duplicate		10/9/96	Radiologics	6 Months	10/21-11/13	14-37

Each sample was logged onto a Chain-of-Custody form provided by Envirocare of Utah, Inc. Information completed on these forms included the sample identification number, the sample location, the date and time when each sample was collected, the sample type (grab or composite), the number of sample containers, the analyses requested, and appropriate signatures for relinquishment including the date and time of relinquishment. Copies of Chain-of-Custody forms used during this event are included with the analytical reports in Attachments C and D, and are collated with their respective reports. Custody of samples submitted for conventional chemistries analysis was personally maintained by a sampling team member until they were relinquished to the analytical laboratory. Custody and shipment of samples submitted for radiological analyses was arranged through a commercial carrier. Each Chain-of-Custody form was enclosed in a plastic ziplock bag and placed with the samples in an ice chest. Each ice chest containing samples was sealed with a Custody Seal which included the date and the sampler's initials. The integrity of these seals was maintained until the samples were delivered to the analytical laboratories.

2.4 CONFIRMATION SAMPLING EVENTS

Laboratory analytical reports from the May 7-9, 1996 Quarterly Sampling event indicated that selected wells may have exceeded Approved Background Concentrations as outlined in Table S-1 of the NRC Materials License. Verification of these results was subsequently sought through confirmation sampling events as required in Section 11.1, paragraph three of the Materials License. Confirmation sampling events were conducted on August 9, 13-15, and on October 7,1996. Third Quarter sampling was conducted at the 11e.(2) Disposal cell on August 14-15, 1996. Data resulting from that event was also used where a third sample was required to confirm or deny an exceedance from Second Quarter event results. Confirmed exceedances were reported to the NRC on October 2, 1996 based on analytical results which had been received at that time. Subsequent to October 2, 1996,

analytical results were received in connection with confirmation sampling for the following parameters, and are discussed below:

Well	Parameters
GW-60	Selenium Radium-226 Radium-228 Thorium-230
GW-25	Cyanide Radium-226 Radium-228

Analytical results of initial and confirmation sampling events are included in Attachment C for conventional chemistries and in Attachment D for radiological chemistries. Table 2-5 includes a list of each parameter initially exceeded at each POC well, and subsequent confirmation sampling results used to determine which parameters are confirmed exceedances. Summaries of analytical results for initial and confirmation sampling events are included in Attachment B, and are organized according to each well sampled.

Several parameters analyzed were not detected at the method detection limit. These are flagged in the summaries included in Attachment B and in the analytical report with a "U" designation. Parameters detected below the limit of quantitation but above the limit of detection are flagged with a "b" designation in the same documents.

As shown in Table 2-5, arsenic and selenium exceedances were typically only slightly above the Approved Background Concentrations listed in Table S-1 of the NRC Materials License. Levels of selenium were confirmed above Approved Background Concentrations in wells GW-60 and GW-24. Levels of arsenic were confirmed above Approved Background

TABLE 2-5

Parameters Reported Above NRC-Approved Background Concentrations
for Second Quarter Sampling of 11e.(2) Point of Compliance Wells

Well	Parameter	Table S-1	Initial Result	Confirmation	Confirmation	Action
GW-19A						
	Arsenic	0.036	0.044		0.047	Report
GW-24						
	Arsenic	0.032	0.033		0.034	Report
	Selenium	0.008	0.032	0.033		Report
GW-25						
	Arsenic	0.110	0.117	0.090	0.117	Report
	Cyanide	0.005	0.056	U [f]	U	None
	Radium 226+228	5.360	5.5[e]	4.300	2.400	None
GW-26						
	Arsenic	0.200	0.234	0.215		Report
	Lead	0.005	0.017	U	U	None
	Mercury	0.0002	0.0006		0.0014	Report
GW-27						
	Arsenic	0.059	0.110	0.071		Report
GW-28						
	Cyanide	0.005	0.012	U	0.003	None
GW-29						
	Arsenic	0.023	0.028		0.029	Report
GW-57						
	Arsenic	0.026	0.046		0.047	Report
	Cyanide	0.005	2.720	0.002	U	None
GW-58						
	Arsenic	0.120	0.135	0.129		Report

TABLE 2-5 (Continued)

Parameters Reported Above NRC Approved Background Concentrations
For Second Quarter Sampling of 11e.(2) Point of Compliance Wells

Well	Parameter	Table S-1	Initial Result	Confirmation Result	Confirmation Result	Action
GW-60						
	Arsenic	0.029	0.035		0.034	Report
	Selenium	0.015	0.025	0.033	0.030	Report
	Radium 226 + 228	4.070	4.4[g]	2.400	3.400	None
	Thorium 230	0.000	0.2 +/-0.8[h]	-0.1 +/-0.8 [i]	-0.2 +/-0.5	None
GW-63						
	Arsenic	0.034	0.036		0.039	Report

[a] Sample event conducted May 7-9, 1996.

[b] Confirmation sample event conducted August 9, 1996 for cyanide, August 13, 1996 for arsenic, selenium, and lead.

[c] Confirmation sample event conducted August 14-15, 1996

[d] From Table S-1 of the Materials License (No. SMC-1559, Amendment No. 6) issued by the Nuclear Regulatory Commission.

[e] Radium 226 = 2.6 +/-1.0, Radium 228 = 2.9 +/-0.6. Both were at a Lower Limit of Detection of 0.6

[f] U = Not Detected

[g] Radium 226 = 2.1 +/-0.9, Radium 228 = 2.3 +/-0.6. Both were at a Lower Limit of Detection of 0.6.

[h] Units measured in pCi/l, Lower Limit of Detection = 1.0 pCi/l.

[i] Amended result as noted in text of Section 2-4. Units measured in pCi/l, Lower Limit of detection = 2.0 pCi/l

Concentrations in wells GW-19A, GW-24, GW-25, GW-26, GW-27, GW-29, GW-57, GW-58, GW-60, and GW-63. Cyanide was initially reported above Approved Background Concentrations in wells GW-25, GW-28, and GW-57, but confirmation sampling showed that the initial results were in error as defined in Section 11.1 of the NRC Materials License. Mercury in well GW-26 was initially reported at 0.0006 mg/l and was confirmed with a reported result of 0.0014 mg/l. The approved background concentration of 0.0002 mg/l for mercury in GW-26 is set at a level which is below the laboratory limit of quantitation of 0.0005 mg/l.

Thorium-230 was initially reported as 0.2 $\pm$0.8 pCi/l in well GW-60. A confirmation sample collected from well GW-60 was reported at a level of 0.8 $\pm$1.4 pCi/l. Following the latter report for Thorium-230 in GW-60, Mr. Vernon Andrews of Envirocare contacted the radiolocical laboratory to discuss this result, and learned that a smaller than normal aliquot of sample volume had been used to run the analysis. Mr. Vernon requested that another count for $Thorium_{230}$ be made using a larger aliquot and using a longer count interval. A longer count interval was requested to provide more accurate counting statistics. The radiological laboratory conducted another analysis as described above and amended the previous report according to results achieved using the longer count interval and using a larger aliquot volume. The amended report for Thorium-230 in GW-60 was -0.1 $\pm$0.8, pCi/l with a Relative Error Ratio of 0.49. Documentation of this amendment is included in Attachment D of this report and is collated just ahead of the page which reports Thorium-230 in GW-60 (lab group number 962819E). The amended result is flagged with an "a" designation in the analytical summaries included in Attachment B. This is to indicate that the initially reported result was amended by the laboratory. The lower limits of detection for the initial and confirmation results were 1.0 and 2.0 pCi/l, respectively.

It is possible that the initial result of 0.2 $\pm$0.8 pCi/l for this well was also reported using a smaller than normal aliquot volume. However, a similar inquiry regarding this result

was not made, and another confirmation sample was necessary to confirm or deny Thorium-230 levels above Approved Background Concentrations at this well. Results from this sample were reported as -0.2±0.5 pCi/l, which does not exceed the Approved Background Concentration for that well. Consequently, the initial sample result is considered to be in error according to section 11-1 of the NRC Materials License.

The additive values of Radium-226 and Radium-228 in wells GW-25 and GW-60 were initially reported only slightly above the Approved Background Concentrations for these wells. A first confirmation sample was acquired from these wells on August 14, 1996 and on August 15, 1996, respectively. Results from these reports indicated that levels of Radium-226 and Radium-228 in these wells were below the specific Approved Background Concentrations. Consequently, another confirmation sample was collected from these wells. The analytical result of a second confirmation sample collected from well GW-25 for Radium-226 and Radium-228 indicated an additive value of 2.4 pCi/l, which does not exceed the Approved Background Concentration for that well. The initial sample result is therefore considered to be in error according to section 11-1 of the NRC Materials License. The analytical result of a second confirmation sample collected from well GW-60 for Radium-226 and Radium-228 indicated an additive value of 3.4 pCi/l, which does not exceed the Approved Background Concentration for tnat well. The initial sample result is therefore considered to be in error according to section 11-1 of the NRC Materials License.

CHAPTER 3

DATA VALIDATION AND QUALITY ASSURANCE REVIEW

Laboratory quality control data generated by the contract laboratories to determine quality, precision, and accuracy according to EPA data validation guidelines set forth in EPA SW-846 has been reviewed and evaluated. Laboratory quality control data for conventional chemistries are found in Attachment F and are included under separate cover with this report. Laboratory quality control data for radiological chemistries are included in Attachment G.

3.1 QUALITY CONTROL AND NONCONFORMANCE SUMMARIES

Due to high background salinity (as indicated by the specific conductance measurements), all samples collected during the May 1996 event required dilution under Graphite Furnace Atomic Absorption ("GFAA") method 7060 to analyze for arsenic and selenium. in lab sets 11947, 11977, and 11978. These interferences also caused poor spike recoveries for lead and selenium, poor duplicate Relative Percent Difference ("RPD") for lead, and poor spike duplicate RPD for arsenic, lead, and selenium. As a result of these interferences, a re-evaluation of arsenic and selenium for samples in the above data sets was made using the Hydride Atomic Absorption ("HAA") technique specified in SW-846, Method 7061. This is an acceptable method according to Envirocare's Groundwater Monitoring Quality Assurance Plan, approved by Utah Division of Water Quality in 1991. Additionally, the GFAA method is subject to interferences by matrix components.[2] Mountain States Analytical suggested the use of Method 7061 due to the salinity of the groundwater samples submitted, which appears to have caused nonspecific absorption and light scattering using the GFAA technique. Results using the HAA technique for arsenic and selenium analysis on samples

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[2] U.S. EPA SW-846, September 1986, Revision O, p.7060-1, Section 3.0, para. 3.3.

submitted from the May 7-9, 1996 Second Quarter event are flagged in Attachment B with an "r". All subsequent (confirmation) sampling analyses for arsenic and selenium were performed using the HAA technique, and are not flagged in Attachment B.

All analytical and QA/QC data contained in Attachments are arranged according to laboratory data set number identified on the analytical report forms. Therefore, for ease of comparison, subsequent discussions of the laboratory QA/QC data will refer to the laboratory set number. As indicated in Table 2-4, the following laboratory set numbers correspond to the indicated sampling dates:

Sampling Event	Mountain States Laboratory Sets	Barringer Laboratory Sets
May 1996 (Initial)	11947, 11977, 11978, 12672	961949E
August 1996 (Confirmation)	13069, 13092, 13151, 13156	962788E, 962819E
October 1996(Confirmation)	13814	963479E

As indicated in Attachment F, spike recoveries for barium and nickel in samples analyzed under laboratory sets 11947, 11976, and 11977 were out of control limits. The recoveries fell within two to three times the standard deviation of the mean recovery, classifying the recovery as a marginal outlier. Post digestion spike recoveries suggest some matrix effects. The above-named laboratory sets include all wells sampled during the 1996 Second Quarter sampling event.

Poor Relative Percent Difference ("RPD") and spike recoveries were experienced during QC analysis for arsenic during re-evaluation of the sample volume submitted for well GW-29 (laboratory set 12672) using the HAA technique as described above. The sample contained

precipitate at the bottom of the volumetric which caused incomplete homogenization and resulted in the poor RPD and spike recoveries. This sample was extracted from GW-29 during the 1996 Second Quarter sampling event.

Spike and spike duplicate recoveries were outside control limits for lead in the sample volume representing well GW-26 (laboratory set 13092) due to confirmed matrix interference. This sample was extracted from GW-26 as a confirmation sample on August 13, 1996.

Spike recoveries for arsenic were outside control limits for all samples analyzed under lab sets 13151 and 13156. The cause for this was determined by the laboratory to be salinity interference inherent to the sample. These samples were extracted in connection with confirmation sampling conducted on August 14-15, 1996 for wells GW-19A, GW-24, GW-25, GW-29, GW-57, GW-60, GW-63.

Spike recoveries for lead were outside control limits for all samples analyzed under laboratory sets 13151 and 13156. The cause for this was determined by the laboratory to be salinity interference inherent to the sample. These samples were extracted in connection with confirmation sampling conducted on August 14-15, 1996, for well GW-26.

Spike recoveries for barium, beryllium, and molybdenum were outside control limits in laboratory sets 13151 and 13156, but were within three standard deviations of the mean recovery and were therefore classified as marginal outliers. These laboratory sets include all of the 11e.(2) POC wells, which were sampled on August 14-15, 1996. The poor recoveries were likely influenced by the high background salinity.

Spike recoveries for cadmium, chromium, and nickel were out of control limits in laboratory sets 13151 and 13156 due to interference inherent in the sample. These laboratory sets include all of the POC wells which were sampled on August 14-15, 1996.

Mr. Scott Fraser, project manager of Envirocare sample analysis at Mountain States Analytical, Inc., has indicated that the interferences and control limit exceedances described above were primarily attributable to the high salinity of the groundwater samples submitted, as indicated by specific conductivity measurements performed at each well, which typically ranged from 50,000 to 75,000 *u*ohms/cm at 25°C. Mr. Fraser further indicated improvements in the control limit concerns could be made through sample dilution, but this process would likely compromise the accuracy of the data set. Therefore, the decision was made to minimize dilution to the extent possible.

All other quality control parameters were within control limits.

3.2 Field Duplicates

Field duplicate samples extracted during the Second Quarter event and subsequent confirmation sampling events are identified in Table 2-2. Field duplicates are used to evaluate the precision of the analytical results. Precision is the agreement between a set of replicate measurements without assumption or knowledge of the true value.

Attachment H shows field duplicate sample results for organic and inorganic parameters compared with their respective counterparts using Relative Percent Difference[3] which was determined using:

$$RPD = \frac{(S - D)}{((S + D)/2)} \times 100$$

[3] U.S. EPA SW846, 1992, Revision 1, Chapter 1, p.28.

Where: S = Sample Result
D = Duplicate Result

Several of the results from this analysis showed a significant Relative Percent Difference, which in some cases can be attributed to the mathematics inherent to the equation. In those cases, the actual difference between the two values is not significant when considered in relation to the reported results (i.e., concentrations in the original and the duplicate samples were sufficiently low that small absolute differences resulted in large relative differences). Where a significant Relative Percent Difference is considered to reflect a mathematical value rather than true value, the value is flagged with a "m" designation in the summaries included in Attachment G.

3.3 TRIP BLANKS

Summary results of trip blanks submitted and analyzed in connection with Second Quarter 1996 sampling and subsequent confirmation sampling events are included in Attachment B. Trip blanks serve as a check on sample contamination originating from sample transport, shipping, and from the site conditions. Trip blanks were not opened before or during sampling events, and container seals were kept intact up until the time of delivery of the trip blank containers to the analytical laboratories.

Mercury and lead were detected at levels above the detection limit, but below the limit of quantitation, in the trip blank submitted for the August 14-15, 1996 sampling event. All other trip blanks were reported at non-detect levels for the parameters analyzed.

CHAPTER 4

SITE HYDROLOGY

Water-level data presented in Table 2-1 were used to prepare the potentiometric surface map contained in Figure 4-1. As indicated, the direction of flow beneath the 11e.(2) disposal cells is variable, due to the presence of a groundwater divide beneath a portion of the cells. Previous potentiometric surface maps have indicated that the apex of this mound was located beneath the center of the disposal cells[4]. Water-level data used to prepare these previous maps included measurements collected from three monitoring wells located on the diagonal between the two 11e.(2) cells (i.e., GW-36, GW-37, and GW-38, which are not shown on Figure 4-1). Since water levels were not measured in these wells during the second quarterly 1996 sampling event, these data were unavailable for preparation of the potentiometric surface map in Figure 4-1. Hence, the apparent shift in the location of the mound to the southeastern portion of the disposal cells may be an artifact of the data base as opposed to an actual field condition.

As noted in Table 2-5, arsenic concentrations exceeded the Table S-1 standard in nearly every well. Section 3.1 indicates that the cause of these apparent exceedances was likely analytical interference as caused by the high salinity of the samples. Differences between analytical laboratories probably also contributed to the apparent exceedances (i.e., a change in contract laboratories occurred just prior to the second quarterly 1996 sampling event). Further evidence that the apparent exceedances were not likely caused by contamination resulting from site activities is seen in the potentiometric surface map. At the time of the second quarterly 1996 sampling event, waste had been disposed of only in the extreme southeast corner of the 11e.(2) unit (i.e., immediately upgradient from well GW-29).

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[4]See, for instance, Figure 1 in the report of the first 1996 semi-annual groundwater sampling event for the LARW and 11e.(2) monitoring wells, as prepared by Bingham Environmental (dated May 13, 1996).

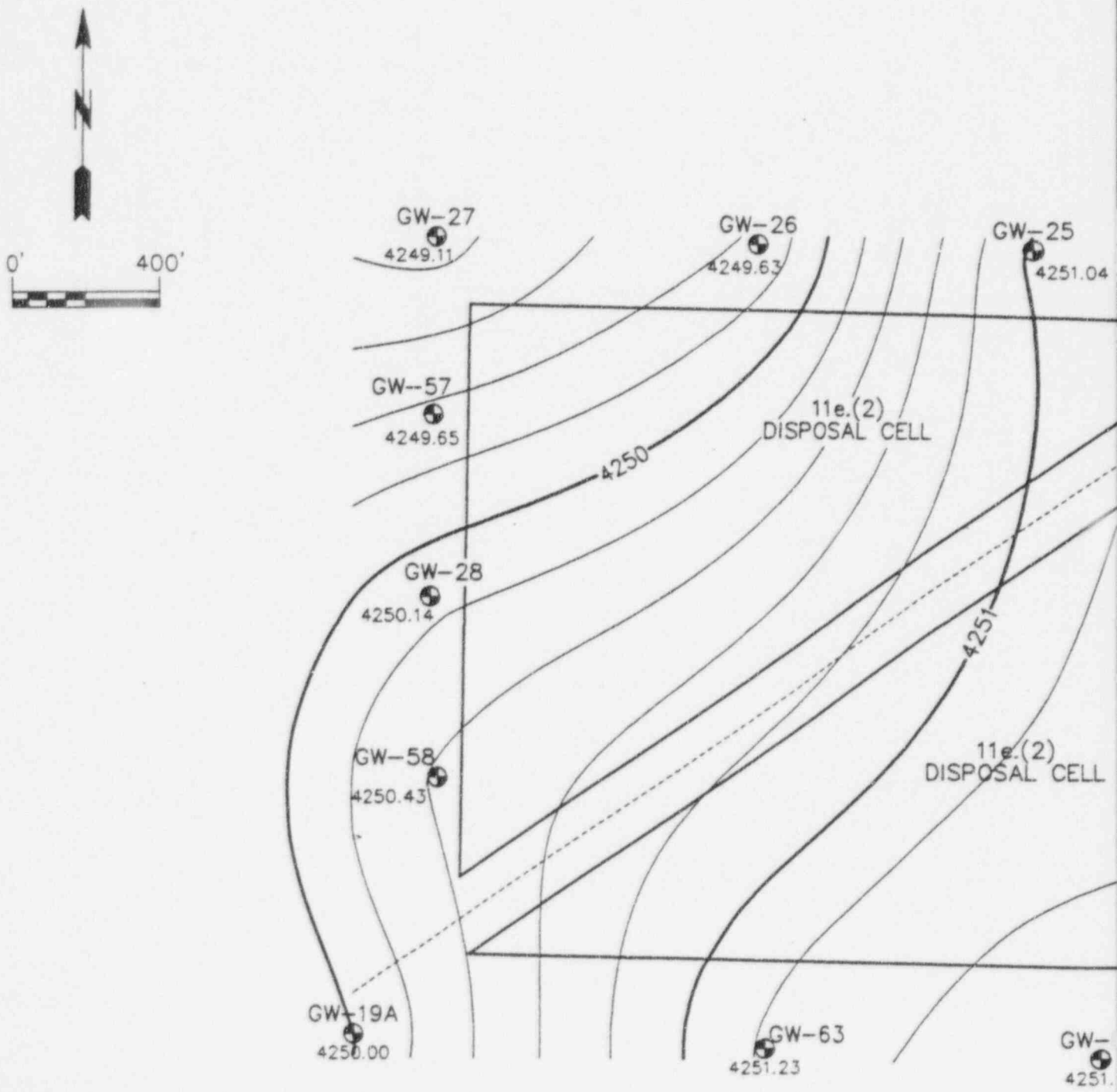
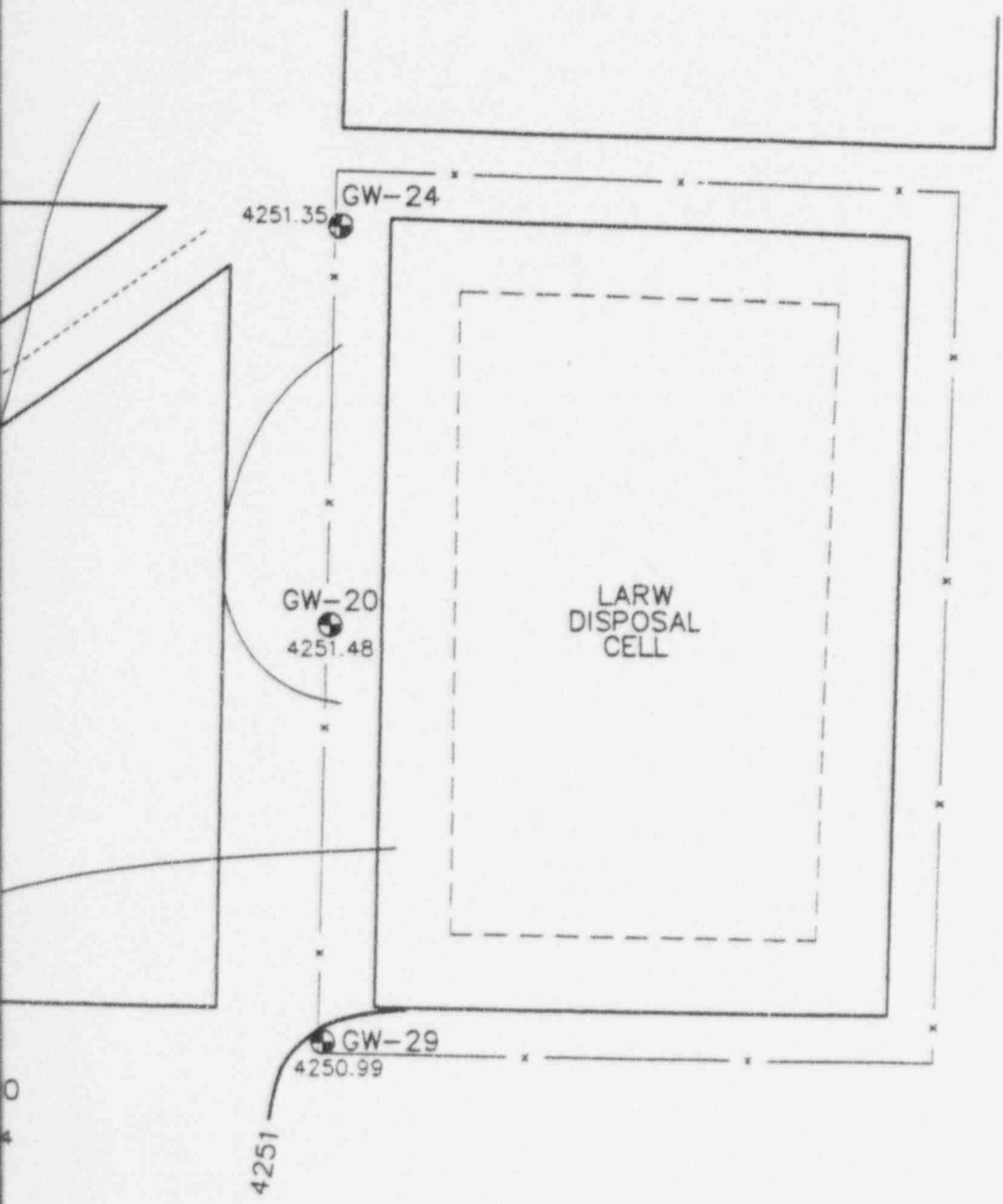


FIGURE 4-1 POTENTIONM

POTENT.DWG UC528-01 11-15-96



9612030336-02

ETRIC SURFACE

EarthFax

No disposal activities had occurred elsewhere in the 11e.(2) cells. Hence, if the apparent arsenic contamination was the result of site activities, the highest concentrations would have been expected at GW-29. Nonetheless, as indicated in Table 2-5, the lowest concentrations measured at the site were in GW-29. Furthermore, the percent by which the Table S-1 standard was exceeded was greater at GW-19A and GW-57 than it was at GW-29. These wells are located approximately 2400 feet west and northwest (respectively) from GW-29, on the opposite side of the potentiometric surface divide relative to GW-29 and the area where disposal activities had occurred. Thus, the water-level data indicate that the apparent arsenic exceedances noted in Table 2-5 are probably not a result of actual site contamination. Additional exceedances are similarly considered to be only artifacts of the salinity-caused analytical interference.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Matrix interference inherent to the salinity of the samples resulted in several laboratory QC control limits being exceeded. For analysis of arsenic and selenium, the analytical approach was modified from the GFAA technique to the HAA technique in an attempt to reduce interferences caused by the sample quality and to avoid excessive dilution of the sample volume prior to analyzing it for a given parameter. This approach seemed to improve the reliability of the analytical results somewhat. Nevertheless, these interferences appear unavoidable due to the high salinity of the groundwater in the upper aquifer of this region. This conclusion is corroborated by the number of interferences in the laboratory QC data which were attributed to the water quality of the sample, and in part by the variations in field duplicate sample results. We consider the data used during the Second Quarter 1996 and subsequent confirmation sampling events to be valid and useful within the current limits of analytical chemistry and the technologies which support it.

Several parameters listed in Table S-1 of the Materials License exceeded Approved Background Concentrations in wells sampled during this event, particularly arsenic. An exceedance was confirmed in wells GW-24 and GW-60 for selenium, and in well GW-26 for mercury. These exceedancess are not typical based on previous sampling results at the 11e.(2) unit. Furthermore, the exceedancess were geographically ubiquitous. These facts, together with the potentiometric surface data presented in Chapter 4, indicate that the noted exceedancess are "apparent" only, and not "actual".

In the event that Approved Background Concentrations established in Table S-1 of the Materials License are exceeded, Section 11.1, paragraph 2 of the Materials License indicates that a compliance monitoring plan shall be submitted in response to confirmed exceedancess,

and that the plan shall include proposed site-specific concentration limits for individual constituents which have been exceeded. In anticipation of submitting a compliance monitoring plan and of proposing site-specific concentration limits for specific constituents, consideration should be given to the fact that a different analytical laboratory was contracted to perform analysis of conventional chemistries on samples submitted for the initial and subsequent confirmation sampling events conducted at the 11e.(2) unit as described in this report. As a result, it has been recommended that samples be split to the current and former laboratories to help determine whether a change in laboratories is contributing to the exceedances reported during the Second quarterly 1996 sampling events. Accordingly, Envirocare has split Third Quarter confirmation event samples to the previous and current laboratories. As part of the Compliance Monitoring Plan submitted to Mr. Harold Lefevre of the NRC on October 24, 1996, Envirocare intends to continue splitting samples for analysis of the specific parameters exceeded for at least two more quarterly sampling events (November 1996 and March 1997) and during any confirmation sampling events which may be necessary as a result of any initial exceedancess reported for these events. If results of samples split to the previous and current laboratories are significantly different, a determination will need to be made concerning which of the two laboratories provides more reliable data. That determination could affect future site-specific concentration limits proposed to the NRC.

Given the importance of GW-36, GW-37, and GW-38 in defining the shape of the groundwater mound beneath the 11e.(2) disposal cells, it is recommended that the water-level data be collected from the wells during each future sampling event until they are abandoned. It is further recommended that slug tests be performed in each of the monitoring wells included in the sampling program. The data obtained from these tests can be used to determine the hydraulic conductivity of the shallow aquifer beneath the 11e.(2) disposal cells, thus allowing the rate of groundwater flow to be estimated. These flow rates will assist in interpreting the

water quality data, by determining if exceedances at a monitoring well could have possibly resulted from site activities.

Attachment A

Field Monitoring and Sampling Log Forms

May 7-9, 1996 Event

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-25 DATE: 5/7/96 TIME OF ARRIVAL AT SAMPLING POINT: 0914

From Ground Water Monitoring Field Notebook Page No. 30

SAMPLING TEAM MEMBERS. (Indicate the team leader.)
Jeff G Low TL, Larry DuShane, George Greenbaugh

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition?
Y (N) Is the well in need of repairs?
(Y) N Is the well fully operational?
Y (N) Is there a marked change in pumping rate?
(Y) N Was the lock secure when team arrived?
Y (N) Is there evidence of tampering or vandalism?
Y (N) Are sandy or silty materials present in the well?
Y (N) Is there any standing water in or around the well?
Y (N) Are there cracks or breaks in the concrete or casings?
(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. Cyanide	c. TOC	125ml/Glass Amber, T-caps
4. c	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Florido	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. b	f. TDS, TSS	500ml/P,G 500ml/P,G
7. }	g. Cations/Anions	500ml/P,G
8. }	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction: SW Speed (est.): 0-5 mph

Cloud Cover: OVC Temp.: 6-1 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems: refer to calibration logbook for 5/7/96 for instruments used.

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.40	1	7.38	12.9	1	13.7°	69500 (6-5-7-96)	1	69,800 (6-5-7-96)	31.3	1	-14.6
7.39	2	7.38	12.9	2	13.5°	69,400	2	69,500		2	
7.38	3	7.38	12.8	3	13.2	69,500	3	70,700 (6-70,700 5-70,500)		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 36.22 ft. Depth to Ground Water (D_w): ~~25.18~~ 25.20 5/7/96 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_a): ~~25.16~~ 25.18 5/7/96 ft.

Calculated Purge Volume: 5.52 (gal) lit. Time Pump On: 0931 Time Pump Off: 0945

Total Amount of Ground Water Purged: 6.0 (gal) lit. 1st Flow Rate of Purge: 0.33 (gal/min) lit/min

Height of Well from Base: 1.70 ft. — in. 2nd Flow Rate of Purge: 0.33 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab: Barringer Delivery Time/Date: 5/10/96
Chem Lab: MSAI Delivery Time/Date: 5/7/96 1700

Monitoring Parameters: Well Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS: JG Others: LD

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-26 DATE: 5/7/96 TIME OF ARRIVAL AT SAMPLING POINT: 1023

From Ground Water Monitoring Field Notebook Page No. 31 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Lowe TL LARRY Dushane George Greenhalgh.

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. d	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. Cyanide	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Floride	e. Metals/Inorganics	500ml/T,G
6. h	f. TDS, TSS	500ml/T,P 500ml/P,G
7.	g. Cations/Anions	500ml/P,G 500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction N Speed (est.) 0-5 mph

Cloud Cover OVC Temp. 69 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. Refer to calibration logbook for 5/7/96 for instruments used in field analyses.

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.50	1	7.55	15.6	1	15.1	61,500	1	63600	-14.6	1	21.9
7.55	2	7.55	14.6	2	14.6	63,700	2	65700		2	
7.56	3	7.55	13.8	3	14.1	65,900	3	67,000		3	
						66,600		67,400			
						66700		67,600			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 31.82 ft. Depth to Ground Water (D_w): 25.01 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 24.99 ft.

Calculated Purge Volume: 3.42 (gal) lit. Time Pump On 1025 Time Pump Off ____

Total Amount of Ground Water Purged: 3.9 (gal) lit. 1st Flow Rate of Purge: 0.20 (gal/min) lit/min

Height of Well from Base: 1.74 ft. ____ in. 2nd Flow Rate of Purge: 0.21 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer's Delivery Time/Date 5/10/96

Chem Lab Mountain States Delivery Time/Date 5/7/96 1700

Monitoring Parameters: 1102 Detection Monitoring Constituents

SAMPLING TEAM LEAD'S INITIALS [illegible] Others [illegible]

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-27 DATE: 5/7/96 TIME OF ARRIVAL AT SAMPLING POINT: 1138

From Ground Water Monitoring Field Notebook Page No. 32 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL LARRY Dushane George Greenhalgh

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was : lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. d	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. Cyanide	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Floride	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. b	f. TDS, TSS	500ml/P,G 500ml/P,G
7. 2	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction S Speed (est.) 0-5 mph

Cloud Cover OVC Temp. 75 °F

Precipitation: Present Recent Rain Snow (Other) none

Remarks/Problems. ~~None~~ refer to calibration for 5/7/96 for instruments used in field analyses.

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.26	1	7.35	15.8	1	15.6	68500	1	69500	39.5	1	23.0
7.30	2	7.35	15.0	2	14.9	70300	2	70200		2	
7.32	3	7.36	14.8	3	14.8	72000	3	71900		3	
7.33		7.36	14.1		14.9	72000		72200 72700			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.54 ft. Depth to Ground Water (D_w): 23.35 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 23.33 ft. JLS 5/7/96

Calculated Purge Volume: 4.61 (gal) lit. Time Pump On 1143 Time Pump Off ~~1227~~ 1217

Total Amount of Ground Water Purged: 4.7 (gal) lit. 1st Flow Rate of Purge: JLS 5/7/96 0.14 ~~0.0~~ gal/min lit/min

Height of Well from Base: 1.73 ft. ✓ in. 2nd Flow Rate of Purge: 0.10 gal/min lit/min

Analytical Laboratories and Delivery Data: Rad Lab Berringer Delivery Time/Date 5/10/96

Chem Lab Mountain States Delivery Time/Date 5/7/96 1700

Monitoring Parameters: Ilez Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JGL Others LD

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 19

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-57 DATE: 5/7/96 TIME OF ARRIVAL AT SAMPLING POINT: 1311

From Ground Water Monitoring Field Notebook Page No. 33 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Dushane George Greenhalgh

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secu [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol, Container
1. a	a. Volatile Organics	2x40ml/Glas: teflon-l-ca;
2. d	b. TOX	500ml/Glass Amber, T-cap:
3. Cyanide	c. TOC	125ml/Glass Amber, T-cap:
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Fluoride	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7. 3	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction NW Speed (est.) 0-5 mph

Cloud Cover partly cloudy Temp. 75 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. refer to 5/7/96 calibrations for instruments used in field analyses.

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/c

PRE-pH	#	POST-pH (6-5-7-96)	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.48	1	~~7.6~~ 7.85	15.8	1	16.1	58,300	1	~~60~~ 60500	75.4	1	124.7
7.47	2	7.78	14.4	2	15.2	59,300	2	62400		2	
7.47	3	7.71	14.1	3	14.6	60,200	3	63900		3	
7.47		7.67	13.8		14.2	60,400		65100			
		7.64	~~13.6~~ 13.6		13.9	60,100		65000			

WELL INFORMATION. 7. Purge Volume formula: V_p (gal) = 1.87 [illegible] $[D_b$ (ft) - D_w (ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * $[D_b$ (ft) - D_w (ft)]
5/7/96

Depth to Well Bottom (D_b): 32.63 ft. Depth to Ground Water (D_w): 22.30 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 22.28 ft.

Calculated Purge Volume: 5.2 (gal) lit. Time Pump On 1316 Time Pump Off 1335

Total Amount of Ground Water Purged: 6.5 (gal) lit. 1st Flow Rate of Purge: 0.29 (gal/min) lit/min

Height of Well from Base: 2.14 ft. — in. 2nd Flow Rate of Purge: 0.25 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 5/10/96

Chem Lab NSAL Delivery Time/Date 5/7/96 1700

Monitoring Parameters: Tier 1 Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JGL Others LD

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(TSC-0150) (Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-28 DATE: 5/7/96 TIME OF ARRIVAL AT SAMPLING POINT: 1430

From Ground Water Monitoring Field Notebook Page No. 34 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry B Dushane George Greenbaugh

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. Cyanide	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. fluoride	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction W Speed (est.) 0-5 mph

Cloud Cover sct Temp. 77 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. refer to 5/2/96 calibration for instruments used in field analyses

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.78	1	7.50	16.7	1	15.5	62200	1	56400	132.2	1	132.6
7.71	2	7.55	15.6	2	15.0	64200	2	58200		2	
7.67	3	7.54	14.9	3	14.5	65800	3	~~59200~~ 58400		3	
7.64			14.4			66200					
7.62			14.1			66600		59700			
			14.0					60000			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 ~~[illegible]~~ 67800 67700 [D_b(ft) - D_w(ft)] for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)] 60200 60400

Depth to Well Bottom (D_b): 31.98 ft. Depth to Ground Water (D_w): 21.26 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 21.24 ft.

Calculated Purge Volume: 5.4 (gal) lit. Time Pump On 1416 Time Pump Off ~~1434~~ 1437 1426 JH 5/7/96

Total Amount of Ground Water Purged: 6.0 gal lit. 1st Flow Rate of Purge: 0.3 (gal/min) lit/min

Height of Well from Base: 1.61 ft. — in. 2nd Flow Rate of Purge: 0.28 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Bowring Delivery Time/Date 5/10/96

Chem Lab MSA Delivery Time/Date 5/7/96 1700

Monitoring Parameters: HC2 Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JGL Others LD

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-63 DATE: 5/8/96 TIME OF ARRIVAL AT SAMPLING POINT: 1027

From Ground Water Monitoring Field Notebook Page No. 35 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Dushane

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Fl	e. Metals/Inorganics	500ml/T,G
6. h	f. TDS, TSS	500ml/T,P 500ml/P,G
7.	g. Cations/Anions	500ml/P,G 500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction Coast Speed (est.) 0-5 mph

Cloud Cover High clds Temp. 80 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. Refer to 5/8/96 Calibration for Instruments used in Field Analysis

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.65	1	7.73	14.1	1	14.2	60700	1	60500	97.2	1	100.1
7.66	2	7.72	14.0	2	14.1	60900	2	60700		2	
7.66	3	7.71	13.9	3	14.0	60900	3	61000		3	
7.67		7.72	13.9		13.8			60700			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.40 ft. Depth to Ground Water (D_w): 20.79 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_a): 20.77 ft.

Calculated Purge Volume: 5.82 (gal.) lit. Time Pump On 1036 Time Pump Off 1056

Total Amount of Ground Water Purged: 6.0 (gal) lit. 1st Flow Rate of Purge: 0.33 gal/(min) lit/min 1043

Height of Well from Base: 1.79 ft. — in. 2nd Flow Rate of Purge: 0.31 (gal/min) lit/min

Analytical Laboratories and Delivery Data: 1st Rad Lab Barringer Delivery Time/Date 5/10/96

1st Chem Lab MSAI Delivery Time/Date 5/8/96 1645

Monitoring Parameters: Non Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JGL Others LD

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EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-19A

DATE: 5/8/96

TIME OF ARRIVAL AT SAMPLING POINT: 1124

From Ground Water Monitoring Field Notebook Page No. 36

SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Dorhame

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition?

Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational?

Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. G	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. Cyanide	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. fluoride	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction West Speed (est.) 5-10 mph

Cloud Cover High Clouds Temp. 83 °F

Precipitation: Present Recent Rain Snow (Other) none

Remarks/Problems. Date to 5/8/96 calibration for instruments used.

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.10	1	7.25	28.4	1	15.2	72900	1	71700	111.1	1	79.8
7.10	2	7.27	28.4	2	14.7	71800	2	72300 72300		2	
7.10	3	7.28	28.4	3	14.7	71400	3	~~72~~ 753		3	
7.10			28.4			71500		72900			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 29.83 ft.

Depth to Ground Water (D_w): 20.85 ft.

Survey Factor for Indicator: -0.02

Adj. Depth to Ground Water (D_w): 20.83 ft.

Calculated Purge Volume: 4.5 (gal.) lit.

Time Pump On 1134 Time Pump Off 1150

Total Amount of Ground Water Purged: 5.0 (gal) lit.

1st Flow Rate of Purge: 0.33 (gal/min) lit/min

Height of Well from Base: 1.37 ft. — in.

2nd Flow Rate of Purge: 0.31 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 5/10/96

Chem Lab MSAI Delivery Time/Date 5/8/96 1645

Monitoring Parameters: Well Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JGL Others LD

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-58 DATE: 5/8/96 TIME OF ARRIVAL AT SAMPLING POINT: 1302

From Ground Water Monitoring Field Notebook Page No. 37 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Dushane

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Fl	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7. S	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction West Speed (est.) 0-5 mph

Cloud Cover sct Temp. 83 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. Refer to 5/8/96 Calibration for Instruments used for field analysis

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.54	1	7.57	15.9	1	14.0	70800	1	72700	164.6	1	146.8
7.54	2	7.57	15.9	2	14.0	70400	2	72600		2	
7.54	3	7.58	15.9	3	14.0	70500	3	72900		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.27 ft. Depth to Ground Water (D_w): 20.76 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 20.74 ft.

Calculated Purge Volume: 5.8 (gal) lit. Time Pump On 1307 Time Pump Off 1325

Total Amount of Ground Water Purged: 6.0 (gal) lit. 1st Flow Rate of Purge: 0.33 gal/min lit/min

Height of Well from Base: 1.92 ft. — in. 2nd Flow Rate of Purge: 0.33 gal/min lit/min

Analytical Laboratories and Delivery Data: (1) Rad Lab Barringer Delivery Time/Date 5/10/96
(2) Chem Lab MSAL Delivery Time/Date 5/8/96 1645

Monitoring Parameters: 11 Constituents Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JGL Others LD

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-24 DATE: 5/8/96 TIME OF ARRIVAL AT SAMPLING POINT: 1400

From Ground Water Monitoring Field Notebook Page No. 38 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Dashow

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. G	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN	c. TOC	125ml/Glass Amber, T-caps
4. C	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Fl	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction West Speed (est.) 0-5 mph

Cloud Cover High clouds Temp. 82 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. Refer to Calibration Form 5/8/96 for Instruments used during field analysis

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.42	1	7.32	14.5	1	14.5	78300	1	83800	177.6	1	160.8
7.44	2	7.33	14.6	2	14.5	78300	2	83900		2	
7.44	3	7.34	14.5	3	14.6	78400	3	83800		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 33.64 ft. Depth to Ground Water (D_w): 25.41 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 25.39 ft.

Calculated Purge Volume: 4.13 (gal.) lit. Time Pump On 1408 Time Pump Off 1424

Total Amount of Ground Water Purged: 4.25 (gal) lit. 1st Flow Rate of Purge: 0.29 (gal/min) lit/min

Height of Well from Base: 1.56 ft. ____ in. 2nd Flow Rate of Purge: 0.27 gal/min lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 5/10/96

1147 Chem Lab MSAL Delivery Time/Date 5/8/96 1645

Monitoring Parameters: 1122 Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JGL Others LD

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-20 DATE: 5/9/96 TIME OF ARRIVAL AT SAMPLING POINT: 1001

From Ground Water Monitoring Field Notebook Page No. 39

SAMPLING TEAM MEMBERS: (Indicate the team leader.)
Jeff G Law TL Larry Dushane

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition?
(Y) N Is the well fully operational?
(Y) N Was the lock secure when team arrived?
Y (N) Is there evidence of tampering or vandalism?
Y (N) Are sandy or silty materials present in the well?
Y (N) Is there any standing water in or around the well?
Y (N) Are there cracks or breaks in the concrete or casings?
(Y) N Has the annual depth of the well bottom been determined?
Y (N) Is the well in need of repairs?
Y (N) Is there a marked change in pumping rate?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN^-	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. F^-	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h.	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 106 (l)		

WEATHER.

Wind Direction NA Speed (est.) Ø mph
Cloud Cover Clr Temp. 7 °F
Precipitation: Present Recent Rain Snow (Other) none

Remarks/Problems. ~~Dupla~~ Duplicate taken
Designated GW-70 Field instruments are listed in calibration notebook for 5/9/96

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.41	1	7.42	~~13.8~~ ~~14.0~~	1	14.0	65000	1	64400	58.2	1	61.5
7.42	2	7.43	~~14.0~~ 5/9/96	2	14.1	64900	2	64500		2	
7.41	3	7.43	14.1	3	14.0	64600	3	64700		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 36.62 ft. Depth to Ground Water (D_w): 25.21 ft.
Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 25.19 ft.
Calculated Purge Volume: 5.72 (gal) lit. Time Pump On 1011 Time Pump Off 1024
Total Amount of Ground Water Purged: 6.0 (gal) lit. 1st Flow Rate of Purge: 0.5 (gal/min) lit/min
Height of Well from Base: 1.32 ft. — in. 2nd Flow Rate of Purge: 0.45 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 5/10/96
Chem Lab MSAI Delivery Time/Date 5/9/96

Monitoring Parameters: Hez Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JGL Others LD

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-60 DATE: 5/8/96 TIME OF ARRIVAL AT SAMPLING POINT: 0930

From Ground Water Monitoring Field Notebook Page No. 40 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Dushane

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition?
Y (N) Is the well fully operational?
(Y) N Was the lock secure when team arrived?
Y (N) Is there evidence of tampering or vandalism?
Y (N) Are sandy or silty materials present in the well?
Y (N) Is there any standing water in or around the well?
Y (N) Are there cracks or breaks in the concrete or casings?
(Y) N Has the annual depth of the well bottom been determined?
Y (N) Is the well in need of repairs?
Y (N) Is there a marked change in pumping rate?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. a	b. TOX	500ml/Glass Amber, T-caps
3. CN	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Fl	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. b	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.6 (l)		

WEATHER.

Wind Direction NA Speed (est.) Ø mph

Cloud Cover partly Temp. 74 °F

Precipitation: Present Recent Rain Snow (Other) none

Remarks/Problems. Refer to 5/8/96 Calibrations for Instruments used for field analysis (pH-100765 SC 95062429 Eh. 00039, WL-14953

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.47	1	7.46	13.9	1	15.0	54600	1	59200	56.4	1	59.1
7.46	2	7.46	13.7	2	15.0	55900	2	59300		2	
7.47	3	7.46	13.8	3	15.0	57200	3	59400		3	
						57300					
						57500					

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 29.94 ft. Depth to Ground Water (D_w): 23.52 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 23.50 ft.

Calculated Purge Volume: 3.21 (gal) lit. Time Pump On 0933 Time Pump Off 0945

Total Amount of Ground Water Purged: 40 (gal) lit. 1st Flow Rate of Purge: 0.33 (gal/min) lit/min

Height of Well from Base: 1 ft. / in. 2nd Flow Rate of Purge: 0.27 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 5/10/96

Chem Lab MSAI Delivery Time/Date 5/8/96 1645

Monitoring Parameters: 11C2 Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JGL Others LD

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-29 DATE: 5/9/96 TIME OF ARRIVAL AT SAMPLING POINT: 1119

From Ground Water Monitoring Field Notebook Page No. 41

SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Duchaux

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN⁻	c. TOC	125ml/Glass Amber, T-caps
4. c	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Cl⁻	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7. /	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 106 (l)		

WEATHER.

Wind Direction SW Speed (est.) 0-5 mph

Cloud Cover Clr Temp. 76 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems.

Field Instruments: pH: Fisher 100 Pro, SC: YSI 4508 2439, Cl: Orion 0006391, Eh: Beckman 10013

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.03	1	7.22	14.7	1	14.2	64300	1	65200	118.2	1	114.1
7.07	2	7.23	14.7	2	14.2	64500	2	65200		2	
7.05	3	7.22	14.4	3	14.1	65000	3	64900		3	
7.07			14.3			65100					
7.09			14.2			65100					

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 33.62 ft. Depth to Ground Water (D_w): 25.70 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 25.68 ft.

Calculated Purge Volume: 3.97 (gal) lit. Time Pump On 1135 Time Pump Off 1144

Total Amount of Ground Water Purged: 40 (gal) lit. 1st Flow Rate of Purge: 0.44 (gal/min) lit/min

Height of Well from Base: 1.57 ft. — in. 2nd Flow Rate of Purge: 0.42 (gal/min) lit/min

Analytical Laboratories and Delivery Data: 1200 Rad Lab BARRINGER Delivery Time/Date 5/10/96

1158 Chem Lab MSAI Delivery Time/Date 5/9/96

Monitoring Parameters: 1/C2 Detection Monitoring Constituents

SAMPLING TEAM LEADER'S INITIALS JV Others LD

August 9, 1996 Event

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0130)

(Rev. May

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-28 DATE: 8/9/96 TIME OF ARRIVAL AT SAMPLING POINT: 0919

From Ground Water Monitoring Field Notebook Page No. 3 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Ken Larsen

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is se [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vo Container
1. CN- JL 8/9/96 # 6075012	a. Volatile Organics	2x40ml/Gla teflon-l-c
2.	b. TOX	500ml/Glas Amber,T-ca
3.	c. TOC	125ml/Glas Amber,T-ca
4.	d. Base/Neutral/Acid Extractables	500ml/Glas Teflon
5.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6.	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: ___ (l)		

WEATHER.

Wind Direction NA Speed (est.) 0 mph

Cloud Cover Sct Temp. 91 °F

Precipitation: Present Recent Rain Snow (Other) none

Remarks/Problems. sample taken (duplicate) designated GW-70 pH Fisher 100765 SC: VWR 95082429 WL: solinst 1463-3 GL-Drawn 0063455

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos.

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
JL 8/9/96 6.93	1	6.76	12.8	1	12.6	63100	1	65400	267.3	1	301.2
6.92	2	6.76	12.8	2	12.6	63100	2	65400		2	
6.91	3	6.76	12.9	3	12.6	62000	3	65800		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 21.68 measured today ft. Depth to Ground Water (D_w): 21.30 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 21.28 ft.

Calculated Purge Volume: 5.2 (gal) lit. Time Pump On 0935 Time Pump Off 0942

Total Amount of Ground Water Purged: 5.5 (gal) lit. 1st Flow Rate of Purge: 0.33 (gal/min) lit/min

Height of Well from Base: 1.61 ft. ___ in. 2nd Flow Rate of Purge: 0.31 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab NA Delivery Time/Date NA

Chem Lab MSA 7 Delivery Time/Date 8/9/96 1430

Monitoring Parameters: CN-

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET

(EC-0150)

(Rev. May

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-57 DATE: 8/6/96 TIME OF ARRIVAL AT SAMPLING POINT: 1003

From Ground Water Monitoring Field Notebook Page No. 4 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff Low TL Ken Larson

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is sec [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol Container
1. CN-	a. Volatile Organics	2x40ml/Glas teflon-l-ca
2.	b. TOX	500ml/Glass Amber,T-car
3.	c. TOC	125ml/Glass Amber,T-car
4.	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6.	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 500 mls (l)		

WEATHER.

Wind Direction NA Speed (est.) Ø mph

Cloud Cover Clr Temp. 90 °F

Precipitation: Present Recent Rain Snow (Other) none

Remarks/Problems. 2H 100765 Filter, VOUR-SC-95052489

WL-SO1.95+ 14953 EG-OR100 006385

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
6.59	1	6.79	17.7	1	14.0	62200	1	62900	248.6	1	613.9
6.60	2	~~6.9~~ 6.79	17.2	2	13.9	62300	2	60900		2	
6.60	3	6.77	17.2	3	13.9	61600	3	60900		3	

61500
61500

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.42 measured today ft. Depth to Ground Water (D_w): 27.35 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 32.32 ft.

Calculated Purge Volume: 5.1 (gal) lit. Time Pump On 1011 Time Pump Off 1031

Total Amount of Ground Water Purged: 5.4 (gal) lit. 1st Flow Rate of Purge: 0.25 (gal/min) lit/min

Height of Well from Base: 2.4 ft. — in. 2nd Flow Rate of Purge: 0.20 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab NA Delivery Time/Date —

Chem Lab MSAL Delivery Time/Date 8/9/96 1430

Monitoring Parameters: CYANIDE

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0130)

(Rev. May 1

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-20 DATE: 8/19/96 TIME OF ARRIVAL/AT SAMPLING POINT: 1424

From Ground Water Monitoring Field Notebook Page No. 5 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G (GW TL) Ken Larsen

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is sec [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition?
(Y) N Is the well fully operational?
(Y) N Was the lock secure when team arrived?
Y (N) Is there evidence of tampering or vandalism?
Y (N) Are sandy or silty materials present in the well?
Y (N) Is there any standing water in or around the well?
Y (N) Are there cracks or breaks in the concrete or casings?
(Y) N Has the annual depth of the well bottom been determined?
Y (N) Is the well in need of repairs?
Y (N) Is there a marked change in pumping rate?

SAMPLE COLLECTION ORDER		Minimum Vol Container
1. CN- #6027012		
2.	a. Volatile Organics	2x40ml/Glas teflon-l-ca
3.	b. TOX	500ml/Glass Amber,T-cap
4.	c. TOC	125ml/Glass Amber,T-cap
	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6.	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8. ✓	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 0.5 (l)		

WEATHER.

Wind Direction W Speed (est.) 0-5 mph

Cloud Cover Clr Temp. 90 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. 2M Fisher 100765, SC VWR 950824129

Mo-Solvent 14973, Eh Orion 006395

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
6.63	1	6.80	14.0	1	12.8	64700	1	66300	223.3	1	220
6.64	2	6.31	14.0	2	12.8	64200	2	66000		2	
6.25	3	6.22	14.0		11.8	67900	3	65400		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 35.73 ft. Depth to Ground Water (D_w): 25.42 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 25.42 ft.

Calculated Purge Volume: 5.14 (gal) lit. Time Pump On 1223 Time Pump Off 1239

Total Amount of Ground Water Purged: 3.5 (gal) lit. 1st Flow Rate of Purge: 0.38 (gal/min) lit/min

Height of Well from Base: 3.32 ft. — in. 2nd Flow Rate of Purge: 0.31 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab NA Delivery Time/Date —

Chem Lab MSAI Delivery Time/Date 8/19/96 1430

Monitoring Parameters: CYANIDE

A.1

August 13, 1996 Event

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0130)

(Rev. May 1

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-24 DATE: 8/13/96 TIME OF ARRIVAL AT SAMPLING POINT: 0643

From Ground Water Monitoring Field Notebook Page No. 6 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff Low TL Larry Dustane.

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is sec [locked], general condition, note presence of cracks or any evidence of tampering.)

Y N Generally in Good Condition? Y N Is the well in need of repairs?

Y N Is the well fully operational? Y N Is there a marked change in pumping rate?

Y N Was the lock secure when team arrived?

Y N Is there evidence of tampering or vandalism?

Y N Are sandy or silty materials present in the well?

Y N Is there any standing water in or around the well?

Y N Are there cracks or breaks in the concrete or casings?

Y N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol Container
1. C-50 - 6026052		
2.	a. Volatile Organics	2x40ml/Glas teflon-l-ca
3.	b. TOX	500ml/Glass Amber,T-cap
4.	c. TOC	125ml/Glass Amber,T-cap
	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5.	e. Metals/Inorganics	500ml/T,G
6.	f. TDS, TSS	500ml/T,P 500ml/P,G
7.	g. Cations/Anions	500ml/P,G 500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 1.0 (l)		

WEATHER.

Wind Direction NA Speed (est.) 0 mph

Cloud Cover sct Temp. 90 °F

Precipitation: Present Recent Rain Snow Other None.

Remarks/Problems. pH Fisher 100765 Scum - 9508262G

Submit 1450 WL, Eh-Orion 000263

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.19	1	6.80	13.9	1	14.2	67600	1	67000	117.1	1	128.7
7.16	2	6.76	13.7	2	13.9	68200	2	67200		2	
7.14	3	6.76	13.6	3	13.7	68600 65700	3	67800 69500 68500 65700		3	
7.13			13.6								

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 33.64 ft. Depth to Ground Water (D_w): 26.12 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 26.10 ft.

Calculated Purge Volume: 3.8 gal lit. Time Pump On 0546 Time Pump Off 0603

Total Amount of Ground Water Purged: 4.0 gal lit. 1st Flow Rate of Purge: 0.23 gal/min lit/min

Height of Well from Base: 1.56 ft. in. 2nd Flow Rate of Purge: 0.16 gal/min lit/min

Analytical Laboratories and Delivery Data: Rad Lab NA Delivery Time/Date

Chem Lab ASAI Delivery Time/Date 8/13/96 1530

Monitoring Parameters: Se

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0130)

(Rev. Mr

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-23 DATE: 8/13/96 TIME OF ARRIVAL AT SAMPLING POINT: 0924

From Ground Water Monitoring Field Notebook Page No. 7 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G LOW TL Larry Duchesne

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is se [locked], general condition, note presence of cracks or any evidence of tampering.)

Y (N) Generally in Good Condition? Y (N) Is the well in need of repairs?

Y (N) Is the well fully operational? Y (N) Is there a marked change in pumping rate?

Y (N) Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

Y (N) Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vo Container
1. C. Arsenic - 6020 6012	a. Volatile Organics	2x40ml/Glas teflon-l-ca
2.	b. TOX	500ml/Glass Amber,T-cap
3.	c. TOC	125ml/Glass Amber,T-cap
4.	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6.	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 0.5 (l)		

WEATHER.

Wind Direction NA Speed (est.) 0 mph

Cloud Cover Sct Temp. 95 °F

Precipitation: Present Recent Rain Snow (other) none

Remarks/Problems. pH-400 24.03 @ 25.96 pH 700 - 6.950 22.6
pH - Fisher 100705 SC Ucyr 95082429 WL - Solinst 14653 EL. ORION 006365

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
6.59	1	6.63	13.2	1	13.3	73200	1	73400	107.9	1	128.4
6.57	2	6.63	13.1	2	13.3	73500	2	74100		2	
6.53	3	6.67	13.0	3	13.1	73600	3	74600		3	
6.47			12.9					74700			
6.43 6.41 6.39			12.9 12.9 12.9					74600			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 36.22 ft. Depth to Ground Water (D_w): 35.42 ft.

Survey Factor for Indicator: 0.02 Adj. Depth to Ground Water (D_w): 24.40 ft.

Calculated Purge Volume: 5.41 (gal.) lit. Time Pump On 0928 Time Pump Off 0936 0944

Total Amount of Ground Water Purged: 5.5 (gal) lit. 1st Flow Rate of Purge: 0.38 (gal/min) lit/min

Height of Well from Base: 1.30 ft. ✓ in. 2nd Flow Rate of Purge: 0.31 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab NA Delivery Time/Date ✓

Chem Lab MSAI Delivery Time/Date 8/13/96 1530

Monitoring Parameters: Arsenic

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-01.50)

(Rev. May

GROUND-WATER WELL NO. OR SAMPLING POINT: GC-26 DATE: 8/13/96 TIME OF ARRIVAL AT SAMPLING POINT: 1003

From Ground Water Monitoring Field Notebook Page No. 8 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G LOW TL LARRY Durham

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is sec [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? (Y) N Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

(Y) N Are sandy or silty materials present in the well? well was surged prior to purge.

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol Container
1. Q-Arsenic + Pb - 6020/012	a. Volatile Organics	2x40ml/Glas teflon-l-ca
2.	b. TOX	500ml/Glass Amber,T-cap
3.	c. TOC	125ml/Glass Amber,T-cap
4.	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5.	e. Metals/Inorganics	500ml/T,G
6.	f. TDS, TSS	500ml/T,P 500ml/P,G
7.	g. Cations/Anions	500ml/P,G 500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 1.0 (l)		

WEATHER.

Wind Direction N Speed (est.) 0-5 mph

Cloud Cover SCT Temp. 95 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. pH-Fmuse 100765 SC VLSR 950827429

WL sounder 14953 EG-Orwin 006395

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
6.66	1	6.62 6.62	14.2	1	14.5 14.0	67100	1	64,200	132.8	1	127.4
6.64	2	6.65	14.1	2	14.2 14.0	67200	2	64400		2	
6.64	3	6.62 6.63	14.0	3	14.1 14.2	67500	3	64400		3	

WELL INFORMATION: Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_o(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_o(ft)]

Depth to Well Bottom (D_b): 31.92 ft. Depth to Ground Water (D_w): 24.94 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_o): 24.92 ft.

Calculated Purge Volume: 3.5 (gal.) lit. Time Pump On 1009 Time Pump Off 1024

Total Amount of Ground Water Purged: 3.5 (gal) lit. 1st Flow Rate of Purge: 0.27 (gal/min) lit/min

Height of Well from Base: 1.24 ft. — in. 2nd Flow Rate of Purge: 0.13 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab NA Delivery Time/Date

Chem Lab HEA I Delivery Time/Date 8/13/96 1530

Monitoring Parameters: Arsenic and Lead

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0139)

(Rev. May 19

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-66 DATE: 8/13/96 TIME OF ARRIVAL AT SAMPLING POINT: 1112

From Ground Water Monitoring Field Notebook Page No. 9 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jere G Low TL Larry Dushane.

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secur [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. e-Selenium		
2.	a. Volatile Organics	2x40ml/Glass teflon-l-cap
3.	b. TOX	500ml/Glass Amber, T-caps
4.	c. TOC	125ml/Glass Amber, T-caps
5.	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
6.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
7.	f. TDS, TSS	500ml/P,G 500ml/P,G
8.	g. Cations/Anions	500ml/P,G
	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 2 (l)		

WEATHER.

Wind Direction: N Speed (est.) 5-14 mph

Cloud Cover Sct Temp. 95 °F

Precipitation: Present Recent Rain Snow (Other) none

Remarks/Problems. Duplicate taken, designated GW-91

2it: Fisher 100765 SC-VWR 95097429 WL: Solinst 14453 EC Orion 006791

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.50	1	7.51	16.0	1	16.3	60700	1	61500	128.5	1	115.8
7.50	2	7.56	16.0	2	14.6	60700	2	60600		2	
7.54	3	7.52	15.0	3	14.5	61300	3	60500		3	
7.51		7.53	14.8		14.4	61800		61300			
248 7.57			14.2 14.5			61300		61400 61600			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 29.80 ft. Depth to Ground Water (D_w): JK 8/13/96 ~~27.65~~ 23.56 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 23.56 ft.

Calculated Purge Volume: 3.2 (gal) lit. Time Pump On 1115 Time Pump Off 1129

Total Amount of Ground Water Purged: 3.7 (gal) lit. 1st Flow Rate of Purge: 0.36 (gal/min) lit/min

Height of Well from Base: 1.66 ft. ____ in. 2nd Flow Rate of Purge: 0.39 (gal/min) lit/min

Analytical Laboratories and Delivery Date: Rad Lab N/A Delivery Time/Date

Chem Lab MEAL Delivery Time/Date 8/13/96 JK 8/13/96 1530

Monitoring Parameters: Selenium

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-58 DATE: 8/13/96 TIME OF ARRIVAL AT SAMPLING POINT: 1202

From Ground Water Monitoring Field Notebook Page No. 10 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Dinham

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is sec [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? (Y) N Is there a marked change in pumping rate? Not Tested condition Sat

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol Container
1. Arsenic #602 6012		
2.	a. Volatile Organics	2x40ml/Glas teflon-l-ca
3.	b. TOX	500ml/Glass Amber,T-cap
4.	c. TOC	125ml/Glass Amber,T-cap
5.	d. Base/Neutral/Acid Extractables	500ml,Glass Teflon
6.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
7.	f. TDS, TSS	500ml/P,G 500ml/P,G
8.	g. Cations/Anions	500ml/P,G
	h. Radiologics	3.5 gal/P (C-14/G)

Volume Collected: 1.0 (l)

WEATHER.

Wind Direction ___ Speed (est.) Slt mph

Cloud Cover Sct Temp. 95 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. Duplicate holes designated GW-77 #6026032

pH FISHER 10.76 SC VWR 950B2429 Eh - ORION 036395

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.63	1	7.67	13.0	1	14.0	66900	1	66900	147.2	1	141.2
7.62	2	7.66	14.7	2	14.0	66600	2	66900		2	
7.61	3	[illegible]	14.[illegible]	3	13.9	66600	3	66600		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.27 ft. Depth to Ground Water (D_w): 20.66 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 20.64 ft.

Calculated Purge Volume: 57.8 gal. lit. Time Pump On 1207 Time Pump Off 1222

Total Amount of Ground Water Purged: 2.5 gal lit. 1st Flow Rate of Purge: 0.38 gal/min lit/min

Height of Well from Base: 192 ft. — in. 2nd Flow Rate of Purge: 0.5 gal/min lit/min

Analytical Laboratories and Delivery Data: Rad Lab NA Delivery Time/Date —

Chem Lab MSAI Delivery Time/Date 8/13/96 1530

Monitoring Parameters: Arsenic

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET

(EC-0150)

(Rev. May

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-27

DATE: 8/13/96

TIME OF ARRIVAL AT SAMPLING POINT: 1242

From Ground Water Monitoring Field Notebook Page No. 11

SAMPLING TEAM MEMBERS: (indicate the team leader.)

Jeff G Low TC Larry Dashane.

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is sec [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition?

(Y) N Is the well fully operational?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

Y (N) Is the well in need of repairs?

Y (N) Is there a marked change in pumping rate?

SAMPLE COLLECTION ORDER		Minimum Vol Container
1. C-Arsenic & 6020 Cd		
2.	a. Volatile Organics	2x40ml/Glas teflon-l-ca
3.	b. TOX	500ml/Glass Amber,T-cap
4.	c. TOC	125ml/Glass Amber,T-cap
5.	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
6.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
7.	f. TDS, TSS	500ml/P,G 500ml/P,G
8.	g. Cations/Anions	500ml/P,G
	h. Radiologics	3.5 gal/P (C-14/G)

Volume Collected: 1.0 (l)

WEATHER.

Wind Direction: NE Speed (est.): 0-5 mph

Cloud Cover: Sct Temp.: 100 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. pH-Fisher 100765 SC-Vwr 95082429

WL-Solinst 14953 EC Orion 006395

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.68	1	7.50	16.0	1	14.9	73700 73700	1	74900	156.4	1	144.1
7.69	2	7.75	15.6	2	14.7	72600	2	75200		2	
7.70	3	7.75	15.1	3	14.7	72900	3	75600		3	
		7.70			14.6			75500			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.54 ft.

Depth to Ground Water (D_w): 23.39 ft.

Survey Factor for Indicator: -0.02

Adj. Depth to Ground Water (D_w): 23.37 ft.

Calculated Purge Volume: 4.6 (gal.) lit.

Time Pump On 1244

Time Pump Off ~~1200~~ 1358 1238 (Initial)

Total Amount of Ground Water Purged: 4.6 (gal.) lit.

1st Flow Rate of Purge: 0.25 (gal/min) lit/min

Height of Well from Base: 1.73 ft. — in.

2nd Flow Rate of Purge: 0.20 (gal/min) lit/min

Analytical Laboratories and Delivery Data:

Rad Lab NA Delivery Time/Date

Chem Lab ASAI Delivery Time/Date 8/13/96 1530

Monitoring Parameters: Arsenic

August 14-15, 1996 Event

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0130)

(Rev. May 1

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-19D DATE: 8/14/96 TIME OF ARRIVAL AT SAMPLING POINT: 0836

From Ground Water Monitoring Field Notebook Page No. 13 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Dushane

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secu [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well? 8/14/96

(Y) (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol, Container
1. 01-6162017	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. tod	b. TOX	500ml/Glass Amber, T-caps
3. CN- 6075012	c. TOC	125ml/Glass Amber, T-caps
4. C -6026012	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. BN- 6075012	e. Metals/Inorganics	500ml/T,G
6. m	f. TDS, TSS	500ml/T,P 500ml/P,G
7. 7	g. Cations/Anions	500ml/P,G 500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.83 (l)		

WEATHER.

Wind Direction NA Speed (est.) 0 mph

Cloud Cover Sct Temp. 90 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. pH - 6007205 SC m5068429 wL 1495)

Crack in well apron

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.23	1	7.28	14.5	1	14.4	74.500	1	74000		1	
7.23	2	7.29	14.1	2	14.3	74400	2	74300		2	
7.30 / 7.31	3	7.29	14.2 / 13.9	3	14.3	74400	3	74500 / 74500		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 29.83 ft. Depth to Ground Water (D_w): 20.74 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 20.72 ft.

Calculated Purge Volume: 4.6 (gal). lit. Time Pump On 0843 (0851) Time Pump Off 0?

Total Amount of Ground Water Purged: 6.7 (gal) lit. 1st Flow Rate of Purge: 0.4 (gal/min) lit/min

Height of Well from Base: 1.37 ft. — in. 2nd Flow Rate of Purge: 0.33 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 8/14/96 1740

Chem Lab MSA1 Delivery Time/Date 8/14/96 ~~1200~~ 1510

Monitoring Parameters: 11C2 ~~Detection~~ Compliance Monitoring Constituents 8/14/96

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0159)

(Rev. May 19

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-25 DATE: 8/14/96 TIME OF ARRIVAL AT SAMPLING POINT: 0943

From Ground Water Monitoring Field Notebook Page No. 12 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

DEPE LOW TL KARRY DUSHANA

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secur [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a-6462013	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d-	b. TOX	500ml/Glass Amber,T-caps
3. CN- 6075012	c. TOC	125ml/Glass Amber,T-caps
4. e-6026012	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Cl-6015013	e. Metals/Inorganics	500ml/T,G
6. h-	f. TDS, TSS	500ml/T,P 500ml/P,G
7. 7	g. Cations/Anions	500ml/P,G 500ml/P,G
8. 2	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.83 (l)		

WEATHER.

Wind Direction E Speed (est.) 5-10 mph

Cloud Cover clr Temp. 90 °F

Precipitation: Present Recent Rain Snow (Other) none

Remarks/Problems. pH-Fisher 100765 SC-Vwr 4.50634-27

W1-Solinst water

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.35	1	7.35	14.6	1	17.6	73500	1	69900		1	
7.32	2	7.37	14.6	2	16.7	73500	2	70200		2	
7.36	3	7.34	14.5	3	15.5	73200	3	71600 72/00 72600		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 26.22 ft. Depth to Ground Water (D_w): 25.41 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 25.39 ft.

Calculated Purge Volume: 5.47 (gal) lit. Time Pump On 0945 8/14/96 Time Pump Off 1007

Total Amount of Ground Water Purged: 6.0 (gal) lit. 1st Flow Rate of Purge: 0.33 (gal/min) lit/min

Height of Well from Base: 1.70 ft. — in. 2nd Flow Rate of Purge: 0.30 (gal/min) lit/min

Analytical Laboratories and Delivery Date: Rad Lab Barringer Delivery Time/Date 8/14/96 1740

Chem Lab MSAI Delivery Time/Date 8/14/96 1340 1510

Monitoring Parameters: 11 of 7 COMPLIANCE MONITORING CONSTITUENTS

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0130)

(Rev. May 199

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-26 DATE: 8/14/96 TIME OF ARRIVAL AT SAMPLING POINT: 1037

From Ground Water Monitoring Field Notebook Page No. 14 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff G Low TL Larry Duchane

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secur [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a-6162013	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN - 607501	c. TOC	125ml/Glass Amber, T-caps
4. e - 6026013	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. F1	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7. 2	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.83 (l)		

WEATHER.

Wind Direction E Speed (est.) 5-10 mph

Cloud Cover Ovc Temp. 85 °F

Precipitation: Present Recent Rain Snow (Other) none

Remarks/Problems. pH-Fisher 100765 SC-Fisher 9.08 2477 Lot-Solinst 14653

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.56	1	7.54	14.9	1	15.0	69900	1	68700		1	
7.58	2	7.56	14.6	2	14.6	69400	2	69400		2	
7.58	3	7.56	14.4	3	14.7	69700 / 69700	3	69600 / 69300		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 31.82 ft. Depth to Ground Water (D_w): 24.96 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 24.94 ft.

Calculated Purge Volume: 5.43 (gal) lit. Time Pump On 1041 Time Pump Off 1057

Total Amount of Ground Water Purged: 35 (gal) lit. 1st Flow Rate of Purge: 0.25 (gal/min) lit/min

Height of Well from Base: 1.70 ft. — in. 2nd Flow Rate of Purge: 0.23 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Precision Delivery Time/Date 8/14/96 1940

Chem Lab MCAL Delivery Time/Date 8/14/96 1510

Monitoring Parameters: Has Compliance Monitoring Constituents

JGL 8/14/96

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-27

DATE: 8/14/96 (JLL 10/28/96)

TIME OF ARRIVAL AT SAMPLING POINT: 1132

From Ground Water Monitoring Field Notebook Page No. 15

SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G LOW TL LARRY DUSHANE

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(C) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(O) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(S) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN^-	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. Fl^-	e. Metals/Inorganics	500ml/T,G
6. h	f. TDS, TSS	500ml/T,P 500ml/P,G
7. ~	g. Cations/Anions	500ml/P,G 500ml/P,G
8. ~	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.83 (l)		

WEATHER.

Wind Direction N Speed (est.) 0-5 mph

Cloud Cover Sclt Temp. 95 °F

Precipitation: Present Recent Rain Snow (Other) NONE

Remarks/Problems. Fishing pH - 100763, SC VWR 95082479 WL - Sounder 14.73

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F (C) Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
6.45	1	6.68	14.2		13.8	76400	1	~~77600~~ 77600		1	
6.44	2	6.68	14.1	2	13.7	76600	2	77900		2	
6.44	3	6.67	14.2	3	13.6	76700	3	78000		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 82.54 ft. Depth to Ground Water (D_w): 23.41 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w) (1/50): 23.39 ft.

Calculated Purge Volume: 4.6 (gal) lit. Time Pump On 1141 Time Pump Off 1212

Total Amount of Ground Water Purged: 4.6 (gal) lit. 1st Flow Rate of Purge: 0.12 (gal/min) lit/min

Height of Well from Base: 1.73 ft. — in. 2nd Flow Rate of Purge: 0.15 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab GARRIGUES Delivery Time/Date 8/14/96 1740 JLL 8/14/96

Chem Lab MSA1 Delivery Time/Date 8/14/96 ~~1740~~ 1510

Monitoring Parameters: ICP COMPLIANCE MONITORING CONSTITUENTS JLL 8/14/96

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-57 DATE: 8/14/96 TIME OF ARRIVAL AT SAMPLING POINT: 1351

From Ground Water Monitoring Field Notebook Page No. 16 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G LOW TL LARRY DUSHANE

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

N Generally in Good Condition? Y Is the well in need of repairs?

N Is the well fully operational? Y Is there a marked change in pumping rate?

N Was the lock secure when team arrived?

Y Is there evidence of tampering or vandalism?

Y Are sandy or silty materials present in the well?

Y Is there any standing water in or around the well?

Y Are there cracks or breaks in the concrete or casings?

N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. cw	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. f	e. Metals/Inorganics	500ml/T,G
6. h	f. TDS, TSS	500ml/T,P 500ml/P,G
7. 2	g. Cations/Anions	500ml/P,G 500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)

Volume Collected: 6.03 (l)

WEATHER.

Wind Direction N Speed (est.) 0-5 mph

Cloud Cover partly Temp. 100 °F

Precipitation: Present Recent Rain Snow Other NONE

Remarks/Problems. checked pH 7.00 buffer 6.98 22.5°C

Finished pH-10.00 ± 0.05 VWR S.C. 6/0324 29, Solinst Lev-14453

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
6.43	1	6.63	14.0	1	14.0	69700	1	70300		1	
6.45	2	6.64	13.6	2	13.9	69700	2	70400		2	
6.44	3	6.64	13.7	3	13.6	69700	3	70400		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.63 ft. Depth to Ground Water (D_w): 22.33 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 22.31 ft.

Calculated Purge Volume: 5.2 gal lit. Time Pump On 1355 Time Pump Off 1415

Total Amount of Ground Water Purged: 5.8 gal lit. 1st Flow Rate of Purge: 0.29 gal/min lit/min

Height of Well from Base: 2.14 ft. — in. 2nd Flow Rate of Purge: 0.29 gal/min lit/min

Analytical Laboratories and Delivery Data: Rad Lab BADGINGER Delivery Time/Date 8/14/96 1740

Chem Lab MSA1 Delivery Time/Date 8/14/96 1745 1514

Monitoring Parameters: 11e2 COMPLIANCE MONITORING CHEMISTRY ELEMENTS

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 19

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-29 DATE: 8/14/96 TIME OF ARRIVAL AT SAMPLING POINT: 1443

From Ground Water Monitoring Field Notebook Page No. 17 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

Jeff Low TL Larry Dushane

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secu [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. u	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber,T-caps
3. cw	c. TOC	125ml/Glass Amber,T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. f	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7. z	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.83 (l)		

WEATHER.

Wind Direction S Speed (est.) 0-5 mph

Cloud Cover Sct Temp. 105 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. DH Fisher 100765 UWRSL 9503242 9

Extinct WL 1495.3

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
6.38	1	6.94	13.6	1	13.5	70900	1	77400		1	
6.42	2	6.94	13.4	2	13.4	71200	2	72700		2	
6.44	3	6.94	13.4	3	13.3	71700	3	73100		3	
						77400 72200 71800		72600			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 81.98 ft. Depth to Ground Water (D_w): 21.27 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 21.25 ft.

Calculated Purge Volume: 5.4 (gal.) lit. Time Pump On 1949 Time Pump Off 1301

Total Amount of Ground Water Purged: 5.6 (gal) lit. 1st Flow Rate of Purge: 0.53 (gal/min) lit/min

Height of Well from Base: 1.61 ft. — in. 2nd Flow Rate of Purge: 0.30 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barriadetz Delivery Time/Date 8/14/96 1744

Chem Lab MSAI Delivery Time/Date 8/14/96 1510

Monitoring Parameters: 11c2 ~~Detection~~ Compliance MONITORING CONSTITUENTS

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET

(EC-0150)

(Rev. May 1

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-58 DATE: 8/17/96 TIME OF ARRIVAL AT SAMPLING POINT: 0852

From Ground Water Monitoring Field Notebook Page No. 18 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF ⊕ LOW TL LARRY DUSHANE

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is sec [locked], general condition, note presence of cracks or any evidence of tampering.)

(1) N Generally in Good Condition? Y (2) Is the well in need of repairs?

(3) N Is the well fully operational? Y (4) Is there a marked change in pumping rate?

(5) N Was the lock secure when team arrived?

Y (6) Is there evidence of tampering or vandalism?

Y (7) Are sandy or silty materials present in the well?

Y (8) Is there any standing water in or around the well?

Y (9) Are there cracks or breaks in the concrete or casings?

(10) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol Container
1. a	a. Volatile Organics	2x40ml/Glas teflon-l-ca
2. d	b. TOX	500ml/Glass Amber,T-cap
3. CN⁻	c. TOC	125ml/Glass Amber,T-cap
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5. F⁻	e. Metals/Inorganics	500ml/T,G
6. h	f. TDS, TSS	500ml/T,P 500ml/P,G
7. 7	g. Cations/Anions	500ml/P,G 500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.53 (l)		

WEATHER.

Wind Direction S Speed (est.) 5/7 mph

Cloud Cover OVC Temp. 55 °F

Precipitation: Present Recent Rain Snow (Other) N/O

Remarks/Problems. Duplicate taken DEMEANTED GW-55

OH BECKMAN 0232311 SC ~~Fisher~~ VWR 95052429 WL Solinst 14953

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.38	1	7.58	13.6	1	7.3	61200	1	64000		1	
7.39	2	7.58	13.4	2	13.0	60400	2	64200		2	
7.40	3	7.59	13.5	3	13.1	60000 59700	3	64100 54400 54300		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.27 ft. Depth to Ground Water (D_w): 20.65 ft.

Survey Factor for Indicator: +0.02 Adj. Depth to Ground Water (D_w): 20.63 ft.

Calculated Purge Volume: 5.82 gal. lit. Time Pump On 0856 Time Pump Off 0903

Total Amount of Ground Water Purged: 6.0 gal. lit. 1st Flow Rate of Purge: 0.5 gal/min lit/min

Height of Well from Base: 1.92 ft. — in. 2nd Flow Rate of Purge: 0.5 gal/min lit/min

Analytical Laboratories and Delivery Data: Rad Lab BARRINGER Delivery Time/Date 8/19/96 1800

Chem Lab MSAI Delivery Time/Date 8/16/96 1832

Monitoring Parameters: 11E2 ~~Supplemental~~ COMPLIANCE MONITORING CONSTITUENTS
JL 8/19/96

1/2

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 1

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-24 DATE: 8/15/96 TIME OF ARRIVAL AT SAMPLING POINT: 1000

From Ground Water Monitoring Field Notebook Page No. 19 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEPP G LOW TL LARRY DUSHANE

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secu (locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? (Y) N Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol, Container
1. a	a. Volatile Organics	2x40ml/Glas: teflon-l-ca:
2. d	b. TOX	500ml/Glass Amber,T-cap:
3. CN⁻	c. TOC	125ml/Glass Amber,T-cap:
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5. F⁻	e. Metals/Inorganics	500ml/T,G
6. h	f. TDS, TES	500ml/T,P 500ml/P,G
7. ?	g. Cations/Anions	500ml/P,G 500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.93 (l)		

WEATHER.

Wind Direction N Speed (est.) 0-5 mph

Cloud Cover OVC Temp. 90 °F

Precipitation: Present Recent Rain Snow (Other) Haze

Remarks/Problems. DH Beckman 0232311 SE UWR 9508242 9

W6 Submst 14953

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.22	1	7.24	13.1	1	13.7	68800	1	69100		1	
7.24	2	7.25	13.1	2	14.1	68900	2	68100		2	
7.25	3	7.25	13.1	3	14.0	69200 69300	3	68100		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 33.64 ft. Depth to Ground Water (D_w): 25.98 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 25.96 ft.

Calculated Purge Volume: 3.94 (gal.) lit. Time Pump On 1000 Time Pump Off 1021

Total Amount of Ground Water Purged: 4.0 (gal) lit. 1st Flow Rate of Purge: 0.4 (gal/min) lit/min

Height of Well from Base: 1.56 ft. — in. 2nd Flow Rate of Purge: 0.25 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 8/15/96 1800

Chem Lab MSAI Delivery Time/Date 8/16/96 1836

Monitoring Parameters: 11e2 ~~DETECTION~~ COMPLIANCE MONITORING CONSTITUENTS

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0153)

(Rev. May 19

GROUND-WATER WELL NO. OR SAMPLING POINT: 60-60 DATE: 8/15/96 TIME OF ARRIVAL AT SAMPLING POINT: 1121

From Ground Water Monitoring Field Notebook Page No. 20 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G LOW TL LARRY DUGHANE

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secu [locked], general condition, note presence of cracks or any evidence of tampering.)

N Generally in Good Condition? Y Is the well in need of repairs?

N Is the well fully operational? Y Is there a marked change in pumping rate?

N Was the lock secure when team arrived?

Y Is there evidence of tampering or vandalism?

Y Are sandy or silty materials present in the well?

Y Is there any standing water in or around the well?

Y Are there cracks or breaks in the concrete or casings?

N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber,T-caps
3. CN⁻	c. TOC	125ml/Glass Amber,T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. F⁻	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7. 2	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.93 (l)		

WEATHER.

Wind Direction NE Speed (est.) 0-5 mph

Cloud Cover Sct Temp. 90 °F

Precipitation: Present Recent Rain Snow Other NONE

Remarks/Problems. pH BUFFER: 0232311 SC VALUE 05052429

WL Solinst 14953

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.37	1	7.30	13.5	1	13.4	60800	1	57600	—	1	
7.38	2	7.31	13.7	2	13.5	61000	2	57200		2	
7.38	3	7.31	13.5	3	13.5	61400	3	57700		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 24.44 ft. Depth to Ground Water (D_w): 23.59 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 23.57 ft.

Calculated Purge Volume: 5.2 gal. lit. Time Pump On 1123 Time Pump Off 1135

Total Amount of Ground Water Purged: 3.3 gal. lit. 1st Flow Rate of Purge: 0.5 gal/min lit/min

Height of Well from Base: 1.74 ft. — in. 2nd Flow Rate of Purge: 0.4 gal/min lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 8/15/96 1800

Chem Lab MEAM Delivery Time/Date 8/15/96 1832

Monitoring Parameters: 11e2 COMPLIANCE MONITORING CONSTITUENTS

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May 19

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-63 DATE: 8/15/96 TIME OF ARRIVAL AT SAMPLING POINT: 1202

From Ground Water Monitoring Field Notebook Page No. 71 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF GOW TL LARRY DWYANE

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secu [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN⁻	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. F⁻	e. Metals/Inorganics	500ml/T,G
6. h	f. TDS, TSS	500ml/T,P 500ml/P,G
7. 7	g. Cations/Anions	500ml/P,G 500ml/P,G
8. 7	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.0 (l)		

WEATHER.

Wind Direction N Speed (est.) 0.5 mph

Cloud Cover Sun Temp. 95 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. pH - Beckman 0132311 SC - Fisher 950524 29

WL - Solinst 14453

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.51	1	7.52	14.2	1	13.4	61100	1	59700		1	
7.51	2	7.53	14.0	2	13.4	61200	2	59600		2	
7.51	3	7.53	13.9	3	13.2	61200	3	59900		3	

AH 8/15/96 60100

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.40 ft. Depth to Ground Water (D_w): 20.71 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 20.69 ft.

Calculated Purge Volume: 5.9 (gal) lit. Time Pump On 1208 Time Pump Off 1221

Total Amount of Ground Water Purged: 6.0 (gal) lit. 1st Flow Rate of Purge: 0.5 (gal/min) lit/min

Height of Well from Base: 1.79 ft. — in. 2nd Flow Rate of Purge: 0.5 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab BARRINGER Delivery Time/Date 8/15/96 1800

Chem Lab MSAI Delivery Time/Date 8/15/96 1532

Monitoring Parameters: 11e2 QUARTERLY COMPLIANCE MONITORING CONSTITUENTS

JF 8/15/96

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET

(SC-0130) (Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-29 DATE: 8/15/96 TIME OF ARRIVAL AT SAMPLING POINT: 1347

From Ground Water Monitoring Field Notebook Page No. 22 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G LAW TL LARRY Dushane

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN⁻	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. f	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7. 2	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 6.83 (l)		

WEATHER.

Wind Direction N Speed (est.) 5-10 mph

Cloud Cover CLR Temp. 100 °F

Precipitation: Present Recent Rain Snow (Other) NONE

Remarks/Problems. 2 H BECKMAN 0272311 SC WAR 450524729

WL Schmst 14953

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.09	1	7.03	13.4	1	13.2	71200	1	71400		1	
7.10	2	7.03	13.5	2	13.3	71300	2	71700		2	
7.11	3	7.03	13.2	3	13.3	71800	3	72100		3	
						71800		72700			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 (lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 33.62 ft. Depth to Ground Water (D_w): 25.70 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 25.68 ft.

Calculated Purge Volume: 4 (3.97) (gal) lit. Time Pump On 1350 Time Pump Off 1358 1355

Total Amount of Ground Water Purged: 40 (gal) lit. 1st Flow Rate of Purge: 0.5 (gal/min) lit/min

Height of Well from Base: 1.57 ft. — in 2nd Flow Rate of Purge: 0.5 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 8/15/96 1800

Chem Lab M 341 Delivery Time/Date 8/15/96 1832

Monitoring Parameters: Ile: DETECTION ~~MONITORING~~ COMPLIANCE CONSTITUENTS JH 8/19/96

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET

(EC-0130) (Rev. May 1984)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-20 DATE: 8/15/96 TIME OF ARRIVAL AT SAMPLING POINT: 1431

From Ground Water Monitoring Field Notebook Page No. 23 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G LOW TL LARRY BURNHAM

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secur [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. a	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. d	b. TOX	500ml/Glass Amber, T-caps
3. CN^-	c. TOC	125ml/Glass Amber, T-caps
4. e	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5. F^-	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. h	f. TDS, TSS	500ml/P,G 500ml/P,G
7. g	g. Cations/Anions	500ml/P,G
8. c	h. Radiologics	3.5 gal/P (C-14/G)

Volume Collected: 6.33 (l)

WEATHER.

Wind Direction W Speed (est.) 0-5 mph

Cloud Cover Clr Temp. 105 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. PH BECKWITH 0232311 UWR 950824429

WL-Solinst 14953 (PL-1 No water 1445)

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.35	1	7.22	13.5	1	13.5	66000	1	65400		1	
7.39	2	7.23	13.4	2	13.5	66400	2	66700		2	
7.46	3	7.23	13.3	3	13.2	66600	3	67600		3	
						66900 66900		70300 70600 71000 71300 71200			

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 36.62 ft. Depth to Ground Water (D_w): 25.46 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 25.44 ft.

Calculated Purge Volume: 5.6 (gal.) lit. Time Pump On 1434 Time Pump Off 1443 (1439)

Total Amount of Ground Water Purged: 5.60 (gal.) lit. 1st Flow Rate of Purge: 0.4 gal/min lit/min

Height of Well from Base: 1.32 ft. — in. 2nd Flow Rate of Purge: 0.43 gal/min lit/min

Analytical Laboratories and Delivery Data: Rad Lab BARRINGER Delivery Time/Date 8/15/96 1300

Chem Lab MDA Delivery Time/Date 8/15/96 1832

Monitoring Parameters: Hez ~~DETECTION~~ Compliance MONITORING ~~CONSTITU~~ CONSTITUENTS

JLL 8/19/96 JLL 8/19/96

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0130)

(Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-66 DATE: 10/7/96 TIME OF ARRIVAL AT SAMPLING POINT: 1015

From Ground Water Monitoring Field Notebook Page No. 26 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G LAW TL BRENT STEPHENS

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition?
(Y) N Is the well fully operational?
(Y) N Was the lock secure when team arrived?
Y (N) Is there evidence of tampering or vandalism?
Y (N) Are sandy or silty materials present in the well?
Y (N) Is there any standing water in or around the well?
Y (N) Are there cracks or breaks in the concrete or casings?
(Y) N Has the annual depth of the well bottom been determined?
Y (N) Is the well in need of repairs?
Y (N) Is there a marked change in pumping rate?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. e	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. h	b. TOX	500ml/Glass Amber, T-caps
3.	c. TOC	125ml/Glass Amber, T-caps
4.	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6.	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 10.0 (l)		

WEATHER.

Wind Direction NW Speed (est.) 0-5 mph

Cloud Cover Clr Temp. 70 °F

Precipitation: (Present) Recent Rain Snow (Other) None

Remarks/Problems. Duplicate taken designated GW 86

pH - 10.26 DO 9.5087429 WL - 14.73 EH - 0.0345

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.44	1	7.42	13.5 (VDL 10/7/96)	1	13.4	62400	1	63100 (DLH 10/7/96)	524.2	1	491.6
7.49	2	7.41	13.5	2	13.4	62500	2	63100		2	
7.49	3	7.45	13.4	3	13.4	62400	3	63000		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 29.94 ft. Depth to Ground Water (D_w): 23.65 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 23.62 (corr) ft.

Calculated Purge Volume: 3.145 (gal) lit. Time Pump On 1033 Time Pump Off 1046

Total Amount of Ground Water Purged: 34 (gal) lit. 1st Flow Rate of Purge: 0.21 (gal/min) lit/min

Height of Well from Base: 1.79 ft. — in. 2nd Flow Rate of Purge: 0.2 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date — 10/8/96

Chem Lab MSAI Delivery Time/Date 10/7/96 1430

Monitoring Parameters: Se, Ra 226 + 228, Th 230 - 232

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET

(REC-01,3M) (Rev. May 19

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-25 DATE: 10/7/96 TIME OF ARRIVAL AT SAMPLING POINT: 1620

From Ground Water Monitoring Field Notebook Page No. 27 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G Co. TL BRENT STAMPINGS

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secu [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. CN	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2. h	b. TOX	500ml/Glass Amber,T-caps
3.	c. TOC	125ml/Glass Amber,T-caps
4.	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6.	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 5.0 (l)		

WEATHER.

Wind Direction NW Speed (est.) 0-2 mph

Cloud Cover CLR Temp. 73 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems. Duplicate for CN taken

Designated GW-87. pH 100765 SC 95062429 VL-14953 EL 006385

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.34	1	7.29	14.0	1	13.9	73500	1	73000	444.6	1	468.1
7.35	2	7.29	13.9	2	13.8	73600	2	73500		2	
7.35	3	7.28	13.7	3	13.8	73700	3	73400		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 36.22 ft. Depth to Ground Water (D_w): 25.53 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 25.51 ft.

Calculated Purge Volume: 5.35 (gal) lit. Time Pump On 1127 Time Pump Off 1143

Total Amount of Ground Water Purged: 5.5 (gal) lit. 1st Flow Rate of Purge: 0.33 (gal/min) lit/min

Height of Well from Base: 1.30 ft. — in. 2nd Flow Rate of Purge: 0.30 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab Barringer Delivery Time/Date 10/6/96

Chem Lab MSAI Delivery Time/Date 10/7/96 1430

Monitoring Parameters: CN, Ra 226 226 + 228

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0139)

(Rev. May 1

GROUND-WATER WELL NO. OR SAMPLING POINT: ~~GW-57~~ GW-57 (10/7/96) DATE: 10/7/96 TIME OF ARRIVAL AT SAMPLING POINT: 1200

From Ground Water Monitoring Field Notebook Page No. 28 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF LOWTH BRENT STEPHENS

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secu [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol Container
1. CN	a. Volatile Organics	2x40ml/Glas teflon-l-ca
2. —	b. TOX	500ml/Glass Amber,T-cap
3. —	c. TOC	125ml/Glass Amber,T-cap
4. —	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5. —	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6. —	f. TDS, TSS	500ml/P,G 500ml/P,G
7. —	g. Cations/Anions	500ml/P,G
8. —	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 0.5 (l)		

WEATHER.

Wind Direction NW Speed (est.) 0-5 mph

Cloud Cover Clr Temp. 75 °F

Precipitation: Present Recent Rain Snow (Other) None

Remarks/Problems.

pH 100765 SC 05082424 WL - 14953 EL - 006395

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/c

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.37	1	7.41	14.0	1	13.7	64700	1	63400	422.6	1	436.8
7.38	2	7.43	13.7	2	13.5	65300	2	63800		2	
7.40	3	7.44	13.6	3	13.4	65600	3	63800		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 32.67 ft. Depth to Ground Water (D_w): 22.29 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 22.27 ft.

Calculated Purge Volume: 5.2 (gal) lit. Time Pump On 1205 Time Pump Off 1224

Total Amount of Ground Water Purged: 5.3 (gal) lit. 1st Flow Rate of Purge: 0.25 (gal/min) lit/min

Height of Well from Base: 2.14 ft. ___ in. 2nd Flow Rate of Purge: 0.25 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab NA Delivery Time/Date

Chem Lab MSA1 Delivery Time/Date 10/7/96 1430

Monitoring Parameters: Cyanide

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET

(EC-0139) (Rev. May 1994)

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-2B DATE: 10/7/96 TIME OF ARRIVAL AT SAMPLING POINT: 1235

From Ground Water Monitoring Field Notebook Page No. 29 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF G LOW TL BRENT STEPHENS

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is secure [locked], general condition, note presence of cracks or any evidence of tampering.)

(Y) N Generally in Good Condition? Y (N) Is the well in need of repairs?

(Y) N Is the well fully operational? Y (N) Is there a marked change in pumping rate?

(Y) N Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

(Y) N Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol/ Container
1. CL	a. Volatile Organics	2x40ml/Glass teflon-l-cap
2.	b. TOX	500ml/Glass Amber,T-caps
3.	c. TOC	125ml/Glass Amber,T-caps
4.	d. Base/Neutral/Acid Extractables	500ml/Glass, Teflon
5.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6.	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)
Volume Collected: 0.5 (l)		

WEATHER.

Wind Direction NW Speed (est.) 5-4 mph

Cloud Cover Clr Temp. 80 °F

Precipitation: Present Recent Rain Snow (Other) None.

Remarks/Problems.

pH 100765 SC 95087429 WL 14953 BL 006395

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature, F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.44	1	7.50	14.0	1	13.6	66800	1	67200	405.0	1	417.7
7.46	2	7.50	13.8	2	13.9	66740	2	67200		2	
7.45	3	7.51	13.7	3	14.0	67700 67800	3	67100		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 21.98 ft. Depth to Ground Water (D_w): 21.27 ft.

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 21.25 ft.

Calculated Purge Volume: 5.4 (gal) lit. Time Pump On 1243 Time Pump Off 1256

Total Amount of Ground Water Purged: 5.5 (gal) lit. 1st Flow Rate of Purge: 0.5 (gal/min) lit/min

Height of Well from Base: 1.00 ft. — in. 2nd Flow Rate of Purge: 0.4 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab NA Delivery Time/Date —

Chem Lab MSA 1 Delivery Time/Date 10/7/96 1430

Monitoring Parameters: CL

EXHIBIT 3
GROUND-WATER MONITORING DATA SHEET
(EC-0150)

(Rev. May

GROUND-WATER WELL NO. OR SAMPLING POINT: GW-26 DATE: 10/10/96 TIME OF ARRIVAL AT SAMPLING POINT: 0917

From Ground Water Monitoring Field Notebook Page No. 30 SAMPLING TEAM MEMBERS: (Indicate the team leader.)

JEFF LOW TL BRENT STEPHENS

DESCRIPTION OF WELL (CONDITION). (Note the condition of the well at the time of arrival, whether the well is sec [locked], general condition, note presence of cracks or any evidence of tampering.)

Y (N) Generally in Good Condition? Y (N) Is the well in need of repairs?

Y (N) Is the well fully operational? Y (N) Is there a marked change in pumping rate?

Y (N) Was the lock secure when team arrived?

Y (N) Is there evidence of tampering or vandalism?

Y (N) Are sandy or silty materials present in the well?

Y (N) Is there any standing water in or around the well?

Y (N) Are there cracks or breaks in the concrete or casings?

Y (N) Has the annual depth of the well bottom been determined?

SAMPLE COLLECTION ORDER		Minimum Vol Container
1. e	a. Volatile Organics	2x40ml/Glas teflon-l-ca
2.	b. TOX	500ml/Glass Amber,T-cap
3.	c. TOC	125ml/Glass Amber,T-cap
4.	d. Base/Neutral/Acid Extractables	500ml/Glass Teflon
5.	e. Metals/Inorganics	500ml/T,G 500ml/T,P
6.	f. TDS, TSS	500ml/P,G 500ml/P,G
7.	g. Cations/Anions	500ml/P,G
8.	h. Radiologics	3.5 gal/P (C-14/G)

Volume Collected: 7.0 (l)

WEATHER.

Wind Direction NA Speed (est.) NA mph

Cloud Cover Clr Temp. 70 °F

Precipitation: Present Recent Rain Snow (Other) None.

Remarks/Problems. Duplicate taken, designated GW-87 10/10/96 AH 100265 SC 450 EC 1420 SS GW-149.3 EL 006795

PRE- AND POST-SAMPLING GROUND-WATER FIELD ANALYSIS RESULTS. Temperature: F C Specific Conductance: µmhos/cm

PRE-pH	#	POST-pH	PRE-Temp	#	POST-Temp	PRE-Cond	#	POST-Cond	PRE-Eh	#	POST-Eh
7.56	1	7.57	13.2	1	13.1	70100	1	70300	490.3	1	493.3
7.55	2	7.55	13.2	2	13.1	70300	2	70400		2	
7.53	3	7.58	13.2	3	13.1	70300	3	70500		3	

WELL INFORMATION. Purge Volume Formula: V_p (lit) = 1.87 lit/ft * [D_b(ft) - D_w(ft)]
for 2"-I.D. PVC only V_p (gal) = 0.5 gal/ft * [D_b(ft) - D_w(ft)]

Depth to Well Bottom (D_b): 31.82 ft. Depth to Ground Water (D_w): ~~24.85~~ 24.90 ft. AH 10/10/96

Survey Factor for Indicator: -0.02 Adj. Depth to Ground Water (D_w): 24.88 ft.

Calculated Purge Volume: 3.5 ~~gal.~~ lit. Time Pump On 0920 Time Pump Off 0936

Total Amount of Ground Water Purged: 3.5 (gal) lit. 1st Flow Rate of Purge: 0.22 (gal/min) lit/min

Height of Well from Base: 1.74 ft. — in. 2nd Flow Rate of Purge: 0.23 (gal/min) lit/min

Analytical Laboratories and Delivery Data: Rad Lab NIA Delivery Time/Date —

Chem Lab MSA I Delivery Time/Date 10/14/96 1430

Monitoring Parameters: Pb

RDL

Attachment B

Analytical Summaries

SUMMARY OF 1996 WATER QUALITY DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-19A

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.036		0.044r[b]		
Barium	0.02		0.02		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00034		0.0001b[c]		
Molybdenum	0.75		0.548		
Nickel	0.01		U		
Selenium	0.005		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.001b		
Fluorine	1.12		1.1		
Fluoride			0.9		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	3.28		0.5 +/-0.5		
Radium 228	3.28		1.2 +/-0.5		
Thorium 230	2.29		0.0 +/-0.5		
Thorium 232	0		0.0 +/-0.6		
Uranium	0.0051		0.0033		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration

[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).

[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-19A

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterl	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.036		0.047[b]			8-14-96
Barium	0.02					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00034					
Molybdenum	0.75					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	1.12					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	3.28					
Radium 228	3.28					
Thorium 230	2.29					
Thorium 232	0					
Uranium	0.0051					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

[b] Analyzed using the HAA technique (EPAMethod 7061).

SUMMARY OF 1996 WATER QUALITY DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-20

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.042		0.038r[b]		
Barium	0.023		0.02		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00049		0.0001b[c]		
Molybdenum	0.33		0.167		
Nickel	0.01		U		
Selenium	0.055		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.004b		
Fluorine	0.85		0.7		
Fluoride			0.8		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	5.67		2.0 +/-0.9		
Radium 228	5.67		1.9 +/-0.6		
Thorium 230	1.04		0.2 +/-0.7		
Thorium 232	0		0.0 +/-0.7		
Uranium	0.013		0.0092		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration
[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).
[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-24

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.032		0.033r[b]		
Barium	0.036		0.03		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00029		0.0001b[c]		
Molybdenum	0.33		0.204		
Nickel	0.01		U		
Selenium	0.009		0.032rb		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.002b		
Fluorine	0.83		0.7		
Fluoride			0.9		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	5.47		1.9 +/-0.9		
Radium 228	5.47		2.8 +/-0.7		
Thorium 230	1.76		0.4 +/-0.7		
Thorium 232	0		0.0 +/-0.8		
Uranium	0.02		0.017		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration
[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).
[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-24

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.032		0.034[b]			8-15-96
Barium	0.036					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00029					
Molybdenum	0.33					
Nickel	0.01					
Selenium	0.009		0.033[b]			8-13-96
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	0.83					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	5.47					
Radium 228	5.47					
Thorium 230	1.76					
Thorium 232	0					
Uranium	0.02					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

[b] Analyzed using the HAA technique (EPAMethod 7061).

SUMMARY OF 1996 WATER QUALITY DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-25

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.11		0.117r[b]		
Barium	0.044		0.02		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.0002		0.0002b[c]		
Molybdenum	0.3		0.218		
Nickel	0.01		U		
Selenium	0.005		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.056		
Fluorine	1.04		0.9		
Fluoride			0.7		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	5.36		2.6 +/-1.0		
Radium 228	5.36		2.9 +/-0.6		
Thorium 230	2.6		0.2 +/-0.8		
Thorium 232	0		0.0 +/-0.7		
Uranium	0.13		0.13		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration
[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).
[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-25

PARAMETERS	ABC [a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.11					
Barium	0.044					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.0002					
Molybdenum	0.3					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005		U			10-7-96
Fluorine	1.04					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	5.36		0.7+/-0.3			10-7-96
Radium 228	5.36		1.7+/-1.8			10-7-96
Thorium 230	2.6					
Thorium 232	0					
Uranium	0.13					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-25

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.11		0.09			8-13-96
Barium	0.044					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.0002					
Molybdenum	0.3					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005		U			8-14-96
Fluorine	1.04					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	5.36		1.6 +/-0.5			8-14-96
Radium 228	5.36		2.7 +/-1.2			8-14-96
Thorium 230	2.6					
Thorium 232	0					
Uranium	0.13					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-25

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.11		0.117			8-14-96
Barium	0.044					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.0002					
Molybdenum	0.3					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	1.04					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Thorium 230	2.6					
Thorium 232	0					
Uranium	0.13					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

SUMMARY OF 1996 WATER QUALITY DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-26

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.2		0.234r[b]		
Barium	0.044		0.03		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		0.017b[c]		
Mercury	0.0002		0.0006		
Molybdenum	0.7		0.509		
Nickel	0.01		U		
Selenium	0.014		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.001b		
Fluorine	0.98		0.8		
Fluoride			0.6		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	4.97		1.3 +/-0.8		
Radium 228	4.97		2.6 +/-0.6		
Thorium 230	1.57		0.4 +/-0.7		
Thorium 232	0		0.0 +/-0.5		
Uranium	0.033		0.023		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration
[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).
[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-26

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.2		0.215			8-13-96
Barium	0.044					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005		U			8-13-96
Mercury	0.0002		0.0014			8-14-96
Molybdenum	0.7					
Nickel	0.01					
Selenium	0.014					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	0.98					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	4.97					
Radium 228	4.97					
Thorium 230	1.57					
Thorium 232	0					
Uranium	0.033					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-26

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.2					
Barium	0.044					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005		U			8-14-96
Mercury	0.0002					
Molybdenum	0.7					
Nickel	0.01					
Selenium	0.014					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	0.98					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	4.97					
Radium 228	4.97					
Thorium 230	1.57					
Thorium 232	0					
Uranium	0.033					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

SUMMARY OF 1996 WATER QUALITY DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-27

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.059		0.11r[b]		
Barium	0.053		0.02		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00026		0.0002b[c]		
Molybdenum	0.65		0.531		
Nickel	0.01		U		
Selenium	0.005		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.001b		
Fluorine	1.18		0.9		
Fluoride			1.1		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	3.85		1.0 +/-0.6		
Radium 228	3.85		1.5 +/-0.5		
Thorium 230	4.62		0.4 +/-0.8		
Thorium 232	0		0.0 +/-0.5		
Uranium	0.027		0.013		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration

[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).

[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-27

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.059		0.071[b]			8-13-96
Barium	0.053					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00026					
Molybdenum	0.65					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	1.18					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	3.85					
Radium 228	3.85					
Thorium 230	4.62					
Thorium 232	0					
Uranium	0.027					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

[b] Analyzed using the HAA technique (EPAMethod 7061).

SUMMARY OF 1996 WATER QUALITY DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-28

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.078		0.075r[b]		
Barium	0.033		0.02		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00038		U		
Molybdenum	0.46		0.258		
Nickel	0.01		U		
Selenium	0.005		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.012		
Fluorine	1.02		0.9		
Fluoride			0.9		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	3.59		0.7 +/-0.8		
Radium 228	3.59		1.5 +/-0.5		
Thorium 230	1.16		0.2 +/-0.6		
Thorium 232	0		0.0 +/-0.5		
Uranium	0.011		0.0089		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration

[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).

[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-28

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.059					
Barium	0.053					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00026					
Molybdenum	0.65					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005		U			8-9-96
Fluorine	1.18					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	3.85					
Radium 228	3.85					
Thorium 230	4.62					
Thorium 232	0					
Uranium	0.027					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-28

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.059					
Barium	0.053					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00026					
Molybdenum	0.65					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005		0.003			8-14-96
Fluorine	1.18					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	3.85					
Radium 228	3.85					
Thorium 230	4.62					
Thorium 232	0					
Uranium	0.027					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

SUMMARY OF 1996 WATER QUALITY DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-29

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.023		0.028r[b]		
Barium	0.038		0.02		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00038		0.0001b[c]		
Molybdenum	0.37		0.187		
Nickel	0.01		U		
Selenium	0.005		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.001b		
Fluorine	0.93		0.8		
Fluoride			0.9		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	6.15		1.2 +/-0.7		
Radium 228	6.15		3.3 +/-0.8		
Thorium 230	2.28		0.0 +/-0.5		
Thorium 232	0		0.0 +/-0.6		
Uranium	0.04		0.021		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration
[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).
[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-29

PARAMETERS	ABC(a)	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.023		0.029[b]			8-15-96
Barium	0.038					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00038					
Molybdenum	0.37					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	0.93					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	6.15					
Radium 228	6.15					
Thorium 230	2.28					
Thorium 232	0					
Uranium	0.04					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

[b] Analyzed using the HAA technique (EPAMethod 7061).

SUMMARY OF 1996 WATER QUALITY DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-57

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterl May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.026		0.046r[b]		
Barium	0.048		0.02		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00038		0.0002b[c]		
Molybdenum	0.53		0.332		
Nickel	0.01		U		
Selenium	0.005		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		2.72		
Fluorine	0.98		0.8		
Fluoride			0.8		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	3.39		0.9 +/-0.6		
Radium 228	3.39		0.9 +/-0.5		
Thorium 230	3.89		0.0 +/-0.6		
Thorium 232	0		0.0 +/-0.5		
Uranium	0.0075		0.0065		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration

[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).

[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-57

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.026		0.047[b]			8-14-96
Barium	0.048					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00038					
Molybdenum	0.53					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005		U			8-14-96
Fluorine	0.98					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	3.39					
Radium 228	3.39					
Thorium 230	3.89					
Thorium 232	0					
Uranium	0.0075					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

[b] Analyzed using the HAA technique (EPAMethod 7061).

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-57

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.026					
Barium	0.048					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00038					
Molybdenum	0.53					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005		0.002 b[b]			8-9-96
Fluorine	0.98					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	3.39					
Radium 228	3.39					
Thorium 230	3.89					
Thorium 232	0					
Uranium	0.0075					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

[b] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-58

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly August	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.12		0.135r[b]		
Barium	0.048		0.03		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00062		0.0001b[c]		
Molybdenum	0.36		0.203		
Nickel	0.01		U		
Selenium	0.005		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.001b		
Fluorine	1.11		0.9		
Fluoride			1		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	5.15		1.7 +/-0.7		
Radium 228	5.15		2.3 +/-0.6		
Thorium 230	0.84		0.1 +/-0.7		
Thorium 232	0		0.0 +/-0.6		
Uranium	0.036		0.033		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration
[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).
[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-58

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.12		0.129[b]			8-13-96
Barium	0.048					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00062					
Molybdenum	0.36					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	1.11					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	5.15					
Radium 228	5.15					
Thorium 230	0.84					
Thorium 232	0					
Uranium	0.036					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

[b] Analyzed using the HAA technique (EPAMethod 7061).

SUMMARY OF 1996 WATER QUALITY DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-60

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly
			May	August	
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.029		0.035r[b]		
Barium	0.037		0.02		
Beryllium	0.005		U		
Cadmium	0.004		0.004b		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00049		0.0001b[c]		
Molybdenum	0.31		0.223		
Nickel	0.01		U		
Selenium	0.015		0.025rb		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.001b		
Fluorine	0.94		0.7		
Fluoride			0.6		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	4.07		2.1 +/-0.9		
Radium 228	4.07		2.3 +/-0.6		
Thorium 230	0		0.2 +/-0.8		
Thorium 232	0		0.0 +/-0.8		
Uranium	0.02		0.016		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration

[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).

[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-60

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.029		0.034[b]			8-15-96
Barium	0.037					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00049					
Molybdenum	0.31					
Nickel	0.01					
Selenium	0.015		0.033[b]			8-13-96
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	0.94					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	4.07		1.2 +/-0.4			8-15-96
Radium 228	4.07		1.2 +/-1.0			8-15-96
Thorium 230	0		-0.1 +/-0.8a[b			8-15-96
Thorium 232	0					
Uranium	0.02					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

[b] Analyzed using the HAA technique (EPAMethod 7061).

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA

11e.(2) Compliance Monitor Wells

Well Identification: GW-60

PARAMETERS	ABC [a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.029					
Barium	0.037					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00049					
Molybdenum	0.31					
Nickel	0.01					
Selenium	0.015		0.03[b]			10-7-96
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	0.94					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	4.07		0.3 +/-0.2			10-7-96
Radium 228	4.07		3.1 +/-1.8			10-7-96
Thorium 230	0		-0.2 +/-0.5			10-7-96
Thorium 232	0		0.0 +/-0.6			10-7-96
Uranium	0.02					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

[b] Analyzed using the HAA technique (EPAMethod 7061).

SUMMARY OF 1996 WATER QUALITY DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-63

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly
			May	August	
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.034		0.036r[b]		
Barium	0.097		0.04		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.00046		0.0001b[c]		
Molybdenum	0.31		0.203		
Nickel	0.01		U		
Selenium	0.005		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.001b		
Fluorine	1.08		0.8		
Fluoride			0.9		
RADIOACTIVE CONSTITUENTS (pCi/l)					
Radium 226	4.13		1.0 +/-0.6		
Radium 228	4.13		2.0 +-0.5		
Thorium 230	2.62		0.2 +/-0.7		
Thorium 232	0		0.0 +/-0.5		
Uranium	0.011		0.0092		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration
[b] An "r" signifies a re-evaluation by the laboratory using the HAA technique (EPA Method 7061).
[c] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-63

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.034		0.039[b]			8-15-96
Barium	0.097					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00046					
Molybdenum	0.31					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	1.08					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	4.13					
Radium 228	4.13					
Thorium 230	2.62					
Thorium 232	0					
Uranium	0.011					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration
[b] Analyzed using the HAA technique (EPAMethod 7061).

SUMMARY OF 1996 WATER QUALITY DATA
11e.(2) Compliance Monitor Wells

Well Identification: Trip Blank

PARAMETERS	1st Quarterly	2nd Quarterly	ro Quarterl	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)				
Dissolved Metals				
Arsenic				
Barium				
Beryllium				
Cadmium				
Chromium				
Lead				
Mercury				
Molybdenum				
Nickel				
Selenium				
Silver				
Other Inorganic Chemistries				
Cyanide				
Fluorine				
Fluoride				
RADIOACTIVE CONSTITUENTS (pCi/l				
Radium 226				
Radium 228				
Thorium 230				
Thorium 232				
Uranium				
ORGANIC CONSTITUENTS (mg/l)				
Acetone		U		
2-Butanone		U		
Chloroform		U		
Carbon disulfide		U		
1,2 Dichloroethane		U		
Methylene Chloride		U		
Napthalene				
Diethylphthalate				
2-Methylnapthalene				

SUMMARY OF WATER QUALITY DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-70, Field Duplicate for GW-20

PARAMETERS	ABC[a]	1st Quarterly	2nd Quarterly May	3rd Quarterly	4th Quarterly
INORGANIC CONSTITUENTS (mg/l)					
Dissolved Metals					
Arsenic	0.12		0.06		
Barium	0.048		0.02		
Beryllium	0.005		U		
Cadmium	0.004		U		
Chromium	0.005		U		
Lead	0.005		U		
Mercury	0.0006		0.0002b[c]		
Molybdenum	0.36		0.214		
Nickel	0.01		U		
Selenium	0.005		U		
Silver	0.005		U		
Other Inorganic Chemistries					
Cyanide	0.005		0.034		
Fluorine	1.11		0.7		
Fluoride			0.8		
RADIOACTIVE CONSTITUENTS (pCi/					
Radium 226	5.15		1.0 +/-0.6		
Radium 228	5.15		2.0 +/-0.6		
Thorium 230	0.84		0.4 +/-0.7		
Thorium 232	0		0.0 +/-0.5		
Uranium	0.036		0.0085		
ORGANIC CONSTITUENTS (mg/l)					
Acetone	20.0		U		
2-Butanone	20.0		U		
Chloroform	2.0		U		
Carbon disulfide	2.0		U		
1,2 Dichloroethane	2.0		U		
Methylene Chloride	2.0		U		
Napthalene	4.0		U		
Diethylphthalate	4.0		U		
2-Methylnapthalene	4.0		U		

[a] Approved Background Concentration

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-70, Field Duplicate for GW-20

PARAMETERS	ABC [a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.042					
Barium	0.023					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00049					
Molybdenum	0.33					
Nickel	0.01					
Selenium	0.055					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005		0.002 b[b]			8-9-96
Fluorine	0.85					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi						
Radium 226	5.67					
Radium 228	5.67					
Thorium 230	1.04					
Thorium 232	0					
Uranium	0.013					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration
[b] A "b" signifies a value less than the limit of quanitation, but greater than the limit of detection.

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-71, Field Duplicate for GW-60

PARAMETERS	ABC [a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.029					
Barium	0.037					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00049					
Molybdenum	0.31					
Nickel	0.01					
Selenium	0.015		0.034			8-13-96
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	0.94					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	4.07					
Radium 228	4.07					
Thorium 230	0					
Thorium 232	0					
Uranium	0.02					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-72, Field Duplicate for GW-58

PARAMETERS	ABC [a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.12		0.12			8-13-96
Barium	0.048					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00062					
Molybdenum	0.36					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	1.11					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	5.15					
Radium 228	5.15					
Thorium 230	0.84					
Thorium 232	0					
Uranium	0.036					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-86, Field Duplicate for GW-60

PARAMETERS	ABC [a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.029					
Barium	0.037					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.00049					
Molybdenum	0.31					
Nickel	0.01					
Selenium	0.015		0.03			10-7-96
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005					
Fluorine	0.94					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l)						
Radium 226	4.07		0.5 +/-0.3			10-7-96
Radium 228	4.07		3.6 +/-1.9			10-7-96
Thorium 230	0		0.6 +/-0.7			10-7-96
Thorium 232	0		0.1 +/-0.5			10-7-96
Uranium	0.02					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

SUMMARY OF 1996 WATER QUALITY CONFIRMATION DATA
11e.(2) Compliance Monitor Wells

Well Identification: GW-87, Field Duplicate for GW-25

PARAMETERS	ABC [a]	1st Quarterly	2nd Quarterly	3rd Quarterly	4th Quarterly	Date
INORGANIC CONSTITUENTS (mg/l)						
Dissolved Metals						
Arsenic	0.11					
Barium	0.044					
Beryllium	0.005					
Cadmium	0.004					
Chromium	0.005					
Lead	0.005					
Mercury	0.0002					
Molybdenum	0.3					
Nickel	0.01					
Selenium	0.005					
Silver	0.005					
Other Inorganic Chemistries						
Cyanide	0.005		0.004			10-7-96
Fluorine	1.04					
Fluoride						
RADIOACTIVE CONSTITUENTS (pCi/l						
Radium 226	5.36		0.7 +/-0.3			10-7-96
Radium 228	5.36		1.7 +/-1.8			10-7-96
Thorium 230	2.6					
Thorium 232	0					
Uranium	0.13					
ORGANIC CONSTITUENTS (mg/l)						
Acetone	20.0					
2-Butanone	20.0					
Chloroform	2.0					
Carbon disulfide	2.0					
1,2 Dichloroethane	2.0					
Methylene Chloride	2.0					
Napthalene	4.0					
Diethylphthalate	4.0					
2-Methylnapthalene	4.0					

[a] Approved Background Concentration

Attachment C

Analytical Reports: Conventional Chemistries

MSAI Laboratories
Group No. 12672

Mountain States Analytical

The Quality Solution

July 23, 1996

Ms. Michelle Little
Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Reference:
Project: 11e(2) Groundwaters
MSAI Group: 12672

Dear Ms. Little:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

GW-25 (11947-47127)	GW-26 (11947-47128)
GW-27 (11947-47129)	GW-57 (11947-47130)
GW-28 (11947-47131)	GW-60 (11977-47267)
GW-63 (11977-47268)	GW-19A (11977-47269)
GW-58 (11977-47270)	GW-24 (11977-47271)
GW-29 (11978-47272)	GW-20 (11978-47273)
GW-70 (11978-47274)	

All holding times were met for the tests performed on these samples.

If the report is acceptable please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

W. Scott Fraser

W. Scott Fraser
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Ms. Michelle Little
Project: 11e(2) Groundwaters

MSAI Group: 12672
Date Reported: 07/23/96
Date Received: 05/07/96

Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
Sample:49988 - GW-25 (11947-47127)					
0245A	Arsenic by HAA, w/ww, SW-846	117	ug/l	100	4
0401	Prep for HAA, ww	Complete			
Sample:49989 - GW-26 (11947-47128)					
0245A	Arsenic by HAA, w/ww, SW-846	234	ug/l	100	4
0401	Prep for HAA, ww	Complete			
Sample:49990 - GW-27 (11947-47129)					
0245A	Arsenic by HAA, w/ww, SW-846	110	ug/l	40	4
0401	Prep for HAA, ww	Complete			
Sample:49991 - GW-57 (11947-47130)					
0245A	Arsenic by HAA, w/ww, SW-846	46	ug/l	20	4
0401	Prep for HAA, ww	Complete			
Sample:49992 - GW-28 (11947-47131)					
0245A	Arsenic by HAA, w/ww, SW-846	75	ug/l	20	4
0401	Prep for HAA, ww	Complete			
Sample:49993 - GW-60 (11977-47267)					
0245A	Arsenic by HAA, w/ww, SW-846	35	ug/l	20	4
0264B	Selenium by HAA, w/ww, SW-846	25	ug/l	15	3
0401	Prep for HAA, ww	Complete			
Sample:49994 - GW-63 (11977-47268)					
0245A	Arsenic by HAA, w/ww, SW-846	36	ug/l	20	4
0401	Prep for HAA, ww	Complete			
Sample:49995 - GW-19A (11977-47269)					
0245A	Arsenic by HAA, w/ww, SW-846	44	ug/l	20	4
0401	Prep for HAA, ww	Complete			
Sample:49996 - GW-58 (11977-47270)					
0245A	Arsenic by HAA, w/ww, SW-846	135	ug/l	40	4

Analytical Report

Mountain States Analytical
The Quality Solution

MSAI Group: 12672

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
Sample:49996 - GW-58 (11977-47270)					
0401	Prep for HAA, ww	Complete			
Sample:49997 - GW-24 (11977-47271)					
0245A	Arsenic by HAA, w/ww, SW-846	33	ug/l	20	4
0264B	Selenium by HAA, w/ww, SW-846	32	ug/l	15	3
0401	Prep for HAA, ww	Complete			
Sample:49998 - GW-29 (11978-47272)					
0245A	Arsenic by HAA, w/ww, SW-846	28	ug/l	20	4
0401	Prep for HAA, ww	Complete			
Sample:49999 - GW-20 (11978-47273)					
0245A	Arsenic by HAA, w/ww, SW-846	38	ug/l	20	4
0401	Prep for HAA, ww	Complete			
Sample:50000 - GW-70 (11978-47274)					
0245A	Arsenic by HAA, w/ww, SW-846	40	ug/l	20	4
0401	Prep for HAA, ww	Complete			

Test Method Summary:
0245A- SW-846 7061A 0401 - SW-846 7061A

U - Compound was analyzed but not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

MSAI Laboratories
Group No. 11978

Mountain States Analytical

The Quality Solution

May 22, 1996

Mr. Jeff Low
Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Reference:
Project: 11e(2) Groundwaters
Project No.: 00184
MSAI Group: 11978

Dear Mr. Low:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

GW-29 GW-20 GW-70

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2100 South Salt Lake City, Utah 84119 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwaters

Sample ID: GW-29
Matrix: Waste Water

MSAI Sample: 47272
MSAI Group: 11978
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/09/96
Date Sampled: 05/09/96
Collected by:
Purchase Order: PRA 4018
Project No.: 00184

Test	Analysis	Results as Received	Units		Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0001 B	mg/l		0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete				
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete				
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete				
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.07 B	mg/l		0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	(1)	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l		0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l		0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l		0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l		0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l		0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47272
MSAI Group: 11978

Sample ID: GW-29

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.187	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.001 B	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.9	mg/l	0.2	0.02
924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

(1) Samples in group 11978 required dilution for analysis due to high background interferences.

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47272
MSAI Group: 11978

Sample ID: GW-29

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwaters

MSAI Sample: 47273
MSAI Group: 11978
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/09/96
Date Sampled: 05/09/96
Collected by:
Purchase Order: PRA 4018
Project No.: 00184

Sample ID: GW-20
Matrix: Waste Water

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0001 B	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.07 B	mg/l	0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47273
MSAI Group: 11978

Sample ID: GW-20

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.167	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.004 B	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.8	mg/l	0.2	0.02
924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47273
MSAI Group: 11978

Sample ID: GW-20

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwaters

Sample ID: GW-70
Matrix: Waste Water

MSAI Sample: 47274
MSAI Group: 11978
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/09/96
Date Sampled: 05/09/96
Collected by:
Purchase Order: PRA 4018
Project No.: 00184

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0002 B	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.06 B	mg/l	0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47274
MSAI Group: 11978

Sample ID: GW-70

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.214	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.034	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.8	mg/l	0.2	0.02
[illegible]24	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

Sample ID: GW-70

MSAI Sample: 47274
MSAI Group: 11978

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

3F
11e (2) WELLS
2ND QUARTER SAMPLING
5-9-96 (EF)

00184

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94)

SAMPLERS (Signatures)

Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
GW-29	CLIVE	5-9-96	1235		✓	6	REFER TO MAY 1, 1996 FAX TO S. FRASER
GW-20	CLIVE	5-9-96	1042		✓	6	"
GW-70	CLIVE	5-9-96	1142		✓	6	"

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	Johnny Ford	5-9-96
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time

Method of Shipment: BILL ENVIROCARE FOR ANALYSIS
ANALYTICAL DATA TO BE SENT TO EARTHFAX ENGINEERING
FAX # (801) 561-1861

Mountain States Analytical

The Quality Solution

May 22, 1996

Mr. Jeff Low
Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Reference:
Project: 11e(2) Groundwaters
Project No.: 00187
MSAI Group: 11977

Dear Mr. Low:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

GW-60	GW-63	GW-19A
GW-58	GW-24	

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

W. Scott Fraser

W. Scott Fraser
Project Manager

1846 West 2000 South Salt Lake City, Utah 84119 801-972-0050 1-800-973-MSAI FAX 801-972-6274

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwaters

Sample ID: GW-60
Matrix: Waste Water

MSAI Sample: 47267
MSAI Group: 11977
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/08/96
Date Sampled: 05/08/96
Collected by:
Purchase Order: PRA 4018
Project No.: 00187

Test	Analysis	Results as Received	Units		Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0001 B	mg/l		0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete				
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete				
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete				
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.06 B	mg/l		0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	(1)	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	0.04 B	mg/l		0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l		0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l		0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	0.004 B	mg/l		0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l		0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47267
MSAI Group: 11977

Sample ID: GW-60

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.223	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.001 B	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.6	mg/l	0.2	0.02
924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

(1) Samples in group 11977 required dilution for a alysis due to high background interferences.

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47267
MSAI Group: 11977

Sample ID: GW-60

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwaters

Sample ID: GW-63
Matrix: Waste Water

MSAI Sample: 47268
MSAI Group: 11977
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/08/96
Date Sampled: 05/08/96
Collected by:
Purchase Order: PRA 4018
Project No.: 00187

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0001 B	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.1 B	mg/l	0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.04	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47268
MSAI Group: 11977

Sample ID: GW-63

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.203	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.001 B	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.9	mg/l	0.2	0.02
924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47268
MSAI Group: 11977

Sample ID: GW-63

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwaters

Sample ID: GW-19A
Matrix: Waste Water

MSAI Sample: 47269
MSAI Group: 11977
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/08/96
Date Sampled: 05/08/96
Collected by:
Purchase Order: PRA 4018
Project No.: 00187

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0001 B	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.1 B	mg/l	0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47269
MSAI Group: 11977

Sample ID: GW-19A

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.548	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.001 B	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.9	mg/l	0.2	0.02
924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47269
MSAI Group: 11977

Sample ID: GW-19A

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwaters

Sample ID: GW-58
Matrix: Waste Water

MSAI Sample: 47270
MSAI Group: 11977
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/08/96
Date Sampled: 05/08/96
Collected by:
Purchase Order: PRA 4018
Project No.: 00187

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0001 B	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.3	mg/l	0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.03	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47270
MSAI Group: 11977

Sample ID: GW-58

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.203	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.001 B	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	1.0	mg/l	0.2	0.02
924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47270
MSAI Group: 11977

Sample ID: GW-58

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwaters

Sample ID: GW-24
Matrix: Waste Water

MSAI Sample: 47271
MSAI Group: 11977
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/08/96
Date Sampled: 05/08/96
Collected by:
Purchase Order: PRA 4018
Project No.: 00187

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0001 B	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.09 B	mg/l	0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	0.04 B	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.03	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47271
MSAI Group: 11977

Sample ID: GW-24

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.204	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.002 B	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.9	mg/l	0.2	0.02
924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47271
MSAI Group: 11977

Sample ID: GW-24

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

3F

11 e (2) WELLS

2ND QUARTER SAMPLING
5-8-96 (EF)

00187

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

Revised 07/05/94

		SAMPLERS (Signatures)					
Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
GW-60	CLIVE	5-8-96	1013		✓	6	REFER TO MAY 1, 1996 FAX TO S. FRASER
GW-63	"	"	1112		✓	6	"
GW-19A	"	"	1217		✓	6	"
GW-58	"	"	1343		✓	6	"
GW-24	"	"	1443		✓	6	"

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	W. Scott Fraser	5-8-96 16:45 HRS
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time

Method of Shipment: BILL ENVIROCARE FOR ANALYSIS
ANALYSIS DATA TO BE SENT TO EARTHFAX ENGINEERING
FAX # 801-561-1555

Mountain States Analytical

The Quality Solution

May 22, 1996

Mr. Jeff Low
Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Reference:
Project: 11e(2) Groundwater Monitoring
MSAI Group: 11947

Dear Mr. Low:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

GW-25	GW-26	GW-27
GW-57	GW-28	Trip Blank

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

W. Scott Fraser

W. Scott Fraser
Project Manager

1846 West 2200 South, Salt Lake City, Utah 84119 801 973-0052 1-800-973-MSAI FAX 801 973-9278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwater Monitoring

MSAI Sample: 47127
MSAI Group: 11947
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/07/96
Date Sampled: 05/07/96
Collected by: GG
Purchase Order: PRA 4018
Project No.:

Sample ID: GW-25
Matrix: Water

Test	Analysis	Results as Received	Units		Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0002 B	mg/l		0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete				
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete				
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete				
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.2 B	mg/l		0.3	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	(1)	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l		0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l		0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l		0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l		0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l		0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47127
MSAI Group: 11947

Sample ID: GW-25

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.218	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.056	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.7	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

(1) Samples in group 11947 required dilution for analysis due to high background interferences.

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47127
MSAI Group: 11947

Sample ID: GW-25

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwater Monitoring

Sample ID: GW-26
Matrix: Water

MSAI Sample: 47128
MSAI Group: 11947
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/07/96
Date Sampled: 05/07/96
Collected by: GG
Purchase Order: PRA 4018
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0006	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.2	mg/l	0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	0.017 B	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.03	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47128
MSAI Group: 11947

Sample ID: GW-26

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.509	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.001 B	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.6	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47128
MSAI Group: 11947

Sample ID: GW-26

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwater Monitoring

Sample ID: GW-27
Matrix: Water

MSAI Sample: 47129
MSAI Group: 11947
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/07/96
Date Sampled: 05/07/96
Collected by: GG
Purchase Order: PRA 4018
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0002 B	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.1 B	mg/l	0.3	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47129
MSAI Group: 11947

Sample ID: GW-27

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.531	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.001 B	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	1.1	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47129
MSAI Group: 11947

Sample ID: GW-27

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwater Monitoring

Sample ID: GW-57
Matrix: Water

MSAI Sample: 47130
MSAI Group: 11947
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/07/96
Date Sampled: 05/07/96
Collected by: GG
Purchase Order: PRA 4018
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0002 B	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.1 B	mg/l	0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47130
MSAI Group: 11947

Sample ID: GW-57

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.332	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	2.72	mg/l	0.05	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.8	mg/l	0.2	0.02
[illegible]24	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47130
MSAI Group: 11947

Sample ID: GW-57

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwater Monitoring

Sample ID: GW-28
Matrix: Water

MSAI Sample: 47131
MSAI Group: 11947
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/07/96
Date Sampled: 05/07/96
Collected by: GG
Purchase Order: PRA 4018
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	U	mg/l	0.0005	0.0001
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
1045R	Arsenic by GFAA, w/ww, SW-846 Method: SW-846 7060	0.2	mg/l	0.1	0.0026
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.055	0.0011
1067	Selenium by GFAA, w/ww, SW-846 Method: SW-846 7740	U	mg/l	0.18	0.0035
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.005

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 47131
MSAI Group: 11947

Sample ID: GW-28

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.258	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.02
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.012	mg/l	0.005	0.001
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.9	mg/l	0.2	0.02
924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	0.2
	2-Methylnaphthalene	U	ug/l	10	0.2
	Diethyl phthalate	U	ug/l	10	0.2
9590A	Volatiles, F and D, Total Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

U - Compound was analyzed but not detected at the method detection limit
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
46 West Broadway
Suite 240
Salt Lake City, UT 84101

Attn: Mr. Jeff Low
Project: 11e(2) Groundwater Monitoring

Sample ID: Trip Blank
Matrix: Water

MSAI Sample: 47132
MSAI Group: 11947
Date Reported: 05/22/96

Discard Date: 06/21/96
Date Submitted: 05/07/96
Date Sampled: 05/07/96
Collected by: GG
Purchase Order: PRA 4018
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
9590A	Volatiles, F and D, Total				
	Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.6
	1,2-Dichloroethane	U	ug/l	5	0.3
	2-Butanone (MEK)	U	ug/l	20	3.15
	Acetone	U	ug/l	20	4.12
	Carbon disulfide	U	ug/l	5	0.8
	Methylene chloride (Dichloromethane	U	ug/l	5	0.50

U - Compound was analyzed but not detected at the method detection limit

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

3-F
V-10C

11a(2) Wells
Second Quater Sampling
5-7-96 (EF)

00182

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94

		SAMPLERS (Signatures)					
Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
0.015 mg/ml GW-25	Clive	5/7/96	1000		x	6	
GW-26			1050		x	6	
GW-27			1230		x	6	
GW-57			1350		x	6	
GW-28			1445		x	6	
TRIP BLANK						2	
5/08/96	JF	pH's for CN+ added NaOH to make pH=10					
		pH's for Metals <2					

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
[signature]	W. Scott Fraser	5-7-96/1700
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time

Method of Shipment:

Notes: Bill Envirocare for Analysis!

Analysis data to be sent to Earth Fax Eng.
801-561-1555

MSAI Laboratories
Group No. 13069

Mountain States Analytical

The Quality Solution

August 20, 1996

Mr. David Winters
Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Reference:
Project: 11e(2) Interim Groundwater
Project No.: 00199
MSAI Group: 13069

Dear Mr. Winters:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

GW-28	GW-57
GW-20	GW-70

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

W. Scott Fraser

W. Scott Fraser
Project Manager

1543 West 2200 South, Salt Lake City, Utah 84119 801 972-3051 1-800-972-MSAI FAX 801 972-4273

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

MSAI Group: 13069
Date Reported: 08/20/96
Date Received: 08/09/96

Attn: Mr. David Winters
Project: 11e(2) Interim Groundwater

Purchase Order:
Project No.: 00199

Test Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
Sample:51332 - GW-28				
0242A Cyanide, Total	U	mg/l	0.01	0.002
Sample:51333 - GW-57				
0242A Cyanide, Total	0.002 B	mg/l	0.01	0.002
Sample:51334 - GW-20				
0242A Cyanide, Total	U	mg/l	0.01	0.002
Sample:51335 - GW-70				
0242A Cyanide, Total	0.002 B	mg/l	0.01	0.002

Test Method Summary:
0242A- SW-846 9010A

U - Compound was analyzed but not detected at the limit of quantitation
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

1982

00199

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

CN- 1/e2

(Revised 07/05/94)

MSA1		SAMPLERS (Signatures)					
Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
GW-28	1/e2	8/9/8	0949		✓	1	CN-
GW-57			1045		✓	1	
GW-20			1251		✓	1	
GW-70			1049		✓	1	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
[signature]	[signature]	8/9/96 1430
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
[signature]	Pam Olsen	08/09/96 1015
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time

Method of Shipment:

MSAI Laboratories
Group No. 13092

Mountain States Analytical

The Quality Solution

August 22, 1996

Mr. David Winters
Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Reference:
Project: 11e(2) Interim Sampling
Project No.: 00200
MSAI Group: 13092

Dear Mr. Winters:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

GW-24	GW-25	GW-26
GW-60	GW-71	GW-58
GW-72	GW-27	

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

W. Scott Fraser

W. Scott Fraser
Project Manager

548 West 2000 South, Salt Lake City, Utah 84119 (801) 972-0067 1-800-370-USAI FAX 801 972-6279

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Interim Sampling

MSAI Group: 13092
Date Reported: 08/22/96
Date Received: 08/13/96

Purchase Order:
Project No.: 00200

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
Sample:51429 - GW-24					
0264B	Selenium by HAA, w/ww, SW-846	33	ug/l	15	3
0401	Prep for HAA, ww	Complete			
Sample:51430 - GW-25					
0245A	Arsenic by HAA, w/ww, SW-846	90	ug/l	40	4
0401	Prep for HAA, ww	Complete			
Sample:51431 - GW-26					
0245A	Arsenic by HAA, w/ww, SW-846	215	ug/l	200	4
1055W	Lead by GFAA, w/ww, SW-846	U	mg/l	0.0055	0.0011
92F	Furnace Prep for Metals, Water	Complete	mg/l		
0401	Prep for HAA, ww	Complete			
Sample:51432 - GW-60					
0264B	Selenium by HAA, w/ww, SW-846	33	ug/l	15	3
0401	Prep for HAA, ww	Complete			
Sample:51433 - GW-71					
0264B	Selenium by HAA, w/ww, SW-846	34	ug/l	15	3
0401	Prep for HAA, ww	Complete			
Sample:51434 - GW-58					
0245A	Arsenic by HAA, w/ww, SW-846	129	ug/l	100	4
0401	Prep for HAA, ww	Complete			
Sample:51435 - GW-72					
0245A	Arsenic by HAA, w/ww, SW-846	120	ug/l	100	4
0401	Prep for HAA, ww	Complete			
Sample:51436 - GW-27					
0245A	Arsenic by HAA, w/ww, SW-846	71	ug/l	20	4
0401	Prep for HAA, ww	Complete			

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Group: 13092

Test Method Summary:
0245A- SW-846 7061A 0401 - SW-846 7061A

U - Compound was analyzed but not detected at the limit of quantitation

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

B3 //e. (2) INTERIM SAMPLING
8-13-96
[KATHEA x]

00200

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94)

1/e2 Metals

MSA:		SAMPLERS (Signatures)					
Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
GW-24	1/e2	8/13/96	0908		✓	1	Se
GW-25			0949		✓	1	Arsenic
GW-26			1033		✓	1	ARSENIC & LEAD
GW-60			1139		✓	1	Selenium
GW-71			1240		✓	1	
GW-58			1230		✓	1	Arsenic
GW-72			1330		✓	1	
GW-27			1316		✓	1	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
[signature]	W. Scott Fraser (LAB)	08/13/96 15:30
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time
—	—	W. Scott Fraser	08/13/96 15:30

Method of Shipment:

all pH ≤ 2

MSAI Laboratories
Group No. 13151

Mountain States Analytical

The Quality Solution

August 30, 1996

Mr. David Winters
Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Reference:
Project: 11e(2) Qrtly. Detection Monitoring
Project No.: 00201
MSAI Group: 13151

Dear Mr. Winters:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

GW-19A	GW-25	GW-26
GW-27	GW-57	GW-28

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

W. Scott Fraser

W. Scott Fraser
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-19A
Matrix: Ground Water

MSAI Sample: 51664
MSAI Group: 13151
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/14/96
Date Sampled: 08/14/96
Collected by: JEF
Purchase Order:
Project No.: 00201

Test	Analysis	Results as Received	Units		Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	47	ug/l		20	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0002 B	mg/l		0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	U	ug/l		15	3
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete	mg/l			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete	mg/l			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete	mg/l			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete	ug/l			
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	(1)	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l		0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l		0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l		0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l		0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51664
MSAI Group: 13151

Sample ID: GW-19A

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.514	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.01 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	U	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	1.1	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

(1) Samples in group 13151 required dilution for analysis due to matrix interferences.

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51664
MSAI Group: 13151

Sample ID: GW-19A

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-25
Matrix: Ground Water

MSAI Sample: 51665
MSAI Group: 13151
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/14/96
Date Sampled: 08/14/96
Collected by: JEF
Purchase Order:
Project No.: 00201

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	117	ug/l	40	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0001 B	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	9 B	ug/l	15	3
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete	mg/l		
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete	mg/l		
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete	mg/l		
0401	Prep for HAA, ww Method: SW-846 7061A	Complete	ug/l		
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51665
MSAI Group: 13151

Sample ID: GW-25

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.210	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.005 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	U	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.8	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51665
MSAI Group: 13151

Sample ID: GW-25

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-26
Matrix: Ground Water

MSAI Sample: 51666
MSAI Group: 13151
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/14/96
Date Sampled: 08/14/96
Collected by: JEF
Purchase Order:
Project No.: 00201

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	218	ug/l	100	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0014	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	18	ug/l	15	3
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete	mg/l		
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete	mg/l		
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete	mg/l		
0401	Prep for HAA, ww Method: SW-846 7061A	Complete	ug/l		
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.03	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51666
MSAI Group: 13151

Sample ID: GW-26

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.470	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.008 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.007 B	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.8	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51666
MSAI Group: 13151

Sample ID: GW-26

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-27
Matrix: Ground Water

MSAI Sample: 51667
MSAI Group: 13151
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/14/96
Date Sampled: 08/14/96
Collected by: JEF
Purchase Order:
Project No.: 00201

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	104	ug/l	100	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0002 B	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	5 B	ug/l	15	3
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete	mg/l		
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete	mg/l		
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete	mg/l		
0401	Prep for HAA, ww Method: SW-846 7061A	Complete	ug/l		
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.03	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51667
MSAI Group: 13151

Sample ID: GW-27

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.518	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.008 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	U	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	1.0	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

Sample ID: GW-27

MSAI Sample: 51667
MSAI Group: 13151

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-57
Matrix: Ground Water

MSAI Sample: 51668
MSAI Group: 13151
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/14/96
Date Sampled: 08/14/96
Collected by: JEF
Purchase Order:
Project No.: 00201

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	47	ug/l	20	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0009	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	8 B	ug/l	15	3
392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete	mg/l		
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete	mg/l		
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete	mg/l		
0401	Prep for HAA, ww Method: SW-846 7061A	Complete	ug/l		
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

Sample ID: GW-57

MSAI Sample: 51668
MSAI Group: 13151

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.330	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.008 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	U	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.9	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51668
MSAI Group: 13151

Sample ID: GW-57

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-28
Matrix: Ground Water

MSAI Sample: 51669
MSAI Group: 13151
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/14/96
Date Sampled: 08/14/96
Collected by: JEF
Purchase Order:
Project No.: 00201

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	90	ug/l	40	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	U	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	7 B	ug/l	15	3
392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete	mg/l		
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete	mg/l		
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete	mg/l		
0401	Prep for HAA, ww Method: SW-846 7061A	Complete	ug/l		
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	0.007 B	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51669
MSAI Group: 13151

Sample ID: GW-28

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.274	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.004 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.003 B	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.9	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete	ug/l		0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51669
MSAI Group: 13151

Sample ID: GW-28

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

8A2#3
V-16A
11c2 Quarterly Detection Monitoring
8/14/96
(EARTHMAX)

00201

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94)

MSA1		SAMPLERS (Signatures) Jeff Fox					
Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
GW-19A	11c2	8/14/96	0911		✓	6	SEE AUGUST 7 1996 FAX TO S. FRASER
GW-25			1022		✓	6	
GW-26			1117		✓	6	
GW-27			1332		✓	6	
GW-57			1428		✓	6	
GW-28			1514		✓	6	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Larry Dean		8-14-96 LD ~~1739~~ HRS. 1810
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time
		Ruth Olsen	08/14/96 1810

Method of Shipment: ~~Fed Ex Next Day Air~~ HAND

all NaOH - added 1 mL pH>12
all HNO_3 - added 1 mL pH<2

MSAI Laboratories
Group No. 13156

Mountain States Analytical

The Quality Solution

August 30, 1996

Mr. David Winters
Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Reference:
Project: 11e(2) Qrtly. Detection Monitoring
Project No.: 00203
MSAI Group: 13156

Dear Mr. Winters:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

GW-58	GW-75	GW-24
GW-60	GW-63	GW-29
GW-20	Trip Blank	

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

W. Scott Fraser

W. Scott Fraser
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

MSAI Sample: 51711
MSAI Group: 13156
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/16/96
Date Sampled: 08/15/96
Collected by:
Purchase Order:
Project No.: 00203

Sample ID: GW-58
Matrix: Ground Water

Test	Analysis	Results as Received	Units		Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	127	ug/l		100	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	U	mg/l		0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	10 B	ug/l		15	3
0392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete				
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete				
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete				
0401	Prep for HAA, ww Method: SW-846 7061A	Complete				
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	(1)	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.03	mg/l		0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l		0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l		0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l		0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51711
MSAI Group: 13156

Sample ID: GW-58

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.209	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.007 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.006 B	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.9	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete			0

(1) Samples in group 13156 required dilution for analysis due to background interferences.

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

Sample ID: GW-58

MSAI Sample: 51711
MSAI Group: 13156

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-75
Matrix: Ground Water

MSAI Sample: 51712
MSAI Group: 13156
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/16/96
Date Sampled: 08/15/96
Collected by:
Purchase Order:
Project No.: 00203

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	132	ug/l	40	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0001 B	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	8 B	ug/l	15	3
392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete			
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.03	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51712
MSAI Group: 13156

Sample ID: GW-75

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.207	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.004 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.005 B	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.8	mg/l	0.2	0.02
924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete			0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51712
MSAI Group: 13156

Sample ID: GW-75

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-24
Matrix: Ground Water

MSAI Sample: 51713
MSAI Group: 13156
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/16/96
Date Sampled: 08/15/96
Collected by:
Purchase Order:
Project No.: 00203

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	34	ug/l	20	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0005	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	39	ug/l	15	3
392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete			
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51713
MSAI Group: 13156

Sample ID: GW-24

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.176	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	U	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.7	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	7	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete			0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51713
MSAI Group: 13156

Sample ID: GW-24

U - Compound was analyzed but not detected at the method detection limit
J - Detected, but below limit of quantitation.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-60
Matrix: Ground Water

MSAI Sample: 51714
MSAI Group: 13156
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/16/96
Date Sampled: 08/15/96
Collected by:
Purchase Order:
Project No.: 00203

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	34	ug/l	20	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0002 B	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	31	ug/l	15	3
392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete			
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51714
MSAI Group: 13156

Sample ID: GW-60

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.192	mg/l	0.080	0 020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.008 B	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.7	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete			0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51714
MSAI Group: 13156

Sample ID: GW-60

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-63
Matrix: Ground Water

MSAI Sample: 51715
MSAI Group: 13156
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/16/96
Date Sampled: 08/15/96
Collected by:
Purchase Order:
Project No.: 00203

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	39	ug/l	20	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	U	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	5 B	ug/l	15	3
392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete			
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.04	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	0.01 B	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51715
MSAI Group: 13156

Sample ID: GW-63

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.195	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.01 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.003 B	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.8	mg/l	0.2	0.02
[illegible]924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete			0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51715
MSAI Group: 13156

Sample ID: GW-63

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-29
Matrix: Ground Water

MSAI Sample: 51716
MSAI Group: 13156
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/16/96
Date Sampled: 08/15/96
Collected by:
Purchase Order:
Project No.: 00203

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	29	ug/l	20	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0003 B	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	4 B	ug/l	15	3
92F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete			
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51716
MSAI Group: 13156

Sample ID: GW-29

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.180	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.004 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	0.005 B	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.9	mg/l	0.2	0.02
7924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete			0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51716
MSAI Group: 13156

Sample ID: GW-29

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: GW-20
Matrix: Ground Water

MSAI Sample: 51717
MSAI Group: 13156
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/16/96
Date Sampled: 08/15/96
Collected by:
Purchase Order:
Project No.: 00203

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	36	ug/l	20	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	U	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	23	ug/l	15	3
392F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete			
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.028	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	0.02	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51717
MSAI Group: 13156

Sample ID: GW-20

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	0.176	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	0.003 B	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	U	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.7	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete			0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51717
MSAI Group: 13156

Sample ID: GW-20

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e(2) Qrtly. Detection Monitoring

Sample ID: Trip Blank
Matrix: Ground Water

MSAI Sample: 51718
MSAI Group: 13156
Date Reported: 08/30/96
Discard Date: / /
Date Submitted: 08/16/96
Date Sampled: 08/15/96
Collected by:
Purchase Order:
Project No.: 00203

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0245A	Arsenic by HAA, w/ww, SW-846 Method: SW-846 7061A	U	ug/l	20	4
0259B	Mercury by CVAA, w/ww, SW-846 Method: SW-846 7470	0.0002 B	mg/l	0.0005	0.0001
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	U	ug/l	15	3
92F	Furnace Prep for Metals, Water Method: SW-846 3020A	Complete			
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0392M	Mercury Prep CVAA, Waters Method: SW-846 7470	Complete			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete			
1055W	Lead by GFAA, w/ww, SW-846 Method: SW-846 7421	U	mg/l	0.0055	0.0011
7246	Barium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.02	0.003
7247	Beryllium by ICP, w/ww Method: SW-846 6010A	U	mg/l	0.002	0.0003
7249	Cadmium by ICP, w/ww, SW-846 Method: SW-846 6010A	U	mg/l	0.02	0.003
7251	Chromium by ICP Method: SW-846 6010A	U	mg/l	0.02	0.0050

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51718
MSAI Group: 13156

Sample ID: Trip Blank

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
7260	Molybdenum by ICP Method: SW-846 6010A	U	mg/l	0.080	0.020
7261	Nickel by ICP Method: SW-846 6010A	U	mg/l	0.10	0.020
7266	Silver by ICP Method: SW-846 6010A	U	mg/l	0.02	0.003
0242	Cyanide, Total Method: EPA 335.2	U	mg/l	0.01	0.002
0263	Fluoride, Ion Selective Electrode Method: EPA 340.2	0.08 B	mg/l	0.2	0.02
0924	Semi-Volatiles, TCL, 8270A Method: SW-846 8270A				
	Naphthalene	U	ug/l	10	1.30
	2-Methylnaphthalene	U	ug/l	10	0.9
	Diethyl phthalate	U	ug/l	10	1.46
6051	Preservative pH Check - GCMS VOA Method: IN HOUSE	2	Std. Units		
9590A	Volatiles, F and D, Total ww Method: SW-846 8240A				
	Chloroform	U	ug/l	5	0.7
	1,2-Dichloroethane	U	ug/l	5	0.40
	2-Butanone (MEK)	U	ug/l	20	4.26
	Acetone	U	ug/l	20	3.30
	Carbon disulfide	U	ug/l	5	0.4
	Methylene chloride (Dichloromethane	U	ug/l	5	0.4
3000	SVOA Extraction, Water Method: SW-846 3510/3520	Complete			0

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.

MSAI Sample: 51718
MSAI Group: 13156

Sample ID: Trip Blank

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

1/62 Quarterly Detection Monitoring
8/15/96

EARTHFAX

00203

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94)

MSA 1		SAMPLERS (Signatures)					
Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
GW-58	1/62	8/15/96			✓	6	SEE FAX 7, 1996 FAX TO S. FRASER
GW-75					✓	6	
GW-24			1041		✓	6	
GW-60			1150		✓	6	
GW-63			1238		✓	6	
GW-29			1416		✓	6	
GW-20			1459		✓	6	
TRIP BLANK			1622		LAB	6	
						all HNO_3 pH <2 all NaOH pH >12	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time 8-15-96 1832 HRS
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Shipped by: (Shipper) / Date/Time	Received for Lab by: (Signature)	Date/Time 08/15/96 1832

Method of Shipment: HAND

MSAI Laboratories
Group No. 13814

Mountain States Analytical

The Quality Solution

October 25, 1996

Mr. David Winters
Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Reference:
Project: 11e.(2) exceedance verification
Project No.: 00212
MSAI Group: 13814

Dear Mr. Winters:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

GW-60	GW-86	GW-25
GW-87	GW-57	GW-28

All holding times were met for the tests performed on these samples.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

W. Scott Fraser

W. Scott Fraser
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e.(2) exceedance verification

Sample ID: GW-60
Matrix: Waste Water

MSAI Sample: 53824
MSAI Group: 13814
Date Reported: 10/25/96
Discard Date: 11/24/96
Date Submitted: 10/07/96
Date Sampled: 10/07/96
Collected by: J
Purchase Order:
Project No.: 00212

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	0.03	mg/l	0.02	0.003
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete	mg/l		

U - Compound was analyzed but not detected at the method detection limit

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e.(2) exceedance verification

Sample ID: GW-86
Matrix: Waste Water

MSAI Sample: 53825
MSAI Group: 13814
Date Reported: 10/25/96
Discard Date: 11/24/96
Date Submitted: 10/07/96
Date Sampled: 10/07/96
Collected by: J
Purchase Order:
Project No.: 00212

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0264B	Selenium by HAA, w/ww, SW-846 Method: SW-846 7741	0.03	mg/l	0.02	0.003
0392I	Flame/ICP Prep for Metals, Waters Method: SW-846 3005A	Complete			
0401	Prep for HAA, ww Method: SW-846 7061A	Complete	mg/l		

U - Compound was analyzed but not detected at the method detection limit

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser

W. Scott Fraser
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e.(2) exceedance verification

Sample ID: GW-25
Matrix: Waste Water

MSAI Sample: 53826
MSAI Group: 13814
Date Reported: 10/25/96
Discard Date: 11/24/96
Date Submitted: 10/07/96
Date Sampled: 10/07/96
Collected by: J
Purchase Order:
Project No.: 00212

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0242	Cyanide, Total Method: EPA 335.2	U	mg/l	0.01	0.002

U - Compound was analyzed but not detected at the method detection limit

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e.(2) exceedance verification

Sample ID: GW-87
Matrix: Waste Water

MSAI Sample: 53827
MSAI Group: 13814
Date Reported: 10/25/96
Discard Date: 11/24/96
Date Submitted: 10/07/96
Date Sampled: 10/07/96
Collected by: J
Purchase Order:
Project No.: 00212

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0242	Cyanide, Total Method: EPA 335.2	0.004 B	mg/l	0.01	0.002

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
548 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e.(2) exceedance verification

Sample ID: GW-28
Matrix: Waste Water

MSAI Sample: 53829
MSAI Group: 13814
Date Reported: 10/25/96
Discard Date: 11/24/96
Date Submitted: 10/07/96
Date Sampled: 10/07/96
Collected by: J
Purchase Order:
Project No.: 00212

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0242	Cyanide, Total Method: EPA 335.2	0.002 B	mg/l	0.01	0.002

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

Analytical Report

Mountain States Analytical
The Quality Solution

Envirocare of Utah Inc.
540 West 300 North
Salt Lake City, UT 84116

Attn: Mr. David Winters
Project: 11e.(2) exceedance verification

Sample ID: GW-57
Matrix: Waste Water

MSAI Sample: 53828
MSAI Group: 13814
Date Reported: 10/25/96
Discard Date: 11/24/96
Date Submitted: 10/07/96
Date Sampled: 10/07/96
Collected by: J
Purchase Order:
Project No.: 00212

Test	Analysis	Results as Received	Units	Limit of Quantitation	Method Detection Limit
0242	Cyanide, Total Method: EPA 335.2	0.007 B	mg/l	0.01	0.002

U - Compound was analyzed but not detected at the method detection limit
B - Detected, below limit of quantitation but above the method detection limit.

Respectfully Submitted,
Reviewed and Approved by:

W. Scott Fraser
W. Scott Fraser
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119-1456 (801) 973-0050 1-800-973-MSAI FAX (801) 972-6278

Facsimile Communication

Mountain States Analytical

The Quality Solution

CONFIDENTIAL MATERIAL

If received in error, please notify sender at once.

To: David Winters / Larry DuShane

Company: ENVIROCARE / Earthfax

Fax No.: #055 / 561-1861

Date: 11/14/96

From: Scott Fraser

Number of pages 8 (Including this cover sheet)

Comments: Analytical Report 13814

If you do not receive all of the pages or have problems with transmission, please call (801) 973-0050 as soon as possible.

Attachment D

Analytical Reports: Radiological Chemistries

Barringer Laboratories
Group No. 61949E

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

14-May-96

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project:
PO #:
Received: 14-May-96 09:00

Job: 961949E
Status: Preliminary

We received 13 Water samples on 14-May-96. This job has been logged as 961949. Please refer to this number when making inquiries.

Our current estimated completion date is 11-Jun-96. Once the QA is verified, the results can be faxed. The hard copy should be mailed within 24 hours of the above date.

We will dispose of your samples 30 days after the final report is mailed, unless otherwise specified by contract. If you have any questions, please call toll free 1-800-654-0506 or 303-277-1687.

Client Service Representative
Kathy Smith

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

14-May-96

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project:
PO #:
Received: 14-May-96 09:00

Job: 961949E
Status: Preliminary

Lab-ID	Matrix	Client Sample ID	Sampled
961949-1	Water	GW-25	7-May-96
961949-2	Water	GW-26	7-May-96
961949-3	Water	GW-27	7-May-96
961949-4	Water	GW-57	7-May-96
961949-5	Water	GW-28	7-May-96
961949-6	Water	GW-60	8-May-96
961949-7	Water	GW-63	8-May-96
961949-8	Water	GW-19A	8-May-96
961949-9	Water	GW-58	8-May-96
961949-10	Water	GW-24	8-May-96
961949-11	Water	GW-29	9-May-96
961949-12	Water	GW-20	9-May-96
961949-13	Water	GW-70	9-May-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project:

Received: 14-May-96 09:00
PO #: EC08080

Job: 961949E

Status: Final

ANALYTICAL REPORT PACKAGE

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

31-May-96
Page: i

Attn:
Project:

Received: 14-May-96 09:00
PO #: EC08080

Job: 961949E

Status: Final

CASE NARRATIVE

A total of 13 Water samples were received on 14-May-96. As stated in the chain of custody, the samples were run for the following analyses: F as Fluoride, Ra-226, Ra-228, Th-230, Th-232, U and U. A table, to cross reference your sample ID to ours, is attached. Our procedures are summarized on the Quality Control Data Sheet.

Quality control standards for organic and inorganic analyses followed the appropriate SW-846 or EPA methodology. Quality control standards for radiochemistry followed our standard operating procedures or contractual requirements.

Signed: ....
Inorganic Manager — Radiochemical Manager

Signed: .....
Project Review

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

31-May-96
Page: ii

Attn:
Project:

Received: 14-May-96 09:00
PO #: EC08080

Job: 961949E

Status: Final

Lab-ID	Matrix	Client Sample ID	Sampled
961949-1	Water	GW-25	7-May-96
961949-2	Water	GW-26	7-May-96
961949-3	Water	GW-27	7-May-96
961949-4	Water	GW-57	7-May-96
961949-5	Water	GW-28	7-May-96
961949-6	Water	GW-60	8-May-96
961949-7	Water	GW-63	8-May-96
961949-8	Water	GW-19A	8-May-96
961949-9	Water	GW-58	8-May-96
961949-10	Water	GW-24	8-May-96
961949-11	Water	GW-29	9-May-96
961949-12	Water	GW-20	9-May-96
961949-13	Water	GW-70	9-May-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: R-1
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

Sample Id: GW-25
Lab Id: 961949-1 **Project:**
Date Sampled: 7-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	18-May-96

Sample Id: GW-26
Lab Id: 961949-2 **Project:**
Date Sampled: 7-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.8 mg/l	0.1	18-May-96

Sample Id: GW-27
Lab Id: 961949-3 **Project:**
Date Sampled: 7-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	18-May-96

Sample Id: GW-57
Lab Id: 961949-4 **Project:**
Date Sampled: 7-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.8 mg/l	0.1	18-May-96

Sample Id: GW-28
Lab Id: 961949-5 **Project:**
Date Sampled: 7-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	18-May-96

Sample Id: GW-60
Lab Id: 961949-6 **Project:**
Date Sampled: 8-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.7 mg/l	0.1	18-May-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: R-2
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

Sample Id: GW-63
Lab Id: 961949-7 **Project:**
Date Sampled: 8-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.8 mg/l	0.1	18-May-96

Sample Id: GW-19A
Lab Id: 961949-8 **Project:**
Date Sampled: 8-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	1.1 mg/l	0.1	18-May-96

Sample Id: GW-58
Lab Id: 961949-9 **Project:**
Date Sampled: 8-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	18-May-96

Sample Id: GW-24
Lab Id: 961949-10 **Project:**
Date Sampled: 8-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.7 mg/l	0.1	18-May-96

Sample Id: GW-29
Lab Id: 961949-11 **Project:**
Date Sampled: 9-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.8 mg/l	0.1	18-May-96

Sample Id: GW-20
Lab Id: 961949-12 **Project:**
Date Sampled: 9-May-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.7 mg/l	0.1	18-May-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: R-3
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

Sample Id: GW-70
Lab Id: 961949-13
Date Sampled: 9-May-96

Project:
Matrix: Water

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.7 mg/l	0.1	18-May-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: R-4
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

Analyte: Ra-226
Fraction: Total
Method: 903.1
Units: pCi/l

Project:
Date Analyzed: 05/17-05/22
LLD: 0.6

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
961949-1	7-May-96	Water	GW-25	2.6±1.0	0.6
961949-2	7-May-96	Water	GW-26	1.3±0.8	0.6

Analyte: Ra-228
Fraction: Total
Method: 904.0
Units: pCi/l

Project:
Date Analyzed: 05/21-05/24
LLD: 0.6

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
961949-1	7-May-96	Water	GW-25	2.9±0.6	0.6
961949-2	7-May-96	Water	GW-26	2.6±0.6	0.6

Analyte: Th-230
Fraction: Total
Method: 3008
Units: pCi/l

Project:
Date Analyzed: 05/17-05/23
LLD: 1.0

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
961949-1	7-May-96	Water	GW-25	0.2±0.8	1.0
961949-2	7-May-96	Water	GW-26	0.4±0.7	1.0

Analyte: Th-232
Fraction: Total
Method: 3008
Units: pCi/l

Project:
Date Analyzed: 05/17-05/23
LLD: 1.0

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
961949-1	7-May-96	Water	GW-25	0.0±0.7	1.0
961949-2	7-May-96	Water	GW-26	0.0±0.5	1.0

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: R-5
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

Analyte: Ra-226
Fraction: Dissolved
Method: 903.1
Units: pCi/l

Project:
Date Analyzed: 05/17-05/22
LLD: 0.6

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
961949-3	7-May-96	Water	GW-27	1.0±0.6	0.6
961949-4	7-May-96	Water	GW-57	0.9±0.6	0.6
961949-5	7-May-96	Water	GW-28	0.7±0.8	0.6
961949-6	8-May-96	Water	GW-60	2.1±0.9	0.6
961949-7	8-May-96	Water	GW-63	1.0±0.6	0.6
961949-8	8-May-96	Water	GW-19A	0.5±0.5	0.6
961949-9	8-May-96	Water	GW-58	1.7±0.7	0.6
961949-10	8-May-96	Water	GW-24	1.9±0.9	0.6
961949-11	9-May-96	Water	GW-29	1.2±0.7	0.6
961949-12	9-May-96	Water	GW-20	2.0±0.9	0.6
961949-13	9-May-96	Water	GW-70	1.0±0.6	0.6

Analyte: Ra-228
Fraction: Dissolved
Method: 904.0
Units: pCi/l

Project:
Date Analyzed: 05/21-05/24
LLD: 0.6

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
961949-3	7-May-96	Water	GW-27	1.5±0.5	0.6
961949-4	7-May-96	Water	GW-57	0.9±0.5	0.6
961949-5	7-May-96	Water	GW-28	1.5±0.5	0.6
961949-6	8-May-96	Water	GW-60	2.3±0.6	0.6
961949-7	8-May-96	Water	GW-63	2.0±0.5	0.6
961949-8	8-May-96	Water	GW-19A	1.2±0.5	0.6
961949-9	8-May-96	Water	GW-58	2.3±0.6	0.6
961949-10	8-May-96	Water	GW-24	2.8±0.7	0.6
961949-11	9-May-96	Water	GW-29	3.3±0.8	0.7
961949-12	9-May-96	Water	GW-20	1.9±0.6	0.7
961949-13	9-May-96	Water	GW-70	2.0±0.6	0.6

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: R-6
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

Analyte: Th-230
Fraction: Dissolved
Method: 3008
Units: pCi/l

Project:
Date Analyzed: 05/17-05/28
LLD: 1.0

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
961949-3	7-May-96	Water	GW-27	0.4±0.8	1.0
961949-4	7-May-96	Water	GW-57	0.0±0.6	1.0
961949-5	7-May-96	Water	GW-28	0.2±0.6	1.0
961949-6	8-May-96	Water	GW-60	0.2±0.8	1.0
961949-7	8-May-96	Water	GW-63	0.2±0.7	1.0
961949-8	8-May-96	Water	GW-19A	0.0±0.5	1.0
961949-9	8-May-96	Water	GW-58	0.1±0.7	1.0
961949-10	8-May-96	Water	GW-24	0.4±0.7	1.0
961949-11	9-May-96	Water	GW-29	0.0±0.5	1.0
961949-12	9-May-96	Water	GW-20	0.2±0.7	1.0
961949-13	9-May-96	Water	GW-70	0.4±0.7	1.0

Analyte: Th-232
Fraction: Dissolved
Method: 3008
Units: pCi/l

Project:
Date Analyzed: 05/17-05/28
LLD: 1.0

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
961949-3	7-May-96	Water	GW-27	0.0±0.5	1.0
961949-4	7-May-96	Water	GW-57	0.0±0.5	1.0
961949-5	7-May-96	Water	GW-28	0.0±0.5	1.0
961949-6	8-May-96	Water	GW-60	0.0±0.8	1.0
961949-7	8-May-96	Water	GW-63	0.0±0.5	1.0
961949-8	8-May-96	Water	GW-19A	0.0±0.6	1.0
961949-9	8-May-96	Water	GW-58	0.0±0.6	1.0
961949-10	8-May-96	Water	GW-24	0.0±0.8	1.0
961949-11	9-May-96	Water	GW-29	0.0±0.6	1.0
961949-12	9-May-96	Water	GW-20	0.0±0.7	1.0
961949-13	9-May-96	Water	GW-70	0.0±0.5	1.0

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: R-7
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

Analyte: Uranium
Fraction: Total
Method: ASTM D2907
Units: mg/l

Project:
Date Analyzed: 05/21-05/23
LLD: 0.0003

Lab Id	Date Sampled	Matrix	Sample Id	Concentration	LLD
961949-1	7-May-96	Water	GW-25	0.13	0.0003
961949-2	7-May-96	Water	GW-26	0.023	0.0003

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: R-8
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

Analyte: Uranium
Fraction: Dissolved
Method: ASTM D2907
Units: mg/l

Project:
Date Analyzed: 05/24-05/28
LLD: 0.0003

Lab Id	Date Sampled	Matrix	Sample Id	Concentration	LLD
961949-3	7-May-96	Water	GW-27	0.013	0.0003
961949-4	7-May-96	Water	GW-57	0.0065	0.0003
961949-5	7-May-96	Water	GW-28	0.0089	0.0003
961949-6	8-May-96	Water	GW-60	0.016	0.0003
961949-7	8-May-96	Water	GW-63	0.0092	0.0003
961949-8	8-May-96	Water	GW-19A	0.0033	0.0003
961949-9	8-May-96	Water	GW-58	0.033	0.0003
961949-10	8-May-96	Water	GW-24	0.017	0.0003
961949-11	9-May-96	Water	GW-29	0.021	0.0003
961949-12	9-May-96	Water	GW-20	0.0092	0.0003
961949-13	9-May-96	Water	GW-70	0.0085	0.0003

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-1
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Fluorine as Fluoride

Sample Id	mg/l
Blank	U
LCS (True)	5.00
LCS (Found)	5.14
LCS % Rec	103
Duplicate	0.86
Duplicate	0.88
RPD	0.9
Spike % Rec	A76.0

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Ra-226 Total pCi/l	± 2σ	Ra-228 Total pCi/l	± 2σ
Duplicate	0.7	±0.8	2.3	±0.6
Duplicate	0.8	±0.5	5.1	±2.8
RER	0.04		0.93	
Std (found value)	103	±4	14.2	±1.3
Std (true value)	104		14.3	
Std % rec.	99		99	
Blank	0.1	±0.2	1.1	±0.7
Spike % rec.	91		103	

Sample Id	Th-230 Total pCi/l	± 2σ	Th-232 Total pCi/l	± 2σ
Duplicate	1.2	±0.4	0.0	±0.4
Duplicate	0.6	±0.4	0.0	±0.4
RER	0.94		0.00	
Std (found value)	93	±4	g23	±4
Std (true value)	100		g18	
Std % rec.	93		g129	
Blank	0.0	±0.3	0.0	±0.3
Spike % rec.	86		NA	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Ra-226 Dissolved pCi/l	± 2σ	Ra-228 Dissolved pCi/l	± 2σ
Duplicate	1.9	±0.9	2.8	±0.7
Duplicate	1.3	±0.7	5.5	±3.2
RER	0.42		0.79	
Std (found value)	113	±4	15.0	±1.4
Std (true value)	104		14.3	
Std % rec.	109		105	
Blank	0.0	±0.1	1.3	±0.8
Spike % rec.	91		103	

Sample Id	Th-230 Dissolved pCi/l	± 2σ	Th-232 Dissolved pCi/l	± 2σ
Duplicate	0.4	±0.7	0.0	±0.5
Duplicate	0.0	±0.4	0.2	±0.8
RER	0.47		0.20	
Std (found value)	93	±4	g23	±4
Std (true value)	100		g18	
Std % rec.	93		g129	
Blank	0.0	±0.3	0.0	±0.3
Spike % rec.	86		NA	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-4
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Uranium Total mg/l
Duplicate	0.13
Duplicate	0.13
RPD	0.0
Std (found value)	1.6
Std (true value)	1.6
Std % rec.	100
Blank	U
Spike % rec.	100

BARRINGER LABORATORIES, INC.
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31-May-96
Page: Q-5
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Uranium Dissolved mg/l
Duplicate	0.074
Duplicate	0.075
RPD	2.2
Std (found value)	1.6
Std (true value)	1.6
Std % rec.	100
Blank	U
Spike % rec.	103

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

31-May-96
Page: Q-6

Attn:
Project:

Received: 14-May-96 09:00
PO #: EC08080

Job: 961949E

Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Ra-228	: Radium-228
Th-230	: Thorium-230
Th-232	: Thorium-232

Units:

mg/l	: milligrams per liter
pCi/l	: picoCuries per liter

Quality codes:

g	: Picocuries per gram (pCi/g)
A	: Analytical Spike Used
NA	: Not Analyzed
U	: Undetected

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

31-May-96
Page: Q-7

Attn:
Project:

Received: 14-May-96 09:00
PO #: EC08080

Job: 961949E

Status: Final

QUALITY CONTROL DATA SHEET

Received by: rc Via: UPS

Sample Container Type: 41 pl, 500ml pl
Additional Lab Preparation: None

Parameter	Method	Preservative	Init	Analysis Dates
F as Fluoride	340.2M	4°C	AW	05/18
Ra-226	903.1	HNO3	BL	05/17-05/22
Ra-228	904.0	HNO3	MK	05/21-05/24
Th-230	3008	HNO3	SM	05/17-05/23
Th-232	3008	HNO3	SM	05/17-05/23
Ra-226	903.1	HNO3	BL	05/17-05/22
Ra-228	904.0	HNO3	MK	05/21-05/24
Th-230	3008	HNO3	SK	05/17-05/28
Th-232	3008	HNO3	SK	05/17-05/28
U	ASTM D2907	HNO3	AM	05/21-05/23
U	ASTM D2907	HNO3	AM	05/24-05/28

Barringer Laboratories, Inc. will return or dispose of your samples 30 days from the date your final report is mailed, unless otherwise specified by contract. Barringer Laboratories, Inc. reserves the right to return samples prior to the 30 days if radioactive levels exceed our license.

11a (2) Wells

Second Quarter Sampling
5-7-96 (EF)

00183

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94)

Barringer | SAMPLERS (Signatures)

	Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
1	GW-25	Clive	5/7/96	1000		x	2	Table 1
2	GW-26			1050		x	2	
3	GW-27			1230		x	2	
4	GW-57			1350		x	2	
5	GW-28			1445		x	2	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time
UPS	5/10/96	R. Custinger	0900 05/14/96

~~Method of Shipment~~:

NOTE: Bill Envirocare for Analysis
Analysis data to be sent to Earth Fax Eng.

Fax # 801-561-1861

.11e (2) WELLS
2ND QUARTER SAMPLING
5-8-96 (EF)

00188

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94)

Cooler 231 | SAMPLERS (Signatures)

	Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
6	GW-60	CLIVE	5-8-96	1013		✓	2	REFER TO MAY 1, 1996 FAX TO KATHY SMITH
7	GW-63			1116		✓	2	Table 1
8	GW-19A			1222		✓	2	
9	GW-58			1346		✓	2	
10	GW-24			1450		✓	2	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time
UPS	5/10/96	R Cutler	05/14/96 0900

Method of Shipment: BILL ENVIROCARE FOR ANALYSIS
ANALYSIS DATA TO BE SENT TO EARTHFAX ENGINEERING
FAX # 801-561-1555

11 & (2) WELLS
2ND QUARTER SAMPLING
5-9-96 (EF)

00185

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94

Cooler 26 | SAMPLERS (Signatures)

	Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
11	GW-29	CLIVE	5-9-96	1240		✓	2	REPORT TO MAY 21, 1996 FAX TO KATHY SMITH or table 1
12	GW-20	CLIVE	5-9-96	1042		✓	2	
13	GW-70	CLIVE	5-9-96	1142		✓	2	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time
UPS	5/10/96	R. Custage	05/14/96 0900

Method of Shipment:

Barringer Laboratories
Group No. 962788E

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

15-Aug-96

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project: COC 00202 PO #: Received: 15-Aug-96 09:10

Job: 962788E Status: Preliminary

We received 6 Water samples on 15-Aug-96. This job has been logged as 962788. Please refer to this number when making inquiries.

Our current estimated completion date is 12-Sep-96. Once the QA is verified, the results can be faxed. The hard copy should be mailed within 24 hours of the above date.

Non-aqueous samples will be returned 30 days after the final report is mailed, unless otherwise specified by contract. If you have any questions, please call toll free 1-800-654-0506 or 303-277-1687.

Client Service Representative
Kathy Smith

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

15-Aug-96

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project: COC 00202 PO #: Received: 15-Aug-96 09:10

Job: 962788E Status: Preliminary

Lab-ID	Matrix	Client Sample ID	Sampled
962788-1	Water	GW-19A	14-Aug-96
962788-2	Water	GW-25	14-Aug-96
962788-3	Water	GW-26	14-Aug-96
962788-4	Water	GW-27	14-Aug-96
962788-5	Water	GW-57	14-Aug-96
962788-6	Water	GW-28	14-Aug-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1387 FAX (303) 277-1689

30-Aug-96

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project: COC 00202 PO #: Received: 15-Aug-96 09:10

Job: 962788E Status: Final

ANALYTICAL REPORT PACKAGE

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

30-Aug-96
Page: i

Attn:
Project: COC 00202
PO #:
Received: 15-Aug-96 09:10

Job: 962788E
Status: Final

CASE NARRATIVE

A total of 6 Water samples were received on 15-Aug-96. As stated in the chain of custody, the samples were run for the following analyses: F as Fluoride, Ra-226, Ra-228, Th-230, Th-232 and U. A table, to cross reference your sample ID to ours, is attached. Our procedures are summarized on the Quality Control Data Sheet.

Quality control standards for organic and inorganic analyses followed the appropriate SW-846 or EPA methodology. Quality control standards for radiochemistry followed our standard operating procedures or contractual requirements.

Signed: ....
Inorganic Manager — Radiochemical Manager

Signed: .....
Project Review

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: ii

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project: COC 00202 PO #:
Received: 15-Aug-96 09:10

Job: 962788E Status: Final

Lab-ID	Matrix	Client Sample ID	Sampled
962788-1	Water	GW-19A	14-Aug-96
962788-2	Water	GW-25	14-Aug-96
962788-3	Water	GW-26	14-Aug-96
962788-4	Water	GW-27	14-Aug-96
962788-5	Water	GW-57	14-Aug-96
962788-6	Water	GW-28	14-Aug-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: R-1
Job: 962788E
Status: Final

EARTHFAX ENGINEERING, INC.

Sample Id: GW-19A
Lab Id: 962788-1
Date Sampled: 14-Aug-96
Project: COC 00202
Matrix: Water

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	1.1 mg/l	0.1	21-Aug-96

Sample Id: GW-25
Lab Id: 962788-2
Date Sampled: 14-Aug-96
Project: COC 00202
Matrix: Water

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	21-Aug-96

Sample Id: GW-26
Lab Id: 962788-3
Date Sampled: 14-Aug-96
Project: COC 00202
Matrix: Water

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.8 mg/l	0.1	21-Aug-96

Sample Id: GW-27
Lab Id: 962788-4
Date Sampled: 14-Aug-96
Project: COC 00202
Matrix: Water

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	21-Aug-96

Sample Id: GW-57
Lab Id: 962788-5
Date Sampled: 14-Aug-96
Project: COC 00202
Matrix: Water

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.8 mg/l	0.1	21-Aug-96

Sample Id: GW-28
Lab Id: 962788-6
Date Sampled: 14-Aug-96
Project: COC 00202
Matrix: Water

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	21-Aug-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

Analyte: Ra-226
Fraction: Dissolved
Method: 903.1
Units: pCi/l

Project: COC 00202
Date Analyzed: 08/26-08/29
LLD: sample specific

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
962788-1	14-Aug-96	Water	GW-19A	0.5±0.3	0.3
962788-2	14-Aug-96	Water	GW-25	1.6±0.5	0.3
962788-3	14-Aug-96	Water	GW-26	1.5±0.5	0.4
962788-4	14-Aug-96	Water	GW-27	0.8±0.4	0.3
962788-5	14-Aug-96	Water	GW-57	1.1±0.5	0.4
962788-6	14-Aug-96	Water	GW-28	0.7±0.3	0.3

Analyte: Ra-228
Fraction: Dissolved
Method: 904.0
Units: pCi/l

Project: COC 00202
Date Analyzed: 08/16-08/20
LLD: 1

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
962788-1	14-Aug-96	Water	GW-19A	0.6±1.0	1
962788-2	14-Aug-96	Water	GW-25	2.7±1.2	1
962788-3	14-Aug-96	Water	GW-26	1.6±1.1	1
962788-4	14-Aug-96	Water	GW-27	0.8±1.1	1
962788-5	14-Aug-96	Water	GW-57	0.6±1.0	1
962788-6	14-Aug-96	Water	GW-28	0.7±1.4	1

Analyte: Th-230
Fraction: Dissolved
Method: 3008
Units: pCi/l

Project: COC 00202
Date Analyzed: 08/20-08/26
LLD: 0.4

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
962788-1	14-Aug-96	Water	GW-19A	0.0±0.6	0.4
962788-2	14-Aug-96	Water	GW-25	0.0±0.6	0.4
962788-3	14-Aug-96	Water	GW-26	0.1±0.6	0.4
962788-4	14-Aug-96	Water	GW-27	0.3±0.7	0.4
962788-5	14-Aug-96	Water	GW-57	0.0±0.5	0.4
962788-6	14-Aug-96	Water	GW-28	0.3±0.7	0.4

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: R-3
Job: 962788E
Status: Final

EARTHFAX ENGINEERING, INC.

Analyte: Th-232
Fraction: Dissolved
Method: 3008
Units: pCi/l

Project: COC 00202
Date Analyzed: 08/20-08/26
LLD: sample specific

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
962788-1	14-Aug-96	Water	GW-19A	0.0±0.7	0.5
962788-2	14-Aug-96	Water	GW-25	0.0±0.7	0.5
962788-3	14-Aug-96	Water	GW-26	0.0±0.5	0.5
962788-4	14-Aug-96	Water	GW-27	0.0±0.5	0.4
962788-5	14-Aug-96	Water	GW-57	0.0±0.5	0.5
962788-6	14-Aug-96	Water	GW-28	0.0±0.7	0.4

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: R-4
Job: 962788E
Status: Final

EARTHFAX ENGINEERING, INC.

Analyte: Uranium
Fraction: Dissolved
Method: ASTM D2907
Units: mg/l

Project: COC 00202
Date Analyzed: 08/22-08/26
LLD: 0.0003

Lab Id	Date Sampled	Matrix	Sample Id	Concentration	LLD
962788-1	14-Aug-96	Water	GW-19A	0.0012	0.0003
962788-2	14-Aug-96	Water	GW-25	0.11	0.0003
962788-3	14-Aug-96	Water	GW-26	0.022	0.0003
962788-4	14-Aug-96	Water	GW-27	0.023	0.0003
962788-5	14-Aug-96	Water	GW-57	0.0044	0.0003
962788-6	14-Aug-96	Water	GW-28	0.0095	0.0003

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: Q-1
Job: 962788E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Fluorine as Fluoride

Sample Id	mg/l
Blank	U
LCS (True)	5.00
LCS (Found)	5.00
LCS % Rec	100
Duplicate	1.10
Duplicate	1.10
RPD	0.0
Spike % Rec	H65.0

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Ra-226 Dissolved pCi/l	± 2σ	Ra-228 Dissolved pCi/l	± 2σ
Duplicate	1.5	±0.5	0.6	±1.0
Duplicate	1.0	±0.7	3.2	±3.7
RER	0.47		0.66	
Std (found value)	95	±3	12.5	±1.2
Std (true value)	89		13.9	
Std % rec.	107		90	
Blank	0.0	±0.2	0.0	±0.7
Spike % rec.	73		98	

Sample Id	Th-230 Dissolved pCi/l	± 2σ	Th-232 Dissolved pCi/l	± 2σ
Duplicate	1.5	±0.9	4.5	±1.6
Duplicate	2.3	±1.2	5.7	±1.9
RER	0.50		0.42	
Std (found value)	105	±4	g18	±4
Std (true value)	100		g18	
Std % rec.	105		100	
Blank	0.0	±0.2	0.0	±0.2
Spike % rec.	116		122	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: Q-3
Job: 962788E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Uranium Dissolved mg/l
Duplicate	0.0044
Duplicate	0.0044
RPD	0.0
Std (found value)	1.5
Std (true value)	1.5
Std % rec.	100
Blank	U
Spike % rec.	100

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

30-Aug-96
Page: Q-4

Attn:
Project: COC 00202 PO #:

Received: 15-Aug-96 09:10

Job: 962788E Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Ra-228	: Radium-228
Th-230	: Thorium-230
Th-232	: Thorium-232

Units:

mg/l	: milligrams per liter
pCi/l	: picoCuries per liter

Quality codes:

g	: Picocuries per gram (pCi/g)
H	: Matrix Spike recovery was outside control limits.
U	: Undetected

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

30-Aug-96
Page: Q-5

Attn:
Project: COC 00202 PO #:

Received: 15-Aug-96 09:10

Job: 962788E Status: Final

QUALITY CONTROL DATA SHEET

Received by: rc Via: Fed Ex

Sample Container Type: 500ml pl, 41 pl
Additional Lab Preparation: None

Parameter	Method	Preservative	Init	Analysis Dates
F as Fluoride	340.2M	4°C	AW	08/21
Ra-226	903.1	HNO3	BL	08/26-08/29
Ra-228	904.0	HNO3	MS	08/16-08/20
Th-230	3008	HNO3	SK	08/20-08/26
Th-232	3008	HNO3	SK	08/20-08/26
U	ASTM D2907	HNO3	AM	08/22-08/26

Barringer Laboratories, Inc. will return or dispose of your samples 30 days from the date your final report is mailed, unless otherwise specified by contract. Barringer Laboratories, Inc. reserves the right to return samples prior to the 30 days if radioactive levels exceed our license.

Hez Quarterly Detection Monitoring
8/14/96
(ENVIRAX)

00202
962789

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94)

BARRINGER		SAMPLERS (Signatures)					
Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
GW-19A	Hez	8/14/96	0917		✓	2	SEE AUG 6, 1996 FAX TO KATHY SMITH.
GW-25			1027		✓	2	
GW-26			1121		✓	2	
GW-27			1343		✓	2	
GW-57			1435		✓	2	
GW-28			1518		✓	2	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time
[signature]		8-14-96 1740 HRS.
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time
		R. C [signature]	08/15/96 0910

Method of Shipment: FEDERAL EXPRESS

Barirnger Laboratories
Group No. 962819E

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

16-Aug-96

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project: COC 00204 PO #: Received: 16-Aug-96 09:45

Job: 962819E Status: Preliminary

We received 7 Water samples on 16-Aug-96. This job has been logged as 962819. Please refer to this number when making inquiries.

Our current estimated completion date is 13-Sep-96. Once the QA is verified, the results can be faxed. The hard copy should be mailed within 24 hours of the above date.

Non-aqueous samples will be returned 30 days after the final report is mailed, unless otherwise specified by contract. If you have any questions, please call toll free 1-800-654-0506 or 303-277-1687.

Client Service Representative
Kathy Smith

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

16-Aug-96

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project: COC 00204 PO #: Received: 16-Aug-96 09:45

Job: 962819E Status: Preliminary

Lab-ID	Matrix	Client Sample ID	Sampled
962819-1	Water	GW-58	15-Aug-96
962819-2	Water	GW-75	15-Aug-96
962819-3	Water	GW-24	15-Aug-96
962819-4	Water	GW-60	15-Aug-96
962819-5	Water	GW-63	15-Aug-96
962819-6	Water	GW-29	15-Aug-96
962819-7	Water	GW-20	15-Aug-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

11-Oct-96

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project: COC 00204 PO #:

Received: 16-Aug-96 09:45

Job: 962819E Status: Final

ANALYTICAL REPORT PACKAGE

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

11-Oct-96
Page: i

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Received: 16-Aug-96 09:45
Project: COC 00204
PO #:

Job: 962819E
Status: Final

CASE NARRATIVE
AMENDED REPORT

A total of 7 Water samples were received on 16-Aug-96. As stated in the chain of custody, the samples were run for the following analyses: F as Fluoride, Ra-226, Ra-228, Th-230, Th-232 and U. A table, to cross reference your sample ID to ours, is attached. Our procedures are summarized on the Quality Control Data Sheet.

Quality control standards for organic and inorganic analyses followed the appropriate SW-846 or EPA methodology. Quality control standards for radiochemistry followed our standard operating procedures or contractual requirements.

This report has been amended from the report dated 12-Sep-96 to show the rerun value of thorium 230 for sample 962819-4 as follows:

Sample	Parameter	Unit	Original Result	Amended Result	RER
962819-4	Th-230	pCi/l	0.8±1.4	-0.1±0.8	0.49

Signed: .....
Inorganic Manager

Signed: .....
Radiochemical Manager

Signed: .....
Project Review

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

11-Oct-96
Page: ii

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Received: 16-Aug-96 09:45
Project: COC 00204
PO #:

Job: 962819E
Status: Final

Lab-ID	Matrix	Client Sample ID	Sampled
962819-1	Water	GW-58	15-Aug-96
962819-2	Water	GW-75	15-Aug-96
962819-3	Water	GW-24	15-Aug-96
962819-4	Water	GW-60	15-Aug-96
962819-5	Water	GW-63	15-Aug-96
962819-6	Water	GW-29	15-Aug-96
962819-7	Water	GW-20	15-Aug-96

BARRINGER LABORATORIES, INC.
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EARTHFAX ENGINEERING, INC.

Sample Id: GW-58
Lab Id: 962819-1 **Project: COC 00204**
Date Sampled: 15-Aug-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	21-Aug-96

Sample Id: GW-75
Lab Id: 962819-2 **Project: COC 00204**
Date Sampled: 15-Aug-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	21-Aug-96

Sample Id: GW-24
Lab Id: 962819-3 **Project: COC 00204**
Date Sampled: 15-Aug-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.8 mg/l	0.1	21-Aug-96

Sample Id: GW-60
Lab Id: 962819-4 **Project: COC 00204**
Date Sampled: 15-Aug-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.7 mg/l	0.1	21-Aug-96

Sample Id: GW-63
Lab Id: 962819-5 **Project: COC 00204**
Date Sampled: 15-Aug-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.8 mg/l	0.1	21-Aug-96

Sample Id: GW-29
Lab Id: 962819-6 **Project: COC 00204**
Date Sampled: 15-Aug-96 **Matrix: Water**

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.9 mg/l	0.1	21-Aug-96

BARRINGER LABORATORIES, INC.
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11-Oct-96
Page: R-2
Job: 962819E
Status: Final

EARTHFAX ENGINEERING, INC.

Sample Id: GW-20
Lab Id: 962819-7
Date Sampled: 15-Aug-96

Project: COC 00204
Matrix: Water

Analyte	Fraction	Method	Concentration	MDL	Date Analyzed
Fluorine as Flu		340.2M	0.7 mg/l	0.1	21-Aug-96

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

Vern Andrews
ENVIROCARE OF UTAH, INC.
46 West Broadway, Suite 240
Salt Lake City, UT 84101

11-Oct-96
Page: i

Attn:
Project: COC 00204 PO #: Received: 16-Aug-96 09:45

Job: 962819E Status: Final

CASE NARRATIVE
AMENDED REPORT

A total of 7 Water samples were received on 16-Aug-96. As stated in the chain of custody, the samples were run for the following analyses: F as Fluoride, Ra-226, Ra-228, Th-230, Th-232 and U. A table, to cross reference your sample ID to ours, is attached. Our procedures are summarized on the Quality Control Data Sheet.

Quality control standards for organic and inorganic analyses followed the appropriate SW-846 or EPA methodology. Quality control standards for radiochemistry followed our standard operating procedures or contractual requirements.

This report has been amended from the report dated 12-Sep-96 to show the rerun value of thorium 230 for sample 962819-4 as follows:

Sample	Parameter	Unit	Original Result	Amended Result	RER
962819-4	Th-230	pCi/l	0.8±1.4	-0.1±0.8	0.49

Signed: ....
Inorganic Manager — Radiochemical Manager

Signed: .....
Project Review

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

Analyte: Ra-226 **Project: COC 00204**
Fraction: Dissolved **Date Analyzed: 08/26-08/29**
Method: SM-705 **LLD: 0.3**
Units: pCi/l

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
962819-1	15-Aug-96	Water	GW-58	1.9±0.5	0.3
962819-2	15-Aug-96	Water	GW-75	1.4±0.5	0.3
962819-3	15-Aug-96	Water	GW-24	1.3±0.5	0.3
962819-4	15-Aug-96	Water	GW-60	1.2±0.4	0.3
962819-5	15-Aug-96	Water	GW-63	2.0±0.5	0.3
962819-6	15-Aug-96	Water	GW-29	1.7±0.5	0.3
962819-7	15-Aug-96	Water	GW-20	2.3±0.6	0.3

Analyte: Ra-228 **Project: COC 00204**
Fraction: Dissolved **Date Analyzed: 09/03-09/10**
Method: Perc/Brooks **LLD: 2**
Units: pCi/l

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
962819-1	15-Aug-96	Water	GW-58	2.1±1.1	2
962819-2	15-Aug-96	Water	GW-75	2.3±1.1	2
962819-3	15-Aug-96	Water	GW-24	1.7±1.1	2
962819-4	15-Aug-96	Water	GW-60	1.2±1.0	2
962819-5	15-Aug-96	Water	GW-63	1.5±1.1	2
962819-6	15-Aug-96	Water	GW-29	2.4±1.1	2
962819-7	15-Aug-96	Water	GW-20	1.1±1.0	2

Analyte: Th-230 **Project: COC 00204**
Fraction: Dissolved **Date Analyzed: 08/29-09/10**
Method: USAEC **LLD: sample specific**
Units: pCi/l

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
962819-1	15-Aug-96	Water	GW-58	0.3±1.4	2
962819-2	15-Aug-96	Water	GW-75	-0.2±1.2	2
962819-3	15-Aug-96	Water	GW-24	-0.2±0.9	2
962819-4	15-Aug-96	Water	GW-60	0.8±1.4	2
962819-5	15-Aug-96	Water	GW-63	0.5±0.9	0.8
962819-6	15-Aug-96	Water	GW-29	0.0±0.7	0.8
962819-7	15-Aug-96	Water	GW-20	-0.2±0.5	0.8

BARRINGER LABORATORIES, INC.
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EARTHFAX ENGINEERING, INC.

Analyte: Th-232
Fraction: Dissolved
Method: USAEC
Units: pCi/l

Project: COC 00204
Date Analyzed: 08/29-09/10
LLD: sample specific

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
962819-1	15-Aug-96	Water	GW-58	-0.8±0.9	1
962819-2	15-Aug-96	Water	GW-75	0.0±1.3	1
962819-3	15-Aug-96	Water	GW-24	-0.2±0.9	1
962819-4	15-Aug-96	Water	GW-60	-0.3±0.9	1
962819-5	15-Aug-96	Water	GW-63	-0.7±0.6	0.7
962819-6	15-Aug-96	Water	GW-29	-0.6±0.7	0.7
962819-7	15-Aug-96	Water	GW-20	-0.4±0.5	0.7

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EARTHFAX ENGINEERING, INC.

Analyte: Uranium
Fraction: Dissolved
Method: ASTM D2907
Units: mg/l

Project: COC 00204
Date Analyzed: 08/31-09/04
LLD: 0.0003

Lab Id	Date Sampled	Matrix	Sample Id	Concentration	LLD
962819-1	15-Aug-96	Water	GW-58	0.033	0.0003
962819-2	15-Aug-96	Water	GW-75	0.033	0.0003
962819-3	15-Aug-96	Water	GW-24	0.015	0.0003
962819-4	15-Aug-96	Water	GW-60	0.014	0.0003
962819-5	15-Aug-96	Water	GW-63	0.0087	0.0003
962819-6	15-Aug-96	Water	GW-29	0.020	0.0003
962819-7	15-Aug-96	Water	GW-20	0.0095	0.0003

BARRINGER LABORATORIES, INC.
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EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Fluorine as Fluoride

Sample Id	mg/l
Blank	U
LCS (True)	5.00
LCS (Found)	5.00
LCS % Rec	100
Duplicate	1.10
Duplicate	1.10
RPD	0.0
Spike % Rec	H65.0

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Ra-226 Dissolved pCi/l	± 2σ	Ra-228 Dissolved pCi/l	± 2σ
Duplicate	1.4	±0.5	1.0	±1.2
Duplicate	1.9	±1.0	-2.2	±4.0
RER	0.42		0.25	
Std (found value)	86	±3	14.1	±1.3
Std (true value)	89		13.8	
Std % rec.	97		102	
Blank	0.0	±0.1	-0.3	±0.7
Spike % rec.	73		82	

Sample Id	Th-230 Dissolved pCi/l	± 2σ	Th-232 Dissolved pCi/l	± 2σ
Duplicate	-0.2	±0.5	-0.4	±0.5
Duplicate	0.0	±2.2	-1.7	±2.0
RER	0.00		0.00	
Std (found value)	98	±4	22	±4
Std (true value)	100		18	
Std % rec.	98		120	
Blank	-0.1	±0.3	-0.2	±0.3
Spike % rec.	99		117	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Uranium Dissolved mg/l
Duplicate	0.020
Duplicate	0.020
RPD	0.0
Std (found value)	1.5
Std (true value)	1.5
Std % rec.	100
Blank	U
Spike % rec.	95

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

11-Oct-96
Page: Q-4

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Received: 16-Aug-96 09:45
Project: COC 00204
PO #:

Job: 962819E
Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Ra-228	: Radium-228
Th-230	: Thorium-230
Th-232	: Thorium-232

Units:

mg/l	: milligrams per liter
pCi/l	: picoCuries per liter

Quality codes:

H	: Matrix Spike recovery was outside control limits.
U	: Undetected

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

11-Oct-96
Page: Q-5

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Received: 16-Aug-96 09:45
Project: COC 00204
PO #:

Job: 962819E
Status: Final

QUALITY CONTROL DATA SHEET

Received by: rc
Via: Fed Ex

Sample Container Type: 500ml pl, 41 pl
Additional Lab Preparation: None

Parameter	Method	Preservative	Init	Analysis Dates
F as Fluoride	340.2M	4°C	AW	08/21
Ra-226	SM-705	HNO3	BL	08/26-08/29
Ra-228	Perc/Brooks	HNO3	MS	09/03-09/10
Th-230	USAEC	HNO3	SK	08/29-09/10
Th-232	USAEC	HNO3	SK	08/29-09/10
U	ASTM D2907	HNO3	AM	08/31-09/04

Barringer Laboratories, Inc. will return or dispose of your samples 30 days from the date your final report is mailed, unless otherwise specified by contract. Barringer Laboratories, Inc. reserves the right to return samples prior to the 30 days if radioactive levels exceed our license.

cc: Vern Andrews, ENVIROCARE OF UTAH, INC.

11c2 Quarterly Detection Monitor
8/15/96
EARTHFAX

962814
00204

ENVIROCARE OF UTAH, INC.

CHAIN OF CUSTODY

(EC-0100)

(Revised 07/05/94)

BARRINGER

SAMPLERS (Signatures)

Sample Number	Sample Location	Date	Time	Sample Type Comp	Sample Type Grab	No. of Containers	Analysis Required
GW-58	11c2	8/15/96	0947		✓	2	SEE ATT. 6 FAX TO KATHY SMITH
GW-75			1047		✓	2	
GW-24			1048		✓	2	
GW-60			1154		✓	2	
GW-63			1242		✓	2	
GW-29			1440		✓	2	
GW-20			1503		✓	2	

Relinquished by: (Signature)	Received by: (Signature)	Date/Time 8-15-96 1800 HRS
Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time

Shipped by: (Shipper)	Date/Time	Received for Lab by: (Signature)	Date/Time 08/16/96 0945

Method of Shipment: FED EX PRIORITY OVERNIGHT

Barringer Laboratories Job No. 963479E

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

13-Nov-96
Page: R-1
Job: 963479E
Status: Final

ENVIROCARE OF UTAH, INC.

Analyte: Ra-226
Fraction: Total
Method: SM-705
Units: pCi/l

Project: COC 0211
Date Analyzed: 11/08-11/13
LLD: 0.2

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
963479-1	7-Oct-96	Water	GW-60	0.3±0.2	0.2
963479-2	7-Oct-96	Water	GW-86	0.5±0.3	0.2
963479-3	7-Oct-96	Water	GW-25	0.7±0.3	0.2

Analyte: Ra-228
Fraction: Total
Method: Perc/Brooks
Units: pCi/l

Project: COC 0211
Date Analyzed: 10/22-10/26
LLD: 3

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
963479-1	7-Oct-96	Water	GW-60	3.1±1.8	3
963479-2	7-Oct-96	Water	GW-86	3.6±1.9	3
963479-3	7-Oct-96	Water	GW-25	1.7±1.8	3

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

13-Nov-96
Page: R-2
Job: 963479E
Status: Final

ENVIROCARE OF UTAH, INC.

Analyte: Th-230
Fraction: Total
Method: USAEC
Units: pCi/l

Project: COC 0211
Date Analyzed: 10/21-10/31
LLD: sample specific

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
963479-1	7-Oct-96	Water	GW-60	-0.2±0.5	0.5
963479-2	7-Oct-96	Water	GW-86	0.6±0.7	0.6

Analyte: Th-232
Fraction: Total
Method: USAEC
Units: pCi/l

Project: COC 0211
Date Analyzed: 10/21-10/31
LLD: 0.6

Lab Id	Date Sampled	Matrix	Sample Id	Concentration± 2σ	LLD
963479-1	7-Oct-96	Water	GW-60	0.0±0.6	0.6
963479-2	7-Oct-96	Water	GW-86	0.1±0.5	0.6

Attachment E

Bottle Certificates

NWM MLOC
(metals)

for May 96 event

I-CHEM

CERTIFICATE OF ANALYSIS

PRODUCTION NUMBER 6026082

Item Number W319-1000

Item Description: BOTTLE NALGE NAT NM
Group 1 is applicable

[illegible] is your Certificate of Analysis for I-CHEM Certified™ 300 Series product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
N-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

[illegible]se keep this certificate for your records and to facilitate any necessary correspondence.
[illegible] additional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder

Glenda W. Rhyder
Quality Assurance Manager

300COA
05/04/95

4 L amber Glass

I-CHEM COMPANY

CERTIFICATE OF ANALYSIS

Production Number 5160072

Item Number 345-4000

Item Description: JUG, AMBER GLASS
Group 2 is applicable

This is your Certificate of Analysis for I-CHEM Certified™ 300 Series product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
N-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

Please keep this certificate for your records and to facilitate any necessary correspondence.
If additional information is required, contact our Technical Service Department at (800) 443-1689.

Randy E. Benson

Randy E. Benson
Corporate Quality Assurance Manager

300COA
8/12/94

40ml Vials

I-CHEM

CERTIFICATE OF ANALYSIS

Production Number 5180013

Item Number 336-0040

Item Description: VIAL, CLEAR BOROSILICATE
Group 3 is applicable

This is your Certificate of Analysis for I-CHEM Certified™ 300 Series product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
[illegible]ethylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
[illegible]troaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
[illegible]Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

Please keep this certificate for your records and to facilitate any necessary correspondence.
If additional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder

Glenda W. Rhyder
Quality Assurance Manager
300COA
05/04/95

(Fluoride)

I-CHEM COMPANY

CERTIFICATE OF ANALYSIS

PRODUCTION NUMBER 5341012

Item Number K319-0500

Item Description: BOTTLE NALGE NAT HDPE
Group 1 is applicable

is your Certificate of Analysis for I-CHEM Certified™ 300 Series product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
[illegible]ethylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
[illegible]roaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
[illegible]itrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromome[illegible]	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichlor[illegible]thane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

[illegible]ase keep this certificate for your records and to facilitate any necessary correspondence.
[illegible]dditional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder

Glenda W. Rhyder
Quality Assurance Manager
300COA
05/04/95

500ml HDPE
(Cyanide) ~~Metals~~

I-CHEM

CERTIFICATE OF ANALYSIS

PRODUCTION NUMBER 6075012

Item Number N319-0500

Item Description: BOTTLE NALGE NAT HDPE NM
Group 1 is applicable

This is your Certificate of Analysis for I-CHEM Certified™ product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
N-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

In addition to the above analytes, 40 mL and 60 mL vials are certified for:

Compound	Quantitation Limit (µg/L)
Total Organic Carbon	< 600

Please keep this certificate for your records and to facilitate any necessary correspondence.
If additional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder

Glenda W. Rhyder
Quality Assurance Manager

90037
1/5/2/9

4 L AMBER GLASS

I-CHEM

CERTIFICATE OF ANALYSIS

Production Number 5160072

Item Number 345-4000

Item Description: JUG, AMBER GLASS
Group 2 is applicable

This is your Certificate of Analysis for I-CHEM Certified™ 300 Series product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
N-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

Please keep this certificate for your records and to facilitate any necessary correspondence.
If additional information is required, contact our Technical Service Department at (800) 443-1689.

Randy E. Benson

Randy E. Benson
Corporate Quality Assurance Manager

300COA
8/12/94

500 mL HDPE
(cyanide) or (fluoride)

I-CHEM

CERTIFICATE OF ANALYSIS

PRODUCTION NUMBER 6075012

Item Number N319-0500

Item Description: BOTTLE NALGE NAT HDPE NM
Group 1 is applicable

This is your Certificate of Analysis for I-CHEM Certified™ product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
N-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

In addition to the above analytes, 40 mL and 60 mL vials are certified for:

Compound	Quantitation Limit (µg/L)
Total Organic Carbon	< 600

Please keep this certificate for your records and to facilitate any necessary correspondence.
If additional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder

Glenda W. Rhyder
Quality Assurance Manager

90037
U5279

1000mL HDPE
(metals)

I-CHEM
COMPANY

CERTIFICATE OF ANALYSIS

PRODUCTION NUMBER 6026012

Item Number N319-1000

Item Description: BOTTLE NALGE NAY NM HDPE
Group 1 is applicable

[illegible] is your Certificate of Analysis for I-CHEM Certified™ 300 Series product which has been prepared in accordance with I-CHEM [illegible]formance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
[illegible]troaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
[illegible]trosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
[illegible]itrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 3	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

Please keep this certificate for your records and to facilitate any necessary correspondence.
[illegible]dditional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder

Glenda W. Rhyder
Quality Assurance Manager
NBCOA
05/06/95

Nalge Process Technologies Group
A Business of Nalge Nunc International

40ml vials

I-CHEM® Products

CERTIFICATE OF ANALYSIS

PRODUCTION NUMBER 6162013

Item Number X36-0060

Item Description: VIAL, CLEAR BOROSILICATE
Group 3 is applicable

This is your Certificate of Analysis for I-CHEM Certified™ product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 3	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 40	Phenols (amber only)	< 0.5	Sulfide	< 50
Diesel (amber only)	< 10					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenz(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
3-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodiphenylamine	< 5
N-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
Pyridine	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
1,2,4-Trichlorobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
Benzidine	< 5	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDD	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDE	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Dieldrin	< 0.02	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Endosulfan I	< 0.01	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Methoxychlor	< 0.10	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Gamma-Chlordane	< 0.01	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1221	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1248	< 0.20	Aroclor-1268	< 0.20		
Aroclor-1262	< 0.20				

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Bromochloromethane	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,4-Trichloropropane	< 1	1,1-Dichloroethene	< 1	Bromochloromethane	< 1
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethane	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

In addition to the above analytes, 40 mL and 60 mL vials are certified for:

Compound	Quantitation Limit (µg/L)
Total Organic Carbon	< 600

Please keep this certificate for your records and to facilitate any necessary correspondence. If additional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder
Quality Assurance Manager

R-76%

printed on recycled paper

40mL Vials (cont)

FIELD READY FILL# 097733 Item Number 33601.0012 Description: 1.0mL 1:1 HYDROCHLORIC ACID VIAL, CLEAR BOROSILICATE

Field-Ready™ Certificate

I-CHEM Company's *Field-Ready* containers are prepared under strict quality-controlled conditions as part of I-CHEM's Total Quality Improvement Process. These containers have been certified prior to adding the preservatives. Please see reverse side for container certification. Manufacturer's certification is used for the chemical preservative except for hydrochloric acid which is certified for volatiles by I-CHEM. Care is taken that the chemical preservatives used are of the finest quality. The manner in which *Field-Ready* containers are prepared is carefully controlled to guard against potential sources of contamination.

If you have any questions about the *Field-Ready* products you have received, please call our Technical Service Department, and we will be glad to assist you. Please refer to the case label or this certificate for the Field-Ready Fill Number (FRF #) for traceability.

Statement of Responsibility

In the spirit of protecting people, wildlife and our environment, I-CHEM Company issues this Statement of Responsibility to inform you of your accountability in taking receipt of this product.

Please recognize that the contents of this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. Read all precautionary information on the enclosed Material Safety Data Sheet (MSDS).

NOTICE: I-CHEM takes great care in adhering to all applicable air and ground shipping regulations when transporting products containing chemicals. For your own protection, we urge you to do the same and comply with all applicable regulations should you have further need to ship these products.

Please use extreme caution in the field. It has been reported that materials, mistakenly left behind in the field by sampling technicians, have been found by wildlife or humans. Please be sure field personnel clean up all materials after sampling and dispose of them in accordance with applicable federal, state, and local environmental regulations.

I-CHEM thanks you for joining with us in protecting our environment.

I-CHEM Company is a subsidiary of Nalge Company

4 L amber glass

for August 96 event.

I-CHEM

CERTIFICATE OF ANALYSIS

Production Number 5160072

Item Number 345-4000

Item Description: JUG, AMBER GLASS
Group 2 is applicable

This is your Certificate of Analysis for I-CHEM Certified™ 300 Series product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
N-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDE	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

Please keep this certificate for your records and to facilitate any necessary correspondence.
If additional information is required, contact our Technical Service Department at (800) 443-1689.

Randy E. Benson

Randy E. Benson
Corporate Quality Assurance Manager

300COA
8/12/94

500 mL HDPE
(cyanide) & (fluoride)

I-CHEM

CERTIFICATE OF ANALYSIS

PRODUCTION NUMBER 6075012

Item Number K319-0500

Item Description: BOTTLE NALGE NAT HDPE NM
Group 1 is applicable

This is your Certificate of Analysis for I-CHEM Certified™ product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications establishsd in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
N-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

In addition to the above analytes, 40 mL and 60 mL vials are certified for:

Compound	Quantitation Limit (µg/L)
Total Organic Carbon	< 600

Please keep this certificate for your records and to facilitate any necessary correspondence.
If additional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder

Glenda W. Rhyder
Quality Assurance Manager

90037

1000mL HDPE
(metals)

I-CHEM
COMPANY

CERTIFICATE OF ANALYSIS

PRODUCTION NUMBER 6026012

Item Number N319-1000

Item Description: BOTTLE NALGE NAT NM HDPE
Group 1 is applicable

[illegible] is your Certificate of Analysis for I-CHEM Certified™ 300 Series product which has been prepared in accordance with I-CHEM [illegible]formance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 5	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Sodium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 500					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 20	Paraquat (amber only)	< 0.4	Sulfide	< 30
Diquat (amber only)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
N-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Azobenzene	< 5	Carbazole	< 5	Aldrin	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Alpha-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Beta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Delta-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Gamma-BHC	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Heptachlor Epoxide	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Alpha-Chlordane	< 0.01
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1016	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1242	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20	Aroclor-1260	< 0.20
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoromethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1		
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

Please keep this certificate for your records and to facilitate any necessary correspondence.
[illegible]dditional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder

Glenda W. Rhyder
Quality Assurance Manager
XXCOA
[illegible]

40mL vials

Nalge Process Technologies Group
A Division of Nalge Nunc International

I-CHEM® Products

CERTIFICATE OF ANALYSIS

PRODUCTION NUMBER 6162013

Item Number 336-0060

Item Description: VIAL, CLEAR BOROSILICATE
Group 3 is applicable

This is your Certificate of Analysis for I-CHEM Certified™ product which has been prepared in accordance with I-CHEM Performance-Based Specifications. This product meets or exceeds analyte specifications established in the U.S. EPA "Specifications and Guidance for Contaminant-Free Sample Containers" for use in Superfund and other hazardous waste programs.

Group 1. Glass and HDPE Sample Containers for use in the analysis of Metals

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Aluminum	< 80	Calcium (all HDPE)	< 100	Magnesium	< 100	Selenium	< 2
Antimony	< 3	Chromium	< 10	Manganese	< 10	Silver	< 5
Arsenic	< 2	Cobalt	< 10	Mercury	< 0.2	Strontium	< 5000
Barium	< 20	Copper	< 10	Nickel	< 20	Sodium (all HDPE)	< 100
Beryllium	< 0.5	Iron	< 50	Potassium	< 750	Thallium	< 5
Cadmium	< 1	Lead	< 2	Potassium (all HDPE)	< 100	Vanadium	< 10
Calcium	< 50					Zinc	< 10

In addition to the above analytes, NALGENE® containers are certified for these analytes:

Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)	Analyte	Detection Limit (µg/L)
Chloride	< 100	Fluoride	< 20	Nitrite	< 50	Sulfate	< 100
Cyanide	< 10	Nitrate	< 40	Nitrate (sum only)	< 0.4	Sulfide	< 50
Digest (sulfuric acid)	< 1.0					Sulfite	< 1000

Group 2. Glass Sample Containers for use in the analysis of Semivolatiles and Pesticides/PCBs

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acenaphthene	< 5	Acenaphthylene	< 5	Anthracene	< 5
Benzo(a)anthracene	< 5	Benzo(a)pyrene	< 5	Benzo(b)fluoranthene	< 5
Benzo(k)fluoranthene	< 5	Benzo(g,h,i)perylene	< 5	Benzoic Acid	< 20
Benzyl Alcohol	< 5	4-Bromophenyl-phenylether	< 5	Butylbenzylphthalate	< 5
4-Chloroaniline	< 5	4-Chloro-3-methylphenol	< 5	bis-(2-Chloroethoxy)methane	< 5
bis-(2-Chloroethyl)ether	< 5	bis-(2-Chloroisopropyl)ether	< 5	2-Chloronaphthalene	< 5
2-Chlorophenol	< 5	4-Chlorophenyl-phenylether	< 5	Chrysene	< 5
Di-n-butylphthalate	< 5	Di-n-octylphthalate	< 5	Dibenzo(a,h)anthracene	< 5
Dibenzofuran	< 5	1,2-Dichlorobenzene	< 5	1,4-Dichlorobenzene	< 5
1,3-Dichlorobenzene	< 5	3,3'-Dichlorobenzidine	< 5	2,4-Dichlorophenol	< 5
Diethylphthalate	< 5	Dimethylphthalate	< 5	2,4-Dimethylphenol	< 5
4,6-Dinitro-2-methylphenol	< 20	2,4-Dinitrophenol	< 20	2,4-Dinitrotoluene	< 5
2,6-Dinitrotoluene	< 5	bis-(2-Ethylhexyl)phthalate	< 5	Fluoranthene	< 5
Fluorene	< 5	Hexachlorobenzene	< 5	Hexachlorobutadiene	< 5
Hexachlorocyclopentadiene	< 5	Hexachloroethane	< 5	Indeno(1,2,3-cd)pyrene	< 5
Isophorone	< 5	2-Methylnaphthalene	< 5	2-Methylphenol	< 5
4-Methylphenol	< 5	2-Nitroaniline	< 20	3-Nitroaniline	< 20
4-Nitroaniline	< 20	N-Nitroso-di-n-propylamine	< 5	N-Nitrosodimethylamine	< 5
4-Nitrosodiphenylamine	< 5	Naphthalene	< 5	Nitrobenzene	< 5
2-Nitrophenol	< 5	4-Nitrophenol	< 20	Pentachlorophenol	< 20
Phenanthrene	< 5	Phenol	< 5	Pyrene	< 5
1,2,4-Trichlorobenzene	< 5	2,4,5-Trichlorophenol	< 20	2,4,6-Trichlorophenol	< 5
Aldrin	< 5	Carbazole	< 5	Alpha-BHC	< 0.01
4,4'-DDD	< 0.02	Endosulfan II	< 0.02	Beta-BHC	< 0.01
4,4'-DDE	< 0.02	Endosulfan Sulfate	< 0.02	Delta-BHC	< 0.01
4,4'-DDT	< 0.02	Endrin	< 0.02	Gamma-BHC	< 0.01
Dieldrin	< 0.02	Endrin Aldehyde	< 0.02	Heptachlor Epoxide	< 0.01
Endosulfan I	< 0.01	Heptachlor	< 0.01	Alpha-Chlordane	< 0.01
Methoxychlor	< 0.10	Endrin Ketone	< 0.02	Aroclor-1016	< 0.20
Gamma-Chlordane	< 0.01	Toxaphene	< 0.30	Aroclor-1242	< 0.20
Aroclor-1221	< 0.20	Aroclor-1232	< 0.20	Aroclor-1260	< 0.20
Aroclor-1248	< 0.20	Aroclor-1254	< 0.20		
Aroclor-1262	< 0.20	Aroclor-1268	< 0.20		

Group 3. Glass Sample Containers for use in the analysis of Volatiles

Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)	Compound	Quantitation Limit (µg/L)
Acetone	< 5	1,3-Dichloropropane	< 1	Benzene	< 1
2,2-Dichloropropane	< 1	Bromobenzene	< 1	1,2-Dichloropropane	< 1
Bromodichloromethane	< 1	trans-1,3-Dichloropropene	< 1	Bromoform	< 1
cis-1,3-Dichloropropene	< 1	Bromomethane	< 1	1,1-Dichloropropene	< 1
2-Butanone	< 5	Ethylbenzene	< 1	tert-Butylbenzene	< 1
Hexachlorobutadiene	< 1	sec-Butylbenzene	< 1	2-Hexanone	< 5
n-Butylbenzene	< 1	Isopropylbenzene	< 1	Carbon Disulfide	< 1
p-Isopropyltoluene	< 1	Carbon Tetrachloride	< 1	4-Methyl-2-pentanone	< 5
Chlorobenzene	< 1	Methylene Chloride	< 2	Chloroethane	< 1
Naphthalene	< 1	Chloroform	< 1	n-Propylbenzene	< 1
Chloromethane	< 1	Styrene	< 1	2 & 4 Chlorotoluene	< 1
1,1,2,2-Tetrachloroethane	< 1	1,2-Dibromo-3-chloropropane	< 1	Tetrachloroethene	< 1
Dibromochloromethane	< 1	Toluene	< 1	1,2-Dibromoethane (EDB)	< 1
1,2,3-Trichlorobenzene	< 1	Dibromomethane	< 1	1,2,4-Trichlorobenzene	< 1
1,4-Dichlorobenzene	< 1	1,1,2-Trichloroethane	< 1	1,3-Dichlorobenzene	< 1
1,1,1-Trichloroethane	< 1	1,2-Dichlorobenzene	< 1	Trichloroethene	< 1
Dichlorodifluoromethane	< 1	Trichlorofluoroethane	< 1	1,2-Dichloroethane	< 1
1,2,3-Trichloropropane	< 1	1,1-Dichloroethane	< 1	Bromochloromethane	< 1
trans-1,2-Dichloroethene	< 1	1,3,5-Trimethylbenzene	< 1		
Vinyl Acetate	< 5	1,1-Dichloroethene	< 1		
Xylenes (total)	< 1	1,2,4-Trimethylbenzene	< 1		
Vinyl Chloride	< 1	cis-1,2-Dichloroethene	< 1		

In addition to the above analytes, 40 mL and 60 mL vials are certified for:

Compound	Quantitation Limit (µg/L)
Total Organic Carbon	< 600

Please keep this certificate for your records and to facilitate any necessary correspondence. If additional information is required, contact our Technical Service Department at (800) 443-1689.

Glenda W. Rhyder

Glenda W. Rhyder
Quality Assurance Manager

00057
L06129

printed on recycled paper

40ml Vials (cont)

FIELD READY FILL# 099753 Item Number 233601.0012 Description: 1.0ML 1:1 HYDROCHLORIC ACID VIAL, CLEAR BOROSILICATE

Field-Ready™ Certificate

I-CHEM Company's *Field-Ready* containers are prepared under strict quality-controlled conditions as part of I-CHEM's Total Quality Improvement Process. These containers have been certified prior to adding the preservatives. Please see reverse side for container certification. Manufacturer's certification is used for the chemical preservative except for hydrochloric acid which is certified for volatiles by I-CHEM. Care is taken that the chemical preservatives used are of the finest quality. The manner in which *Field-Ready* containers are prepared is carefully controlled to guard against potential sources of contamination.

If you have any questions about the *Field-Ready* products you have received, please call our Technical Service Department, and we will be glad to assist you. Please refer to the case label or this certificate for the Field-Ready Fill Number (FRF #) for traceability.

Statement of Responsibility

In the spirit of protecting people, wildlife and our environment, I-CHEM Company issues this Statement of Responsibility to inform you of your accountability in taking receipt of this product.

Please recognize that the contents of this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. Read all precautionary information on the enclosed Material Safety Data Sheet (MSDS).

NOTICE: I-CHEM takes great care in adhering to all applicable air and ground shipping regulations when transporting products containing chemicals. For your own protection, we urge you to do the same and comply with all applicable regulations should you have further need to ship these products.

Please use extreme caution in the field. It has been reported that materials, mistakenly left behind in the field by sampling technicians, have been found by wildlife or humans. Please be sure field personnel clean up all materials after sampling and dispose of them in accordance with applicable federal, state, and local environmental regulations.

I-CHEM thanks you for joining with us in protecting our environment.

I-CHEM Company is a subsidiary of Nalge Company

Attachment F

Laboratory Quality Control Data: Conventional Chemistries

See Attached Vol. I and Vol. II

Attachment G

Laboratory Quality Control Data: Radiological Chemistries

Barringer Laboratories Job No. 961949E

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-1
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Fluorine as Fluoride

Sample Id	mg/l
Blank	U
LCS (True)	5.00
LCS (Found)	5.14
LCS % Rec	103
Duplicate	0.86
Duplicate	0.88
RPD	0.9
Spike % Rec	A76.0

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Ra-226 Total pCi/l	± 2σ	Ra-228 Total pCi/l	± 2σ
Duplicate	0.7	±0.8	2.3	±0.6
Duplicate	0.8	±0.5	5.1	±2.8
RER	0.04		0.93	
Std (found value)	103	±4	14.2	±1.3
Std (true value)	104		14.3	
Std % rec.	99		99	
Blank	0.1	±0.2	1.1	±0.7
Spike % rec.	91		103	

Sample Id	Th-230 Total pCi/l	± 2σ	Th-232 Total pCi/l	± 2σ
Duplicate	1.2	±0.4	0.0	±0.4
Duplicate	0.6	±0.4	0.0	±0.4
RER	0.94		0.00	
Std (found value)	93	±4	g23	±4
Std (true value)	100		g18	
Std % rec.	93		g129	
Blank	0.0	±0.3	0.0	±0.3
Spike % rec.	86		NA	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Ra-226 Dissolved pCi/l	± 2σ	Ra-228 Dissolved pCi/l	± 2σ
Duplicate	1.9	±0.9	2.8	±0.7
Duplicate	1.3	±0.7	5.5	±3.2
RER	0.42		0.79	
Std (found value)	113	±4	15.0	±1.4
Std (true value)	104		14.3	
Std % rec.	109		105	
Blank	0.0	±0.1	1.3	±0.8
Spike % rec.	91		103	

Sample Id	Th-230 Dissolved pCi/l	± 2σ	Th-232 Dissolved pCi/l	± 2σ
Duplicate	0.4	±0.7	0.0	±0.5
Duplicate	0.0	±0.4	0.2	±0.8
RER	0.4~		0.20	
Std (found value)	93	±4	g23	±4
Std (true value)	100		g18	
Std % rec.	93		g129	
Blank	0.0	±0.3	0.0	±0.3
Spike % rec.	86		NA	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-4
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Uranium Total mg/l
Duplicate	0.13
Duplicate	0.13
RPD	0.0
Std (found value)	1.6
Std (true value)	1.6
Std % rec.	100
Blank	U
Spike % rec.	100

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-5
Job: 961949E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Uranium Dissolved mg/l
Duplicate	0.074
Duplicate	0.075
RPD	2.2
Std (found value)	1.6
Std (true value)	1.6
Std % rec.	100
Blank	U
Spike % rec.	103

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-6

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Received: 14-May-96 09:00
Project:
PO #: EC08080

Job: 961949E
Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Ra-228	: Radium-228
Th-230	: Thorium-230
Th-232	: Thorium-232

Units:

mg/l	: milligrams per liter
pCi/l	: picoCuries per liter

Quality codes:

g	: Picocuries per gram (pCi/g)
A	: Analytical Spike Used
NA	: Not Analyzed
U	: Undetected

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

31-May-96
Page: Q-7

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Received: 14-May-96 09:00
Project:
PO #: EC08080

Job: 961949E
Status: Final

QUALITY CONTROL DATA SHEET

Received by: rc
Via: UPS

Sample Container Type: 4l pl, 500ml pl
Additional Lab Preparation: None

Parameter	Method	Preservative	Init	Analysis Dates
F as Fluoride	340.2M	4°C	AW	05/18
Ra-226	903.1	HNO3	BL	05/17-05/22
Ra-228	904.0	HNO3	MK	05/21-05/24
Th-230	3008	HNO3	SM	05/17-05/23
Th-232	3008	HNO3	SM	05/17-05/23
Ra-226	903.1	HNO3	BL	05/17-05/22
Ra-228	904.0	HNO3	MK	05/21-05/24
Th-230	3008	HNO3	SK	05/17-05/28
Th-232	3008	HNO3	SK	05/17-05/28
U	ASTM D2907	HNO3	AM	05/21-05/23
U	ASTM D2907	HNO3	AM	05/24-05/28

Barringer Laboratories, Inc. will return or dispose of your samples 30 days from the date your final report is mailed, unless otherwise specified by contract. Barringer Laboratories, Inc. reserves the right to return samples prior to the 30 days if radioactive levels exceed our license.

Barringer Laboratories Job No. 962788E

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: Q-1
Job: 962788E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Fluorine as Fluoride

Sample Id	mg/l
Blank	U
LCS (True)	5.00
LCS (Found)	5.00
LCS % Rec	100
Duplicate	1.10
Duplicate	1.10
RPD	0.0
Spike % Rec	H65.0

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Ra-226 Dissolved pCi/l	± 2σ	Ra-228 Dissolved pCi/l	± 2σ
Duplicate	1.5	±0.5	0.6	±1.0
Duplicate	1.0	±0.7	3.2	±3.7
RER	0.47		0.66	
Std (found value)	95	±3	12.5	±1.2
Std (true value)	89		13.9	
Std % rec.	107		90	
Blank	0.0	±0.2	0.0	±0.7
Spike % rec.	73		98	

Sample Id	Th-230 Dissolved pCi/l	± 2σ	Th-232 Dissolved pCi/l	± 2σ
Duplicate	1.5	±0.9	4.5	±1.6
Duplicate	2.3	±1.2	5.7	±1.9
RER	0.50		0.42	
Std (found value)	105	±4	g18	±4
Std (true value)	100		g18	
Std % rec.	105		100	
Blank	0.0	±0.2	0.0	±0.2
Spike % rec.	116		122	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: Q-3
Job: 962788E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Uranium Dissolved mg/l
Duplicate	0.0044
Duplicate	0.0044
RPD	0.0
Std (found value)	1.5
Std (true value)	1.5
Std % rec.	100
Blank	U
Spike % rec.	100

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: Q-4

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project: COC 00202 PO #:
Received: 15-Aug-96 09:10

Job: 962788E Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Ra-228	: Radium-228
Th-230	: Thorium-230
Th-232	: Thorium-232

Units:

mg/l	: milligrams per liter
pCi/l	: picoCuries per liter

Quality codes:

g	: Picocuries per gram (pCi/g)
H	: Matrix Spike recovery was outside control limits.
U	: Undetected

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

30-Aug-96
Page: Q-5

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Project: COC 00202 PO #:
Received: 15-Aug-96 09:10

Job: 962788E Status: Final

QUALITY CONTROL DATA SHEET

Received by: rc Via: Fed Ex

Sample Container Type: 500ml pl, 4l pl
Additional Lab Preparation: None

Parameter	Method	Preservative	Init	Analysis Dates
F as Fluoride	340.2M	4°C	AW	08/21
Ra-226	903.1	HNO3	BL	08/26-08/29
Ra-228	904.0	HNO3	MS	08/16-08/20
Th-230	3008	HNO3	SK	08/20-08/26
Th-232	3008	HNO3	SK	08/20-08/26
U	ASTM D2907	HNO3	AM	08/22-08/26

Barringer Laboratories, Inc. will return or dispose of your samples 30 days from the date your final report is mailed, unless otherwise specified by contract. Barringer Laboratories, Inc. reserves the right to return samples prior to the 30 days if radioactive levels exceed our license.

Barringer Laboratories Job No.962819E

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

11-Oct-96
Page: Q-1
Job: 962819E
Status: Final

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Fluorine as Fluoride

Sample Id	mg/l
Blank	U
LCS (True)	5.00
LCS (Found)	5.00
LCS % Rec	100
Duplicate	1.10
Duplicate	1.10
RPD	0.0
Spike % Rec	H65.0

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Ra-226 Dissolved pCi/l	± 2σ	Ra-228 Dissolved pCi/l	± 2σ
Duplicate	1.4	±0.5	1.0	±1.2
Duplicate	1.9	±1.0	-2.2	±4.0
RER	0.42		0.25	
Std (found value)	86	±3	14.1	±1.3
Std (true value)	89		13.8	
Std % rec.	97		102	
Blank	0.0	±0.1	-0.3	±0.7
Spike % rec.	73		82	

Sample Id	Th-230 Dissolved pCi/l	± 2σ	Th-232 Dissolved pCi/l	± 2σ
Duplicate	-0.2	±0.5	-0.4	±0.5
Duplicate	0.0	±2.2	-1.7	±2.0
RER	0.00		0.00	
Std (found value)	98	±4	22	±4
Std (true value)	100		18	
Std % rec.	98		120	
Blank	-0.1	±0.3	-0.2	±0.3
Spike % rec.	99		117	

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

EARTHFAX ENGINEERING, INC.

QUALITY CONTROL REPORT

Sample Id	Uranium Dissolved mg/l
Duplicate	0.020
Duplicate	0.020
RPD	0.0
Std (found value)	1.5
Std (true value)	1.5
Std % rec.	100
Blank	U
Spike % rec.	95

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 8040' (303) 277-1687 FAX (303) 277-1689

11-Oct-96
Page: Q-4

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Received: 16-Aug-96 09:45
Project: COC 00204
PO #:

Job: 962819E
Status: Final

Abbreviations:

Parameters:

Ra-226	: Radium-226
Ra-228	: Radium-228
Th-230	: Thorium-230
Th-232	: Thorium-232

Units:

mg/l	: milligrams per liter
pCi/l	: picoCuries per liter

Quality codes:

H	: Matrix Spike recovery was outside control limits.
U	: Undetected

BARRINGER LABORATORIES, INC.
15000 W. 6TH AVE., SUITE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

11-Oct-96
Page: Q-5

Richard B. White
EARTHFAX ENGINEERING, INC.
7324 South Union Park Ave., Suite 100
Midvale, UT 84047

Attn:
Received: 16-Aug-96 09:45
Project: COC 00204 PO #:

Job: 962819E Status: Final

QUALITY CONTROL DATA SHEET

Received by: rc Via: Fed Ex

Sample Container Type: 500ml pl, 4l pl
Additional Lab Preparation: None

Parameter	Method	Preservative	Init	Analysis Dates
F as Fluoride	340.2M	4°C	AW	08/21
Ra-226	SM-705	HNO3	BL	08/26-08/29
Ra-228	Perc/Brooks	HNO3	MS	09/03-09/10
Th-230	USAEC	HNO3	SK	08/29-09/10
Th-232	USAEC	HNO3	SK	08/29-09/10
U	ASTM D2907	HNO3	AM	08/31-09/04

Barringer Laboratories, Inc. will return or dispose of your samples 30 days from the date your final report is mailed, unless otherwise specified by contract. Barringer Laboratories, Inc. reserves the right to return samples prior to the 30 days if radioactive levels exceed our license.

cc: Vern Andrews, ENVIROCARE OF UTAH, INC.

Attachment H

Relative Percent Difference Analysis of Field Duplicates

RELATIVE PERCENT DIFFERENCE ANALYSIS
11e.(2) Compliance Monitor Wells

Well Identification: GW-20, Field Duplicate named GW-70 Sampling Date: May 9, 1996

PARAMETERS	Sample Value	Duplicate Value	Relative Percent Difference
INORGANIC CONSTITUENTS (mg/l)			
Dissolved Metals			
Arsenic	0.038	0.06	-44.90
Barium	0.02	0.02	0.00
Beryllium	U	U	0.00
Cadmium	U	U	0.00
Chromium	U	U	0.00
Lead	U	U	0.00
Mercury	0.0001	0.0002	-66.67
Molybdenum	0.167	0.214	-24.67
Nickel	U	U	0.00
Selenium	U	U	0.00
Silver	U	U	0.00
Other Inorganic Chemistries			0.00
Cyanide	0.004	0.034	-157.89
Fluorine	0.7	0.7	0.00
Fluoride	0.8	0.8	0.00
ORGANIC CONSTITUENTS (mg/l)			0.00
Acetone	U	U	0.00
2-Butanone	U	U	0.00
Chloroform	U	U	0.00
Carbon Disulfide	U	U	0.00
1,2 Dichloroethane	U	U	0.00
Methylene Chloride	U	U	0.00
Napthalene	U	U	0.00
Diethylphthalate	U	U	0.00
2-Methlynapthalene	U	U	0.00

RELATIVE PERCENT DIFFERENCE ANALYSIS
11e.(2) Compliance Monitor Wells

Well Identification: GW-20, Field Dupliate named GW-70 Sampling Date: August 9, 1996

PARAMETERS	Sample Value	Duplicate Value	Relative Percent Difference
INORGANIC CONSTITUENTS (mg/l)			
Dissolved Metals			
Arsenic			
Barium			
Beryllium			
Cadmium			
Chromium			
Lead			
Mercury			
Molybdenum			
Nickel			
Selenium			
Silver			
Other Inorganic Chemistries			
Cyanide	U	0.002	-200.00m[a]
Fluorine			
Fluoride			
ORGANIC CONSTITUENTS (mg/l)			
Acetone			
2-Butanone			
Chloroform			
Carbon Disulfide			
1,2 Dichloroethane			
Methylene Chloride			
Napthalene			
Diethylphthalate			
2-Methlynapthalene			

[a] "m" signifies a mathematic result which does not necessarily reflect a true relative value

RELATIVE PERCENT DIFFERENCE ANALYSIS
11e.(2) Compliance Monitor Wells

Well Identification: GW-60, Field Duplicate named GW-71 Sampling Date: August 13, 1996

PARAMETERS	Sample Value	Duplicate Value	Relative Percent Difference
INORGANIC CONSTITUENTS (mg/l)			
Dissolved Metals			
Arsenic			
Barium			
Beryllium			
Cadmium			
Chromium			
Lead			
Mercury			
Molybdenum			
Nickel			
Selenium	0.033	0.034	-2.99
Silver			
Other Inorganic Chemistries			
Cyanide			
Fluorine			
Fluoride			
ORGANIC CONSTITUENTS (mg/l)			
Acetone			
2-Butanone			
Chloroform			
Carbon Disulfide			
1,2 Dichloroethane			
Methylene Chloride			
Napthalene			
Diethylphthalate			
2-Methlynapthalene			

RELATIVE PERCENT DIFFERENCE ANALYSIS
11e.(2) Compliance Monitor Wells

Well Identification: GW-58, Field Duplicate named GW-72 Sampling Date: August 13, 1996

PARAMETERS	Sample Value	Duplicate Value	Relative Percent Difference
INORGANIC CONSTITUENTS (mg/l)			
Dissolved Metals			
Arsenic	0.129	0.120	7.23
Barium			
Beryllium			
Cadmium			
Chromium			
Lead			
Mercury			
Molybdenum			
Nickel			
Selenium			
Silver			
Other Inorganic Chemistries			
Cyanide			
Fluorine			
Fluoride			
ORGANIC CONSTITUENTS (mg/l)			
Acetone			
2-Butanone			
Chloroform			
Carbon Disulfide			
1,2 Dichloroethane			
Methylene Chloride			
Napthalene			
Diethylphthalate			
2-Methlynapthalene			

RELATIVE PERCENT DIFFERENCE ANALYSIS
11e.(2) Compliance Monitor Wells

Well Identification: GW-58, Field Duplicate named GW-75 Sampling Date: August 15, 1996

PARAMETERS	Sample Value	Duplicate Value	Relative Percent Difference
INORGANIC CONSTITUENTS (mg/l)			
Dissolved Metals			
Arsenic	0.127	0.132	-3.86
Barium	0.03	0.03	0.00
Beryllium	U	U	0.00
Cadmium	U	U	0.00
Chromium	U	U	0.00
Lead	U	U	0.00
Mercury	U	0.0001	-200.00m[a]
Molybdenum	0.209	0.207	0.96
Nickel	U	U	0.00
Selenium	0.01	0.008	22.22
Silver	0.007	0.004	54.55
Other Inorganic Chemistries			
Cyanide	0.006	0.005	18.18
Fluorine	0.9	0.9	0.00
Fluoride	0.9	0.8	11.76
ORGANIC CONSTITUENTS (mg/l)			
Acetone	U	U	0.00
2-Butanone	U	U	0.00
Chloroform	U	U	0.00
Carbon Disulfide	U	U	0.00
1,2 Dichloroethane	U	U	0.00
Methylene Chloride	U	U	0.00
Napthalene	U	U	0.00
Diethylphthalate	U	U	0.00
2-Methlynapthalene	U	U	0.00

[a] "m" signifies a mathematic result which does not necessarily reflect a true relative value

RELATIVE PERCENT DIFFERENCE ANALYSIS
11e.(2) Compliance Monitor Wells

Well Identification: GW-25, Field Duplicate named GW-87 Sampling Date: October 7, 1996

PARAMETERS	Sample Value	Duplicate Value	Relative Percent Difference
INORGANIC CONSTITUENTS (mg/l)			
Dissolved Metals			
Arsenic			
Barium			
Beryllium			
Cadmium			
Chromium			
Lead			
Mercury			
Molybdenum			
Nickel			
Selenium			
Silver			
Other Inorganic Chemistries			
Cyanide	U	0.004	-200.00m[a]
Fluorine			
Fluoride			
ORGANIC CONSTITUENTS (mg/l)			
Acetone			
2-Butanone			
Chloroform			
Carbon Disulfide			
1,2 Dichloroethane			
Methylene Chloride			
Napthalene			
Diethylphthalate			
2-Methlynapthalene			

[a] "m" signifies a mathematic result which does not necessarily reflect a true relative value